Asian
Futures

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Volume 9 – Special Issue

Edited by: Marcus T. Anthony

Foreword

The current Special Issue of the *IAFOR Journal of Cultural Studies* is entitled "Asian Futures". As the world continues to reel from multiple crises (Covid, Gaza, Ukraine, Sudan, the list goes on…), it is heartening to remember that there exists a branch of academic enquires and cultural practices which solidly believes in the future – Futurism and Science Fiction. Both engage the future and refuse to believe in its demise.

That said, Science Fiction scholars tell us that even these futures have become more dystopic, though. If the typical Science Fiction of the 1960s and 70s was quite revolutionary (in the truest sense of the word, think LeGuin or Delaney), starting with Cyberpunk, a less dreamy future utopia began to take hold of the genre. However, it would be wrong to condemn Cyberpunk for the loss of utopia. What it rather did, was to shift focus away from social comprehensive utopias to the emerging digital revolution and technologies of the future. If Gibson's *Neuromancer*, published in 1984 no less, already sketched the power of economic conglomerates to undermine human social self-determination, it also paved the way for a view that saw individuals empowered as never before – to communicate with each other and the universe at large, to challenge the power of companies, and to radically reinvent themselves as post-humans.

This cultural shift has continued, even if early Cyberpunk might have lost its edge. After all, nothing ages more quickly than the future. And if Cyberpunk took much of its imagination from Asia, at the time mostly Japan, then it is only appropriate for cultural studies to ask where Asia stands today in that imagining of the future. Not surprisingly, at present it is China (and to a lesser extent, India), that are shaping the consciousness of future studies. It is therefore very apt to make these Asian futures the centre of a special issues of IJCS.

We were very lucky to convince Marcus T. Anthony, a well-known futurologist, to guest-edit this issue of the journal. And what a tremendous job he did! He brought together a number of exciting scholars on the subject and thus provided the backbone of the issue, shaping its development and giving it its final form. As is its subject, the issue is profoundly interdisciplinary, looking at philosophy, art, literary and film studies, telepathy, religion and politics.

I am convinced you will enjoy reading it.

Holger Briel
Editor-in-Chief
May 2024, Zhuhai

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Guest Editorial

In May 2022, the "Asian Futurisms, Linking Asia's Digital Imagination to the World" conference was held in Zhuhai, south China. The conference was hosted by Beijing Normal University-Hong Kong Baptist University-United International College (Zhuhai) and Xian Jiaotong Liverpool University, Suzhou, with assistance from the Beijing Institute of Technology (Zhuhai). The timing meant that the event was temporally situated during the Covid-19 era in China, and so there were various restrictions on travel and mobility. It was therefore conducted as a hybrid event, with a smaller offline gathering of academics and futures-focused individuals at the Golden Jazz Art Club in Zhuhai's Beishan cultural district, and with a greater number of online participants presenting and watching online. A number of the presentations given were then reworked into articles for this issue and with additional papers solicited via a call for papers. Thus, contributors hail from mainland China, Hong Kong, Japan, India, Germany, the USA, and Norway. Given the broad scope of the concept of "Asian Futurisms", there was diversity also in the representations of fields and disciplines, including critical futures studies, various social sciences, design and technologies, science fiction, and even finance.

Despite the diversity of presentations, there are common themes that are notable in the papers included in this volume:

- *The growing relevance of futures-thinking*: Papers focus on future-oriented themes, contemplating the entangled future, cultivating digital wisdom, and the representation of possible futures in and of Science Fiction. This underscores the growing interest in futures studies and also the impact of technological advancements on human futures.

- *Technological convergence*: Several papers explore the blending of technology and human experience, such as brain-computer interfaces and the emergence of cosmological awareness, reflecting the increasing integration of technology into daily life and into possible futures of human evolution itself.

- *Societal impacts*: A common theme is the investigation of the societal effects of technological advancements, particularly the implications of artificial intelligence in future societies, reflecting concerns about the impact of technology on humanity.

- *Global perspectives*: Themes here include globalization, transnational trade, and the changing power differential between Asian and Western cultures. This suggests a shift in perspectives, including a need for the recognition of diverse cultural interactions in the study of possible Asian futures.

- *Environmental consciousness:* There is a general awareness of environmental issues and human-nature relationships, demonstrating a broadened perspective on ecological concerns and eco-catastrophes.

- *Ethical considerations:* Several papers consider the ethical and socio-political implications of technological advancements and the possible impacts of futures thinking, underscoring a heightened awareness of the ethical and cultural dimensions of social and technological progress.

In particular, the individual papers argued the following issues:

The introductory paper is by Marcus T Anthony of the Beijing Institute of Technology, Zhuhai, and is entitled "Cultivating digital wisdom in a Deep Future." Anthony discusses the concept of Digital Wisdom, offering a framework for cultivating it and exploring the interplay between mindfulness, technology, and AI-led advancements in human cognition and mental well-being.

Luciano Zubillaga's "Critical Thinking in the Age of Expanded Telepathy and Brain-Computer Interfaces" examines the convergence of cosmological awareness and brain-computer interface technologies, speculating on the potential disappearance of individual critical thinking in a post-human era through the direct sharing of mental states via telepathy.

"The Japanese Film AI Amok (2020) and the Collapse of Realist AI Vision" is the title of the paper by Dr. Vincenzo De Masi and Siyi Li of Beijing Normal University-Hong Kong Baptist University-United International College and Hong Kong Baptist University, respectively. It analyzes the Yu Irie movie *AI Amok* (2020), which explores potential hazards of artificial intelligence in a near-future Japanese society. The authors' analysis reveals a vision of a possible future that seems to mirror current technological trajectories.

Iram Ghufran's paper "Immanent Futures, Quotidian Spaces: A View from Yiwu" features a deconstruction of Yiwu, a trading city in China. Ghufran opens a space for imagining the future, including thinking about creating livable spaces future humans, emphasizing the importance of developing sustainable relationships with the environment.

The next paper was written by Holger Briel from Beijing Normal University-Hong Kong Baptist University-United International College. In "SinoAsian Futures between Economic Forecasting, Science Fiction, Sinofuturism and Creativity," Briel discusses the need for a corrective to traditional, forecast-oriented futures thinking. The author explores the importance of self-reflective science fiction in understanding possible futures, with a focus on the rise of Sinofuturism as a socio-political phenomenon, one which helps shed light on some of the limitations of western-centric futures thinking.

The sixth paper in this volume is entitled "The Representation of the Anthropocene in Contemporary Chinese Science Fiction." Author Yue ZHOU of Xi'an Jiaotong Liverpool University examines the representation of the Anthropocene in contemporary Chinese science fiction, focusing on how Chinese science fiction challenges long-standing anthropocentric thinking and practices, especially in regard to catastrophic narrations of human-induced environmental issues.

In conclusion, the papers presented in this special volume present a diverse range of themes, covering cutting-edge technological convergence, societal implications, futures thinking, global perspectives, environmental consciousness, and ethical considerations, and these represent a multifaceted re-imagination of the possible futures of Asia and its interconnectedness with the world of people and nature. The volume thus represents an important further step towards a deeper understanding of the complex relationship between technology, society, and the future, and all this in an Asian context.

Marcus T. Anthony
Guest Editor
Zhuhai, April 2024

Notes on Contributors

Article 1
Cultivating Digital Wisdom in the Deep Future

Dr Marcus T Anthony
Futurist Marcus T Anthony earned his PhD in Policy Studies at Australia's University of the Sunshine Coast, and his current research focusses on preserving human authenticity in the digital age. His research spans modern reason and science, and traditional understandings from Daoism, Buddhism, and Confucianism, and western wisdom traditions. Anthony is Associate Professor of Foresight and Strategy at the Beijing Institute of Technology (Zhuhai), where he explores future societies in China and globally. Anthony has over sixty publications, and his latest book is Power and Presence: Reclaiming Your Authentic Self in a Digitized World.
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Article 2
Critical Thinking in the Age of Expanded Telepathy and Brain-Computer Interface (BCI)

Dr Luciano Zubillaga
Luciano Zubillaga is a Jiangsu-based artist filmmaker who creates films and multi-screen audio-visual installations at the meeting point of art, science, and spirituality (notably expanded telepathy and body intelligence). His work has been exhibited extensively in solo and group exhibitions at international biennials (e.g. São Paulo and Shanghai), film festivals and major museums and galleries around the world, including, the Museum of Modern Art, Buenos Aires, the Louvre Museum and the Institute of Contemporary Art in London. In 2022, his triptych *Cosmos-War-Finally-Love* won Best Experimental Film at the 60th Ann Arbor Film Festival. In 2008, Luciano received the London Artist Film and Video Awards (LAFVA) from the Arts Council of England and Film London and his work is part of the British Artists' Film and Video Study Collection (BAFVS). Luciano is currently Senior Associate Professor at Xi'an Jiaotong Liverpool University in Suzhou, where he was the founding Programme Director of the BA in Art, Technology and Entertainment. He holds an MA from Goldsmiths College and a PhD from the University of Kent, UK.
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Article 3
The Japanese Film *AI Amok* (2020) and the Collapse of Realist AI Vision

Dr Vincenzo De Masi
Vincenzo De Masi, is an Associate Professor of Media and Cinema at Beijing Normal University-Hong Kong Baptist University-United International College in Zhuhai, China. He holds a PhD from the University of Lugano and the University of Zurich. His research focuses on Creative Industries in Asia, Social Media, and metaverse production. Dr De Masi has taught at NYIT and Communication University of China. He is the founding director of the Italian

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Siyi Li holds a Master's degree in Media Communication from Hong Kong Baptist University. She specializes in social media and the metaverse, having authored several articles on these topics. Her expertise lies in exploring the impact and potential of emerging virtual environments on communication and interaction.

Article 4
Immanent Futures, Quotidian Spaces: A View from Yiwu

Dr Iram Ghufran
Iram Ghufran is an Associate Professor at the Department of Art, Media and Performance, Shiv Nadar Institution of Eminence, Delhi NCR. Iram holds a PhD from the Centre for Research and Education in the Arts (CREAM), University of Westminster (2023). Her doctoral project was a practice-based inquiry into speculative modes of futurity in documentary film, and includes a film, "A Terrible Beauty", and a written dissertation, "Situating documentary film in a speculative future: an exploration in multi species entanglements". She is currently working on an artist book based on her research and ethnography in Yiwu, China.
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Article 5
SinoAsian Futures between Economic Forecasting, Science Fiction, Sinofuturism and Creativity

Dr Holger Briel
Holger Briel is currently Professor of Cultural Theory and Media Studies at BNU-HKBU-UIC where he also served as the Dean of the School of Culture and Creativity at BNU-HKBU-UIC. He holds a PhD in Cultural Theory from the University of Massachusetts, Amherst, an MA in Comparative Literature from the University of Michigan, Ann Arbor and a B.A. in English and German from Eberhardt-Karls-Universität Tübingen, Germany. He has published copiously in media and cultural studies, philosophy, the social sciences, and international management studies. Holger also remains active as a journalist for several international newspapers. He sits as an Editor and Joint Editor on many journal boards and is the recipient of numerous prestigious research grants and fellowships. His latest publication is *The Age of the VisonByte* (Brill, 2024)
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Article 6

The Representation of the Anthropocene in Contemporary Chinese Science Fiction

Yue Zhou

Yue Zhou (MA Liverpool) is a PhD student at the Department of China Studies, Xi'an Jiaotong-Liverpool University. Her research interest focuses on contemporary Chinese science fiction. Currently, she is working on the project "Rescuing nature from nation's developmental theory: Reading Han Song's *Red Ocean* from an ecocritical perspective." One of her articles appeared in *Ecocriticism and Chinese Literature: Imaged Landscapes and Real Lived Spaces*, published by Routledge.
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Cultivating Digital Wisdom in the Deep Future

Marcus T. Anthony

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Abstract

The central focus of this paper is on the concept of Digital Wisdom, which is defined as the degree to which a person is in conscious relationship with digital environments and technologies. The author identifies and discusses the three domains of Digital Wisdom: "know thyself," "know the humans," and "know the machines." Through a comprehensive analysis of literature, tools, and processes, the author provides insights into how netizens – individuals in online environments – can develop Digital Wisdom within each of these domains. The article also explores the interplay between the three domains and highlights the potential consequences of AI advancements on human cognition and mental well-being. By offering a detailed framework for cultivating Digital Wisdom, this paper contributes to the ongoing discourse on fostering a more balanced and holistic approach to understanding and engaging with the digital world amidst the rapidly advancing AI landscape, and in doing so create a Deep Future.

Keywords: mindfulness, wisdom, technology, introspection, digital society, futures studies, disinformation and misinformation

One of the fundamental decisions we must make regarding the future of our civilisation, including that of the internet, is how we are going to develop our minds, individually, and collectively, and via what ways of knowing. Deep Futures (Anthony 2012, 2023) by definition permit a broad expression of human values, worldviews and cultures, while honouring the embodied, intuitive and rational-abstract modes of cognition. The three prime human ways of knowing are all valid within their own domains, and are all potentially genuine sources of information and wisdom in Deep Futures. Following the taxonomy of Wilber (2000), these prime cognitive modes are: the scientific (empirical), the rational (philosophical) and the intuitive (spiritual). We can each reflect upon which ways of knowing are dominant for us as individuals, and within our organisations and as societies. Have we become overly comfortable with the rational (the conscious mind), too caught up in the web, or lost in intuitive fuzziness? Which layers do our ethnic and national cultures and institutions valorise or ignore? Such awareness is vital as we strive to develop Deep Futures.

The recent AI explosion (Anthony, 2023) and its effects on our minds will likely be a defining moment in the development of human civilization. On the positive side, these technologies may free up cognitive space for us to cultivate mental abilities that we now underuse, just as our visual-spatial intelligence has expanded during the era of television, computers, and video games (Flynn, 2000). However, if AI-driven systems increasingly replace human imagination, creativity, insight and perhaps even thinking itself, artificial intelligence may also retard these cognitive capacities. As just one example, staring at narrow screens each day impedes peripheral vision and potentially our capacity for a deep sense of connection to nature and time, including the experience of wonder (Paul, 2021). It may also impede the foundational domain of Digital Wisdom: "know thyself" (Anthony, 2023), because that requires interoceptive acuity.

Digital Wisdom indicates the degree to which a person is in *conscious* relationship with digital environments and technologies (Anthony, 2023). That wisdom includes understanding how online technologies and environments function, and how best to respond to them. However, to have an advanced degree of Digital Wisdom, we also need to develop an awareness of both interoceptive and exteroceptive experience, including mindful self-awareness. This includes an essential understanding of biology and human behaviour; and of the economic and political structures that constitute our society (online and offline).

Digital Wisdom therefore comprises three parts, as shown in Figure 1, below. The first is "know thyself," the second "know the humans," and the third is "know the machines." Individuals, organisations and societies can potentially work at developing these three domains to cultivate Digital Wisdom, personally and collectively. There is often overlap between the three domains. Some tools for example, may require both introspection and knowledge of human physiology.

In the following paper, the three domains of Digital Wisdom will be defined in more detail, and relevant examples provided of tools and processes that netizens might use to develop each domain. A "netizen" is literally a citizen of the internet, and in the context of this article, refers

to any individual in an online environment.[1]

Figure 1

The 3 Domains of Digital Wisdom
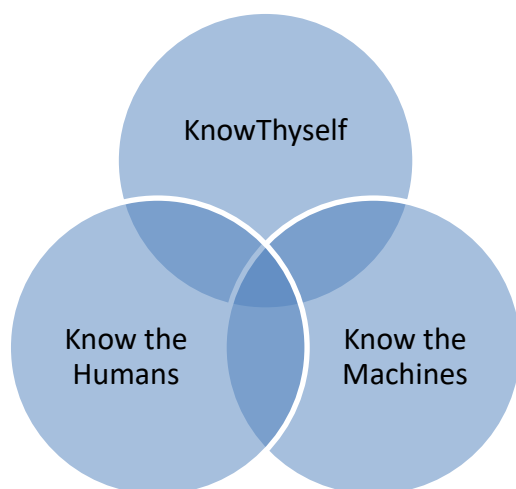
Know Thyself

"Know thyself" is the foundational domain of Digital Wisdom. It entails coming to an experiential, embodied awareness of "the Authentic Self." The Authentic Self (Anthony, 2023) is a more grounded and genuine expression of character and behaviour than the distracted ego states that are often seen and experienced as "self" in the digital society. The concept of the Authentic Self draws from the introspective "awakening" traditions, and also from the work of trauma therapist Gabor Maté (2018). It is founded upon deep intuitions and the clarification of personal values. The concept of the Authentic Self transcends our personal identity, as well as our biographical and social conditioning.

The domain of "know thyself" necessitates understanding how our mind functions. That includes being conscious of our emotional trigger points and personal psychological issues, including the possible trauma that may underpin that. This first domain of Digital Wisdom also necessitates a well-developed capacity to bring ourselves to mindful attention *at will*, which helps establish the ability to access "the moment of agency." That moment is the point in time when we are making choices (Anthony, 2023).

Self-awareness is the bedrock of Digital Wisdom, and it is what distinguishes it from many similar concepts like "digital literacy" (Hargittai, 2016; Lankshear & Knobel, 2008). Such concepts typically fail to encourage introspective wisdom. Yet without this crucial grounding in self-knowledge, simply teaching people about the functional features of online systems –

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[1] Significant portions of this paper have been adopted from the author's book: *Power and Presence: Reclaiming Your Authentic Self in a Digitized World* (Anthony, 2023).

like algorithms, echo chambers and disinformation – is insufficient.

In the following section, several introspective tools will be outlined; those that may assist in developing the first domain of Digital Wisdom (know thyself).

Mindfulness and Noticing

Adeptness at mindfulness helps us to return awareness to the body and reduce identification with thoughts and emotions (Davis, 2021; Ortner, Kilner & Zelazo 2007; Siegel, 2007). This skill thus potentially grants netizens the ability to pull out of attachment to online spaces, at will. This is also known as "cognitive responsibility" (Anthony, 2023), and includes the capacity to "notice" our own thoughts and feelings without judgment. Over-identification with thoughts and feelings retards our capacity to sense and feel our Authentic Selves, and may also make us more susceptible to online manipulation, because the moment of agency may quickly pass unobserved for those with low level executive functioning.

Body awareness exercises include "open monitoring," and the "soft gazing" process developed by Dor Abrahamson at the University of California, the latter inspired by tai chi (Paul, 2021). The "body scan" stress-release practice designed by Kabat-Zinn (2013) is a related tool. Meanwhile, breathing exercises are an old but effective mindfulness practice (Anthony, 2023; Jacobson, 2009), and they can be done while sitting at a computer, or in almost any setting.

Another self-awareness tool called "noticing the trigger point" can be combined with creative visualisation and can also help us avoid wasting precious creative energy on online drama (which could be seen as a key driver of online conflict). Our human physiology is what drives the anger/projection response in online environments, not merely the other's words. Physiology without immediate judgment and action soon fades, and the brain/body system returns to baseline. Nir Eyal (2019) suggests reconditioning online habits by "reimagining" more appropriate responses to trigger points. This can involve doing regular, short visualisation sessions where a person imagines him/herself responding differently at the moments when they habitually pick up the phone, peruse emails or respond angrily to online posts. In a similar vein, people can explore the benefits of mini-rituals as means to create more desirable online habits. Experimental evidence supports the claim that short rituals can offer effective interventions to online trigger points. Eyal (2019) states that rituals can help build an empowering identity, as they help people take control of personal habits. Finally, journaling can assist with developing a strong connection to the somatic body. We can keep a record of the choices we make and how we feel when we make them. Paul (2021) details this approach in *The Extended Mind*. Such journaling can help us clarify and codify the body's emotional messages.

Deep Questions

The concept of the Authentic Self implies that there are possibly many inauthentic expressions of "self." A delimited self-narrative and sense of identity may emerge from biographical and social conditioning, as well as repeated self-talk during childhood (Erikson, 1959). Netizens

ideally can begin to address this distinction between authentic and inauthentic expressions of self by asking whether their digital self/selves (their online personas and behaviours) are a reflection of their Authentic Self; or whether the digital self more readily resembles a conditioned self. The following deep questions may assist in determining this distinction.

- "Is the person I am online today the person that my 12-year old self would be proud to have seen me become?"
- "Are the web spaces I frequent and the conversations I have online (including anonymously) representative of the most noble and fulfilled expression of who I am?"
- "Are my thoughts and actions online really my own? Or have I become possessed by narratives and agendas that I am repeatedly exposed to? Are the typical actions and attitudes of my digital self those that that I have consciously chosen?"
- "Who could I be if I let go of the narratives, spaces and cognitive foci that express and circumscribe my online experience?"
- "What are some more empowering values and narratives that I could express today to truly embody my Authentic Self and why don't I just live that story?"

<div align="right">(Anthony, 2013)</div>

An individual could reflect upon these questions in meditation, in journal time, or in mindful discussion with a trusted friend. Reflecting upon our highest values, the meaning of our lives and what we intuit that we are truly here to be and become is an important first step to developing Digital Wisdom. Taking the time to ask and answer deep questions can be a foundation for the domain of "know thyself."

Making an Online Oath

To live as a netizen of the twenty-first century, it is highly likely that netizens will frequent online worlds where political parties and politically motivated organizations are deeply invested in projection and bigoteering. Many of these bad faith actors want to manipulate our minds. It is to their advantage that we do *not* assume responsibility for our thoughts and feelings, especially our blame and anger. Projection against others remains a key driver of politics and its tribalism. As shall be discussed later in this paper, part of Digital Wisdom is becoming conscious of political manipulation, and then making a commitment not to engage in unhealthy practices that others are manipulating us to participate in.

Despite the current provocative political environment, organisations - political or otherwise – our institutions and Big Tech companies can learn to be proactive in shifting online conflict culture in a positive direction. One way that they could do this is by writing and promoting an organizational online oath, then inviting their constituents to write a personal one. An example is written in the personal statement (oath) shared by the author below, except that the organization's name could replace the individual's name. The leader and other key members of the organisation could sign the pledge.

Writing an online oath is one powerful way to begin to embody the values identified in the previous section about "deep questions." This oath can also help affirm a commitment to transforming our internet cultures into something which embody a higher expression of human consciousness. Without deep intentionality, it is going to be difficult to rectify the issues raised throughout this paper about online cultures and our Authentic Selves. We need broader social change which includes *self*-transformation – not merely top-down authoritarian and punitive intervention. The author's suggestion is thus that we declare an affirmation of commitment to honouring our Authentic Selves in online contexts.

The idea of writing an online pledge has been adapted from a thought-provoking *Medium* article written by Peter Limberg and Conor Barnes (Limberg & Barnes, 2018). In that article, the two authors address the incivilities of the present-day culture wars, and call for "a Culture War equivalent to the Hippocratic Oath." They suggest that this could be affirmed not only by ordinary netizens, but also by the leaders of the various memetic tribes. Here, "combatants" could pledge their commitment to peace. Limberg and Barnes feel that making a public commitment would increase the motivation to keep the pledge, due to the risk of being shamed for breaking our word. Limberg and Barnes' online oath can be modified to incorporate a commitment to our Authentic Selves. We could easily make a pledge on any of our social media platforms. We could then invite others to share their own.

Making such an oath does not imply that there cannot be legitimate analysis and (polite) criticism of others, nor the calling out of inappropriate behaviour. Yet the distinction between a "judgment" and an "analysis" of someone else's post or article is not always clear (the former is more emotion-laden, often with projection, blame and shame). We can make that distinction for ourselves. Finally, even after taking our oath, it is perfectly okay to discuss social and political issues online. However, our online contributions may need to change in content and tone.

Writing an Online Oath

An online oath can be handwritten or typed, concluded with a personal signature to signal intent. Ideally, we then post it online. The hard copy can be framed and placed upon the pledger's desk, or hung on the wall near a private work space.

The following is an example of such an oath.

I, Marcus T Anthony, currently resident of Zhuhai, China, do solemnly pledge to respect all others on the internet from this day forth. I vow to help make the internet a space which helps create a wiser, compassionate and happy world.

I promise to:

- *Listen to those who hold different perspectives and engage them courteously.*
- *Assume responsibility for my anger and personal prejudices while online.*

- *Where moved to do so, defend respectfully those who are being misrepresented, bullied or attacked online.*
- *Honour this pledge even when engaging online spaces anonymously.*
- *Quickly acknowledge or even apologize when I find myself breaking this*
- *pledge.*

I promise not to:

- *Judge and condemn those I engage with on the internet, nor share such sentiments about non-present others.*
- *Engage in ad hominem attacks, including bullying, name calling or shaming.*
- *Write, speak or share overtly racist or bigoted comments and direct them at others, or alternatively about others.*
- *Engage in bigoteering: recklessly calling others bigots as a means to gain power or control over them, or to "win" a debate.*
- *Virtue signal, judging and condemning others as morally inferior in order to boost my own self-image or my status within my online communities.*
- *Engage in any tribal conflicts on the internet, except with the intent to help resolve those tribal differences.*
- *Misrepresent or straw man others, so that I or my community can attack them.*
- *Initiate, encourage or participate in the doxing of others.*

Marcus T Anthony,
Zhuhai, China,
April 07, 2024.

Paying Attention to our Attention

Another simple tool which can assist netizens in honouring their highest values and their Authentic Selves is to be vigilant in noticing when their attention is being taken away from affirming spaces and experiences. If we notice that our attention is being regularly hijacked, and that we are losing the capacity for focus, we can then take action. Attention is power. If we cannot bring our mind to focus upon spaces that are aligned with our Authentic Self, we have become a disempowered human being.

It is important to structure our environment and activities such that our attention is not constantly under siege. Author Tim Ferris (2016) and social commentator Daniel Schmactenberger (Addressing the Sensemaking Crisis, 2021), for example, have removed their social media apps from their phones. They emphasise the benefits to turning off all social media and email alerts.

It is important to set clear parameters for social media use and online activity. Many successful people have a daily morning routine that they stick to. A very bad habit is to keep a smartphone

handy, and to open it while still lying in bed. Choosing not to use a smart phone or any media or social media for the first few hours of the day can help avoid having one's attention distracted by the agendas of media and social media.

Another beneficial process may be what Leonard Jacobson (2009) refers to as an emotional "alignment." This mirrors the concept of "right relationship" with thoughts and feelings, as found in traditional Buddhist teachings, as well as scientifically well-established mindful "noticing" techniques (Paul, 2021). Emotional alignment involves bringing attention to the emotional body and giving verbal and/or physical expression to any strong or subtle feelings that may be resident in the body (especially anxiety/fear, anger, shame or sadness and so on). When the practitioner is emotionally aligned with them, they may then reflect upon what is most important to them, including what they wish to do with the day (or longer period) to follow. In other words, the individual can learn to put their attention where they choose, not where media and social media actors would prefer them to put it.

Expansion and Constriction Modes

By its nature, social media permits a rapid creation and publication process. It enables an almost immediate communication of thoughts and ideas, and the tendency is to hit the enter button without achieving sufficient distance from the contents one is about to publish, nor from the situation we are embedded in.

There remains a great deal of online content that is very negative, that is victim-centred, angry or overtly hostile. Many content creators hold a persistent attitude of small-minded negativity. It is important *not* to develop this kind of mindset, because it is clearly incompatible with wisdom. Further, it may cause harm to both creators and content consumers. The distinction between *expansive* mode online content versus *constrictive* mode online content can help alleviate this tendency towards online negativity (Anthony, 2023).

Expansion mode is constructive, creative and often uplifting. It is typified by a spirit of generosity and elevates the spirit, an intuitive sense that our boundaries are shifting outward and upward. Expansion mode represents the embodiment of the Authentic Self. The constriction mode of expression, conversely, is fearful and angry. In its essence it is mean-spirited, leading to an intuitive sense of feeling smaller and less connected. It takes us into the world of drama and projection, and away from our Authentic Selves.

The motivation for the author in developing this simple distinction is to be able to easily notice when we are falling into bad online habits; and secondly, to assist other individuals and online communities to do the same. The author's goal is to work in expansive mode as much as possible, and reduce time spent in constrictive mode, both as creator and consumer.

Table 1, below, contains a list of attitudes and states of mind associated with the two modes (Anthony, 2023).

Table 1

Expansion versus constriction modes

Expansion mode	Constriction mode
A sense of expansion, opening and growth	A sense of contraction, closing, smallness
Creative, receptive	Destructive, domineering
Hopeful: A strong sense of an attainable vision for self, society & planet	Hopeless: Little sense of attainable vision for self, society & planet
Moves towards a solution or creative process	Strikes out against an enemy, threat or problem
Authentic Self, know who we are	Separated sense of self, unsure of who we are
Stands in their power, internal locus of control	Victim consciousness, external locus of control
Non-judgmental, impersonal	Judgmental, blaming, ad hominem attacks
Receptive, generous & open	Closed & mean spirited
Intellectual humility. "I may be right, but you May also be right."	Intellectual arrogance. "I know best. I'm right, you're wrong."
Listens first,	Poor listener, instructs, lectures, moralises
Good humoured, light hearted	Self-serious, sarcastic, derogatory humour
Relaxed	Tense
Inviting	Rejecting
Responsible, owns emotions	Irresponsible, projecting emotions
Is a witness to own thoughts & opinions	Identifies with own thoughts & opinions
Present, embodied	Not present, caught in the mind, rumination
Optimistic, trusting	Pessimistic, untrusting, neurotic, conspiracy-minded
Forgiving & tolerant	Resentful, intolerant, blaming, bitter
Patient with self with & others	Impatient with self & others
Peaceful, or appropriately assertive	Aggressive, violent language & attitudes

When we take assertive action in the world, including in online environments, our neurophysiology reflects that mental state. Here dopamine plays the role of prime neurotransmitter in the motivation and reinforcement of goal-directed behaviour, and with the prefrontal cortex mediating executive functions such as planning and decision-making

(Friedman & Robbins, 2022). It is thus reasonable to assume that action-oriented expansion modes and passive constriction modes propagate contrasting mental states.

Habits of mind greatly impact our ability to embody our Authentic Selves. Therefore, both our mind and our physiology need to be deliberately shaped to reflect the values of the Authentic Self. This can be done by establishing proactive and positive habits relating to our cognitive, physical, social and online behaviours.

Developing mentally expansive, positive habits online (and offline) is not only good for the individual, it is potentially good for those they encounter, according to the findings of the Framington Heart Study (Robson 2021). The psychological phenomenon of "social contagion" suggests that the attitudes of friends and acquaintances of an individual can impact that person's own state of mind. The Framington Heart Study found that having a friend with a very positive attitude and a zest for life rendered participants in the study a 15 percent more likely chance of achieving a high score on the survey's life satisfaction index, even with no change in their immediate life circumstances. And that positivity effect does not stop there. The Framington study found happiness may be passed down the line even to friends of friends, regardless of whether they have ever even met the original happy individual (Robson, 2021).

We can think of a meme as being like a social contagion. Though the term "meme" is now mostly used in relation to viral images on social media, the original concept of a meme was made popular by people like Richard Dawkins (1976). It initially referred to ideas that saturate populations, much like fluid seeping into a piece of chalk which is dipped in a cup of water. And in the context of today's digital society, memes (in both meanings of the word) travel at the speed of a Wi-Fi connection.

Once an individual is grounded in expansion mode and the Authentic Self, the individual can then go out into the world and "teach people who they are," to borrow the words of therapist Jerry Hyde (Talking masculinity, 2022).

Recognising Drama and What Drives It (Then Pulling Out)

Our tendency towards "drama" and projection may emerge from our personal unresolved trauma and unmet emotional needs (Maté, 2018; Jacobson 2009). cognitive responsibility and shadow work (exploring our repressed psychic states, as advocated by Carl Jung) can potentially help us bring that into conscious awareness. A simple way to avoid getting caught up in online dramas may thus be to become very familiar with how we may unconsciously create conflict in our lives. Once we know ourselves and especially our ego and shadow, we may also start recognizing these things in others. That self-awareness may then enable us to avoid getting drawn into online and offline games with those we encounter.

There are numerous studies which suggest that mindfulness practice may directly or indirectly help reduce conflict and projection. Mindfulness can diminish emotional reactivity while increasing cognitive flexibility (Ortner, Kilner, & Zelazo, 2007). Further, it enhances self-

observation (Siegel, 2007), while meditation activates brain regions associated with greater adaptive response to stress (Cahn & Polich, 2006). There is also evidence that mindfulness assists rapid recovery to baseline after negative provocations (Davidson, Jackson & Kalin, 2000). Mindfulness can also help reduce rumination and stress, improve focus and boost working memory (Davis & Hayes, 2012). In other words, it helps us quickly return to peace after we have been triggered into strong emotional responses.

Mindfulness practices have to be applied smartly. For example, one recent clinical study tested whether teaching mindfulness can reduce the tendency of netizens to engage in online disputes. The study used short, fifteen-minute mindfulness sessions. Yet the experiment produced no significant evidence for reduction in online projections. After the mindfulness training, the participants quickly returned to squabbling with political opponents (Petersen & Mitikidis, 2019). The study concluded that mindfulness practice has no significant effect in increasing tolerance in relation to political discourse or "generating desirable political outcomes."

Yet, the study appears to have suffered from a flaw. As Leonard Jacobson (2009) has long taught, becoming present is only the first step in engaging mindfully with others and the world. The second and most important step is learning how to *stay* present. The Petersen and Mitikidis study (2019) made no attempt to teach that vital second step.

Not Knowing: Cultivating Intellectual Humility

Most of our ideas are not chosen by us, but have been "downloaded" into our skulls by our parents, teachers, society, secular and religious organisations and, increasingly in the age of the internet, by the algorithms that run our machines. Still, despite all these "downloads", we live in an age of great change and great confusion, where certainty appears to be diminishing. When we feel confused, it is natural to seek understanding, to seek closure. Yet, in times of change we need to admit the possibility that we could be wrong, including in regard to our own strongly held beliefs – which may have become limited or simply wrong.

A good question to regularly ask is, "How do I know that this is true?" Chances are that we may not know for sure. The basis of our knowledge can be quite fragile. This does not mean we cannot hold intellectual positions or personal beliefs. It means that there are benefits to holding them more lightly, and in establishing the right relationship with our minds, as is practiced in the Buddhist tradition (Thich Nhat Hanh, 2009) and in the Buddhism-inspired teachings of Leonard Jacobson (2009). Intellectual humility is an attitude which emerges from the realization that we may not know as much as we *think* we do. It is an important mindset to cultivate in the domain of "know thyself."

It is this not-knowing, this humility and the spirit of adventure that opens us to the potential for transcendence of the ego (Thich Nhat Hanh, 2009). It is the doorway to the Authentic Self. Embodying the Authentic Self thus necessitates finding a balance between standing in one's own power while setting clear boundaries, but also in being open to what life brings forth. In a sense, we have to learn to say both "yes" and "no" in equal measure. The Authentic Self is

more water than rock, but not quite either.

A perfect example of intellectual humility can be found in Charles Darwin's 1860 letter to Pictet de la Rive, a genuine critic of Darwin's *Origin of Species*, published in 1879 (To F. J. Pictet, 2021). De la Rive had written a strong critique of Darwin's seminal book, where he opined that natural selection could account only for small changes in the morphology of species, and not large-scale shifts from one species to another. Darwin's letter of response displays a genuine open mindedness and engagement with his ideological opponents. One can only imagine how today's online and personal interactions could be transformed if netizens adopted Darwin's intellectual humility.

The letter also features a good example of "steel manning," where we communicate our understanding of what the other has said. Below is an excerpt from Darwin's letter.

> Dear Sir
>
> I must trouble you with a few lines to thank you most truly for your very kind note. What you say about my Book, pleases me *extremely*, & I am far from surprised that you go with me a very short way. I remember how slowly I changed my own opinion; & even supposing for the moment that my views were in the main right, I do not think anyone could at once undergo so great a revolution in opinion.— *I thank you cordially* for the notice which you intend to publish, & for so kindly offering to send me a copy. *This will be invaluable, as showing me what parts you think weakest*; & it will largely spread the knowledge of my book.—
>
> Do you ever see the American Phil. Journal? There will appear in the next number an excellent Review by that admirable Botanist Asa Gray. He informs me that your illustrious countryman, Agassiz, is very bitter against my Book, as I fully expected would be the case.— *Prof. Bronn of Heidelberg although very much of course opposed to my doctrine, with noble liberality of sentiment is going to superintend the work* of a *Translator into German*; so that my Book will be pretty widely known, & consequently *what is true will soon be known from what is false in it.* You will think me very presumptuous, but as your studies naturally lead you to reflect much on Geological Succession, Geography. Distribution, Classification, Homology & Embryology, I expect & *hope you will be led ultimately to go a little way further with me*: as these facts receive some sort of explanation on the theory of descent; whereas they are inexplicable on the theory of creation.
>
> Pray believe me, dear Sir | with *sincere respect & cordial thanks* for your kindness | *Your faithful servant* | Charles Darwin
>
>   (Darwin 1860, Italics added, except for "extremely.")

Here Darwin, one of the greatest figures in the history of science, display's an almost unimaginable degree of intellectual humility by today's standards. Particularly intriguing is Darwin's signature: "…with sincere respect and cordial thanks… Your faithful servant." These

words echo the teachings of Chinese mystic Lao Zi, with the latter's imploring his students to lie below others, even as they sought to influence over them (Goddard, 2014). This old fashioned way of signing off on a letter makes for a stark contrast with today's rapid-fire online war zone of email, tweets and impolite comments.

Note also how keen Darwin appears to know of the weaknesses of his own thinking, and is willing to share that. And despite Prof Bronn of Heidelberg being opposed to Darwin's findings, Darwin's adversary agrees to help him translate it into German. This stands in great contrast to much discourse found in today's social media echo chambers, where many differences of opinion are shot down with caustic sarcasm and ad hominem attack.

Intellectual humility potentially generates an attitude of modesty, based on the awareness of the limits of our individual minds and the current levels of understandings of our human species. When we come to a premature conclusion about a particular subject, we lose the learning potentials of open-minded curiosity.

Several tools and attitudes which can help netizens honour the first domain of Digital Wisdom (know thyself) have been shared in the section above. The following section details the second domain of Digital Wisdom.

Know the Humans

In order to foster Digital Wisdom, it is important that we develop an understanding of how human beings function biologically and culturally. How and why do people behave the way they do, online and offline, and how is our personal behaviour connected to our common humanness? Armed with such knowledge, we can be better prepared both for our interactions with others online, and for the way online systems and technologies target our human traits and frailties. We have a tendency to judge behaviours in others that are also present in ourselves (Jacobson, 2009), so if we are able to recognize those common human imperfections within ourselves, we may also learn to be more compassionate when we see others embodying such traits.

There are several tools and attitudes which can help facilitate netizens' greater awareness of essential human behaviour. Some significant ones are described below.

Notice Your Tribe – Then Transcend Them

What can an individual do if they find that they have become caught up in online tribal dynamics, and that their mind, thoughts and feelings are no longer quite their own? It is highly likely that they may need to change the way they relate to the group. Or they may even choose to leave the tribe behind.

Adopting the wisdom of the noticing techniques of the Buddhist tradition (Thich Nhat Hanh, 2009) is one approach which can help initiate the necessary mental shift. While online, the

netizen can begin to identify what their tribalist trigger points are. In particular, they should notice when their judgment and anger are triggered while frequenting their tribal spaces - and also when entering other online tribal territories. Once these emotions have been brought into full awareness, netizens can then assume cognitive responsibility for those feelings by removing attention from the observed virtual space and onto the body and its feelings. This will likely reduce the possibility of projecting the feelings onto others. Noticing processes can help create emotional distance between the individual and the event being experienced (Kabat-Zinn, 2013), and in turn from the tribe itself.

Second, it is useful to have a working understanding of how other people and organisations deliberately or unconsciously target our trigger points to manipulate us. These "others" may be ordinary individuals, as well as media and social media companies, advertisers, trolls or even bots. Their typical goal is to grab our attention and suck us back into an emotional state such that your focus remains fixed long enough for them to enact their agenda (Zuboff, 2019). For political movements – and bad faith actors who exploit political and social movements – the goal is most likely to get netizen to emotionally identify either for or against an idea, person or group. Left and right. Woke and anti-work. Feminists and advocates of "red pill" philosophy China and America and so on. For news media, bloggers and various online organizations, a significant part of their profit model is to get web users to click, to like and to subscribe. This is what drives revenue to them via advertising, and garners rewards from tech platforms (Anthony, 2023; Zuboff, 2019). It also helps them sell their own products and services directly.

Nonetheless, we cannot simply declare the manipulators to be bad human beings, because they represent a significant portion of internet users. Most are merely doing what the system – the marketplace – incentivizes.

Of all the emotions to master in online contexts, anger and judgment are arguably the most important. But to master anger and judgment we need to assume cognitive responsibility for them; which in turn may require shadow work, and perhaps even healing. Once we assume ccognitive responsibility for our feelings and projections, and once our emotional energy is removed from the situation, we have reclaimed a great deal of our power from our tribal overlords and their technologies.

Bridging the Tribal Trenches

Daniel Schmactenberger (Addressing the sensemaking crisis, 2021) believes that netizens of the current age require increased competence in at least three domains of communication, if we are to (re)learn how to engage wisely with online tribal others.

Critically situating the position of the other party is the first and easiest competence to develop, according to Schmactenberger. This can include understanding their political alliances, their worldviews or their paradigms. Yet this is not enough; tribes are not typically very interested in collapsing the distance between "us and them," and walking in the other tribes' shoes.

The second required competency is the ability to deeply understand and engage with the other, including "steel manning" their position, which is the process of attempting to accurately paraphrase another's argument, and repeating it back to them. This aids in our capacity for deep listening. We can learn to listen without judgment, and just be present with the other person. This also facilitates learning. It is difficult to learn anything new while we are angrily dismissing the other person.

Schmactenberger's third requirement is that each of us must be able to reflect deeply upon our own biases and arguments. We have to be open to the possibility that our own thinking is limited or faulty, and that our biases and prejudices are clouding our thinking. Mastery of Schmactenberger's three competencies clearly requires a strong motivation within the individual to rise above tribal identification, and to challenge personal beliefs. But here lies a problem. As moral psychologist Jonathan Haidt (2012) points out, we humans are great at finding fault in others but poor at identifying it within ourselves. We love to moralise, but not to introspect. Morality binds us together, but also blinds us. So, how do we allow ourselves to see our own biases, or even errors in thinking, without becoming defensive?

The cultivation of the Authentic Self and especially cognitive responsibility and mindful presence can help us transcend the machinations of mind. A deepening of awareness of the nature of mind can help us reduce tribalist fervour. The moment of agency (Anthony, 2023) – where we are mindfully present with our own internal decision-making apparatus – represents that instant in time where we can practice free will, where we can choose preferred futures. That moment is where we have the power to disable the triggers that our biology and our conditioning have engendered within us, and to begin to initiate a trans-tribal perspective.

Being a Good Faith Actor

The concept of a "bad faith actor" typically refers to a person who deliberately attempts to lie and deceive others, such as when pushing a political or an ideological agenda, or just to seek attention and power. Ideally, we'd like to take guidance from good faith actors and good faith media, while avoiding the bad ones.

However, there is not always a clear distinction between good and bad faith actors and actions. It may be better to think of ourselves as being posited along a continuum of acting in good faith, and bad. Bias is a defining trait of the human mind, and many of our thoughts and actions have unconscious drivers. Further, some people we might think of as bad faith actors may not be *consciously* trying to manipulate or deceive. And those same people sometimes may act in good faith. Our perception of them will also inevitably reflect our own worldview and biases. Thus, there may be benefit in expanding the definition of bad faith actors to: "Those who either deliberately and/or unconsciously manipulate and deceive for the purposes of power and control over others" (Anthony, 2023).

Such a frame is a little more uncomfortable to contemplate than a simple good-versus-bad scenario, because we are moving into the realm of the shadow. And we have to ask ourselves

whether we as individual netizens – are tending towards the bad faith end of the spectrum at any given time. Yet if we are to transcend online culture wars and our political and tribal bickering, there's really no choice but to shine the torch of illumination into our own psyches.

How can we decide whether a particular actor acts – or an action is undertaken – in good faith? Towards this end, the author has developed a "good faith quiz" (Anthony, 2023). It consists of 16 questions, to which the respondent can answer yes or no (or undecided). This simple quiz can be used to reflect upon the intentions a particular person, debate, social/political movement, media channel or organisation. The questions can help the responder identify whether there exists the danger to be emotionally or mentally taken into the cognitive thrall of those spaces. Alternatively, the questions can be turned inward and applied to the responder. Several pertinent questions found in the quiz include:

- Is there an open discourse (or a noticeable ideological, political or institutional agenda)?

- Is the emotional mind-set balanced and bi-partisan (or partisan and tribalistic)?

- Is it safe to voice a dissenting perspective, and is there a spirit of respectful disagreement (or is there an insistence on conformity, with dissent punished)?

- Is there respect for facts and the truth, regardless of how confronting (or is there misinformation/disinformation, including a rigid narrative framing, and/or a common omission of important facts and stories)?

- Does the actor or movement depict the people they critique humanely (or are they dehumanized, and represented as dangerous threats)?

- Is my mind, psyche and sense of well-being being enhanced by engagement (or do I feel myself being dragged into anger, drama and projection)?

(Anthony, 2023)

No person, group or movement is perfect. We do not have to completely avoid those who embody some of these characteristics, because most people do these things at times. But we can learn to be mindful of the spaces and discourses we frequent online and off, and develop a conscious relationship with them. In that sense, the power is with the netizen, not with the good or bad faith actors they might be engaging with.

Finally, as Leonard Jacobson (2009) states, there is really "only one ego." And it is all of us. Once we become more honest about how we may lie and "cheat" ourselves, we may then be able to sense that same trait more easily in others. Ideally, we may be able to decide more readily whom to engage with, and whom to disengage from; which web spaces to frequent, and which to avoid.

Reigning in the Negativity

Human beings possess a strong bias towards noticing the negative (Robson, 2021), and today's click bait culture of the media and social media content creators often exploits that tendency. Humans have evolved to be on high alert for threats. For the animal in us, the end is always nigh. This is why it is important for web surfers to appreciate that the online world is not *really* real. It is constructed not of earth and water, nor of bricks and mortar. Instead, it is built from an illusionary mixture of hyperbole, fear and the impending threat of tribal others, all saturated in oceans of dopamine.

Minding Conspiracy Culture

The rapid expansion of conspiracy theory culture is a readily notable feature of the internet (Haidt, 2022). Such spaces are typified by a scornful, angry distrust of the system, and a deep resentment of leaders and institutions. Conspiracy worldviews tend to contain a mixture of truths and untruths. Further, their explanations of the coordinated manipulation of the world by secretive organisations is typically vastly oversimplified – and often just plain wrong.

Conspiracy theory culture is arguably driven by a strong sense of individual powerlessness and the resonant confusion of living amidst the confounding pace of change of the twenty-first century world (Douglas, Sutton & Cichocka, 2017). The increasing complexity and ultimate disintegration of our sense-making systems has engendered a loss of trust in our societies (including governments), and this has been exacerbated by increased time spent online (where misinformation and disinformation abound). Another recent driver is the turmoil and trauma of several years of Covid deaths, lockdowns and general mayhem (Anthony, 2023; Haidt, 2022).

Bad faith actors and systems often pray upon the psychological issues and resonant trauma of netizens to draw them into shadowy web spaces. It is not that those netizens have no choice in the matter, but arguably, the anger, resentment and fear that emerges from their personal trauma makes them more susceptible to manipulation (Douglas, Sutton & Cichocka, 2017). Therefore, one ideal antidote to conspiracy culture may be to develop cultures which value mindfulness and cognitive responsibility, where people learn to take greater responsibility for their emotional life and their pain, and to learn healthy ways to express their angst.

In the next section, the discussion moves on to the third domain of Digital Wisdom, which addresses the need for an essential understanding of modern technologies and how they operate.

Know the Machines

"Know the machines**"** is about developing a competent understanding of how the internet and current information technology function. Functional democracy relies on a critically thinking populace, and this is arguably more important than ever in the current age of widespread disinformation, including alleged interference in electoral processes via propaganda disseminated over social media (Stewart, 2018).

In a December 2016 *New York Times* op-ed, Mark Galeotti states that:

> Instead of trying to combat each leak directly, the United States government should teach the public to tell when they are being manipulated. Via schools, nongovernmental organizations, and public service campaigns, Americans should be taught the basic skills necessary to be savvy media consumers, from fact-checking news articles to how pictures can lie.

Developing a functional understanding of information systems and technologies is not a static skill set, as technology is forever changing, along with the human cultures that are in a relationship with it. For example, at the time of writing, the AI Explosion (Anthony, 2023), and especially the arrival of chat bots like ChatGPT, is heralding a seismic shift in the way humans relate to technology, society and even to our own minds. This will inevitably lead to many great benefits, but as with all technologies, there will be numerous unanticipated impacts.

Knowing the machines is not necessarily about becoming a tech wizard, learning how to code or to build a computer from scratch. Nor does it require launching your own interstellar transport company like Elon Musk. Instead, what is most needed is a practical awareness of how technologies and online spaces impact our bodies and minds.

Ideally, netizens should be aware of the potential effects of internet usage and informational technologies on their minds and lives, including the following understandings.

Misinformation and Disinformation

Researchers at the Massachusetts Institute of Technology have found that falsehoods on Twitter are 70 per cent more likely to be retweeted than accurate news (Vosoughi, Roy, & Aral, 2018). Misinformation and disinformation abound on today's internet, and we are embodying Digital Wisdom when we are mindful of that. Significant information should always be double-checked, as should information that is shared publically. Further, just because someone is being honest does not mean they are right, nor that they are not misleading others. Misinformation differs from disinformation in that the former is not deliberate deception, and the falsity of the information is unknown to the person disseminating it.

Deep Fakery

Deep fakes – deliberately falsified video, audio and written facsimiles of the words and actions of actual people – are becoming even deeper and faker. A good example is the "Fake Tom Cruise"? His actual name is Miles Fisher, and in real life he does look remarkably like the actor Tom Cruise. With the help of deep fake company Metaphysic, he has produced numerous Tik Tok and YouTube videos which appear to show Tom Cruise, but the words and images are all of Cruise's imposter. Current deep fake companies can take a few images and sound recordings of individuals and then produce video and audio content with a very high degree of similarity to the person being faked. Rapper Snoop Dog, for example, "appeared" in an Australian

television commercial in 2021. However, Snoop Dog himself never shot the video. He gave approval for the advertising company to use his image, and they deep-faked his appearance in the advertisement (CBS News, 2022).

The contents produced by Google Deep Mind's LaMDA and also ChatGPT are also easy to confuse for those of an actual person. Further, we now know that many posts on online platforms such Twitter and in news site's comments sections are generated by machines (bots). An indeterminate number of the comments on many social media sites and news channels are produced by these bot accounts, and these bad faith bots may be sourced to meddling governments, organisations, hackers and trolls (Nonnecke et al, 2022).

The problem of deep fakes will likely only worsen over time as technologies improve, and the day is coming soon when the differences will be almost impossible to distinguish. For individual netizens, once again the key is to be aware that the issue is becoming increasingly serious.

A Tendency Towards Online Addiction

Beginning around 2010, Big Tech companies like Instagram, Facebook and Uber appropriated research into human behaviour – most particular that of Stanford professor B.J. Fogg – and deliberately deployed it to make their social media platforms and companies more addictive. The Fogg Behaviour Model states that for a behaviour to occur, there needs to be motivation, ability and a trigger. Motivation is our degree of desire, while ability refers to how difficult or easy it is to perform the behaviour. Finally, we need a trigger or stimuli that prompts us to take action. Nir Eyal (2019) argues that big tech social media companies now routinely apply Fogg's model to make their platforms and products more addictive.

Shoshana Zuboff's (2019) concept of "surveillance capitalism" is a related concept that may enhance Digital Wisdom. Ideally, netizens should have an awareness of the clicks-for-profit model that drives the way online content comes to us. Social media giants are not a charity. They make money by selling advertising, and to do so, they need to collect users' personal data so that they know which ads to target to which people. By improving an ad's click-through rate, tech platforms can charge more money for advertising. Tristan Harris (The Social Dilemma, 2020) has famously stated that "If you aren't being billed, *you* are the product."

Digital Wisdom can help protect us against the attempts of tech giants and smaller online content creators to hijack our brains; and in particular if we develop an essential understanding of the neurobiology of web surfing. Stanford University neuroscientist Andrew Huberman (Huberman Lab, 2021) has pointed out that the intermittent dopamine drip that occurs as we scroll through social media pages is particularly damaging to the brain's reward system. It is the slow-drip dopamine release that occurs from longer-term focused activities that is essential for us to be successful at many meaningful activities. Huberman argues that, ideally, people should condition themselves to become "addicted" to the good feelings that emerge when they spend extended time and effort achieving longer-term successes. The worst case scenario is

that a netizen assumes habitual behaviour which is akin to that of the mice in well-known experiments where the mice incessantly tap a lever, electrically releasing dopamine via stimulating the ventral tegmental area of the brain. Such mice may eventually stop eating and drinking, and effectively self-destruct (Huberman Lab, 2021).

Audience Capture

There is a bind that many content creators typically encounter: that of choosing whether to produce content they believe is of highest value to society, or to produce content that pleases their audience and thus optimises revenue. The algorithms tend to reward simple, repetitive narratives that garner the most clicks from a socially and politically homogenous audience. The story of YouTuber Nikocado Avocado is a good example. Nikocado morphed from a 170-pound vegan into a 300-plus-pound obese human who devoured an entire McDonalds menu in a single sitting to satisfy his viewers (Gurwinder, 2022).

Once content creators develop a significant audience for their channel or product, the algorithms tend to reward them for repeating the same themes and narratives, but punish them if they deviate from them. On platforms such as YouTube, when any given content isn't "liked" or clicked on, the content creator literally gets paid less. The creator then has to choose between producing content which reflects what they truly want to create or say, or what the platforms are "telling" them to produce. For those watching the channel, this leads to the next issue.

Echo Chamber Effects

A well-known problem, and one of the most obvious features of MemeWorld, is the prevalence of echo chambers. The algorithms not only straightjacket content providers, they also tend to herd users into flocks of online "sheeple" with similar worldviews and opinions – then fleece them of their cash. Those who express dissenting views may get heavily criticised. The result is a highly constrictive relationship between the content users and providers, with each ultimately trapped in their own online echo chamber.

There are relatively simple ways for netizens to prevent online platforms from dictating their feeds. They can alter their settings on platforms like YouTube, TikTok, and Instagram. Netizens have more control over their content than they realise. For example, amongst many possibilities, on YouTube a user can simply pause their "watch history;" while on Facebook they can delete their posts, likes, and searches (Anthony, 2023).

Beware the Shifting Mob

Much has been said and written about "cancel culture" and how online pressure groups can destroy a netizen's reputation both online and off. This potentially affects everyone, because over time the Overton Window (the acceptable range of opinion) can shift dramatically. When the soon-to-be Canadian Prime Minister Justin Trudeau engaged in "black face" performances (both as a student and as an older adult), at the time that was not considered particularly

offensive. But times have changed, and today he is being called out on his previous behaviour. Times will change again and it is highly probable that future generations will consider some current attitudes and behaviours appalling.

Everything a netizen puts online, including their history of likes and clicks, should be considered by that person to be potential public information. This is true even if posted on private forums, because that netizen can never know who is going to share that information. And that "like," text, post or flippant comment may be around for centuries. Part of Digital Wisdom is keeping this in mind (Anthony, 2023).

This is not to suggest that we should not express our opinions online, be critical of ideas, or even make light-hearted fun of people (up to a certain point). But we should be mindful of not going too far – and it is best to err on the side of caution. If the individual has written an online oath, its stated values and behaviours can be used as a reference point.

Digitally Wise Habits and Deep Futures

The three domains of Digital Wisdom constitute knowledge and skillsets that can help us honour our Authentic Selves as we navigate online environments and attempt to build Deep Futures (Anthony 2012, 2023). Merely possessing the awareness of these things can be potentially empowering, and may make a difference to our digital lives. Several practical tools and solutions have been outlined above, for each of the three domains of Digital Wisdom. There are numerous others that could have been included, such as: verifying media and social media sources; being aware of the bias of media and social media creators; limiting online usage; prioritising offline relationships; deactivating smart phone alerts; cultivating the habit of perusing news from a variety of "tribal" sources and so on.

While it is true that we can simply choose to put down our devices and turn off our machines, completely distancing ourselves from digital society is not a valid choice for most netizens today. Much of what we do, including work and personal communications, requires use of the technologies that undergird that system. There are enormous benefits and opportunities that smart technologies bring us. The key then, is *conscious* engagement with our machines and with other users who populate online spaces: this behaviour lies at the heart of developing Digital Wisdom.

Psychologist James Flynn (2000) has argued that the relatively recent public awareness of shorthand abstractions like "average," "placebo," and "random sample" have made us intellectually smarter. Today, we may also be able to instil mindful cognitive skills in users via the three domains of Digital Wisdom. We can no longer simply allow the young to stumble into virtual landscapes and trust that they have the ability to make sense of it all. Our schools and online platforms must begin to incorporate curricula and cultures which promote Digital Wisdom – and Deep Futures.

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Critical Thinking in the Age of Expanded Telepathy and Brain-Computer Interface (BCI)

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Abstract:

Unveiling a world of expanded telepathy, the study investigates the convergence of cosmological awareness and brain-computer interface (BCI) technologies. It delves into the evolution or potential disappearance of individual critical thinking in a posthuman era, exploring the emergence of a new form of criticality beyond human boundaries. By envisioning a future where telepathy becomes a reality, the paper examines the direct sharing of mental states, bypassing traditional communication methods and raising profound questions about the nature of consciousness and intentionality.

Keywords: telepathy, brain-computer interface (BCI), cosmism, Gurdjieff, entanglement, direct theory, metahuman

Unleashing the potential of critical thinking in an AI-dominated environment that transcends human capabilities, this paper explores the redefinition of human experience and consciousness. It contemplates the transformative impact of Brain Computer Interfaces (BCI) technologies on thought processes, offering new avenues for intentionality.[1] By re-examining the concept of technological telepathy, this study questions the endurance of current digital concepts rooted in logic, language, and coding. It considers the implications of a paradigm shift in computation that challenges Newtonian physics and individualist metaphysics, drawing on theoretical frameworks from Karen Barad, Peter Pal Pelbart, and Jaime Del Val. [2]

In light of this re-evaluation, the paper identifies three principal nodes for the reimagining BCI through post-human telepathy: direct theory[3] as a diffractive form of theory, expanded telepathy (Zubillaga, 2021)[4] as a catalyst for art practices to develop techno-political imagination, and the cosmological potential of technological telepathy:

The first node explores *direct theory* as a diffractive form of theory, drawing inspiration from surrealism and experimental moving images. It investigates the power of film to transcend language limitations and engage the mind through associations, akin to the language of dreams.

The second node focuses on expanded telepathy as a means of reconnecting art practices, creativity, and techno-political imagination. It delves into the historical roots of telepathy as a tool for shared subjectivity and collaboration, highlighting its manifestations in various forms of art, participation, and collective experiences.

The third node provokes critical reflection on the transformative potential of the cosmological dimension for BCI technologies. This reflection is motivated by the entanglement of cosmic influences and intentionality, which suggests that BCI technologies have the potential to impact

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[1] The concept of Intentionality has a long tradition in philosophy. In my 2015 paper, I track back the notion to Anselm of Canterbury's definition of intentionality, also known as the "intentionality of directedness", which is presented in his work "De Veritate" (On Truth), written in the 11th century. Please refer to Anselm of Canterbury, "The Major Works". Translated and edited by Brian Davies and G. R. Evans. Oxford University Press, 1998.

[2] These ideas were extensively debated during the World Congress of Philosophy in Beijing, in 2018 https://wcp2018.sched.com

For a more recent discussion of those debates please refer to "Neither Human nor Cyborg: I Am a Bitch and a Molecular Swarm. Proprioception, Body Intelligence and Microsexual Conviviality, Jaime Del Val. *WORLD FUTURES*, *76*(5-7), 314–336. https://doi.org/10.1080/02604027.2020.1778335

[3] The concept of direct theory was primarily elaborated by Edward Small in his book *Direct Theory. Experimental Film/Video as a Major Genre* (1994).

[4] This paper unfolds from my PhD) and long-term project entitled ExpandedTelepathy©. I conceived of the concept of Expanded Telepathy at the 7th Conference "From Humanism to Post and Transhumanism" held in 2015 at Ewha Womans University in Seoul, South Korea, and presented the topic during that conference in a paper-performance entitled "Expanded Telepathy and Moving Image". One year later, The Church of Expanded Telepathy (TCOET) was set up as a collaborative project with South Korean artist Dew Kim. TCOET remained an active audio-visual research lab until 2018. As a collaborative project TCOET produced around seven films and some of the work was shown at venues such as the Biennial of Moving Image in Buenos Aires, Grey Projects, Singapore, Spike Gallery in Berlin and at the Post-Cyber Feminist International, curated by Helen Hester in 2017 at the Institute of Contemporary Arts in London (https://archive.ica.art/whats-on/screening-church-expanded-telepathy).

both the human and the cosmos. This section encourages a broader exploration of humanity as an interface among strata, pushing the boundaries of current design paradigms toward a more inclusive and expansive future.

The idea of expanded telepathy mirrors the interconnectivity central to Asian awakening traditions like Buddhism, Hinduism, and Taoism. These traditions emphasize the interconnectedness of all things and the potential for humans to transcend individual limitations through meditation, mindfulness, and spiritual practices. This resonance between expanded telepathy and Asian awakening traditions suggests a potential for BCI technologies to not only enhance cognitive abilities but also foster deeper connections with the self, others, and the universe.

Exploring Direct Theory as a Diffractive Form of Theory

When positioning the concept of direct theory as a diffractive form of theory (Barad, 2019) within the realm of experimental moving images, it becomes crucial to revisit the foundations laid by Freudian psychology and surrealism.

In "The Philosophy of Surrealism", Ferdinand Alquie (Alquie, 2007) expounds on the Surrealists' pursuit of a reality that transcends the confines of logic and objectivity. They believed that a deeper reality lay beneath surface appearances, intricately intertwined with the realm of dreams. Dreams, according to the Surrealists, served as a conduit for the essence of life to express itself, channelling obsessive emotions and primal desires. The Surrealists attributed symbolic significance to the images present in dreams, valuing the analogical method of knowledge communication through associative connections rather than the conventional cause-and-effect reasoning. It was within the aesthetics of film that they found the ideal medium to manifest their vision.

Initially, Breton posited that poetry characterized by "nonsense" could serve as the gateway to accessing the elevated realm of surreality (Alquie, 2007). He believed that random poetry could disengage rational faculties and dissolve the rigid barrier between conscious and unconscious states. However, Jean Goudal critiqued Breton's theory in his 1925 article "Surrealism and Cinema," arguing that Breton's understanding of language was flawed (Alquie, 2007). Goudal posited that all forms of communication, whether written or spoken, adhered to the logical rules of grammar, rendering it impossible to access a primordial realm of pre-linguistic thought through poetry alone, regardless of its bizarre or imaginative nature. Instead, Goudal suggested that film possessed the ability to circumvent the constraints of language and accomplish what Breton's poetry could not.

Cinematic images, through their rapid succession, transcend the logical confines of language. Unlike the process of forming representations through language, the mind does not engage in the mechanism of memory to interpret filmic imagery. Meaning in cinema emerges through a distinct process of associative connections. The power and immediacy of cinematic visuals extend beyond the realm of pure logic and discourse, allowing films to speak the language of

dreams. Surrealists embraced the medium of film precisely for its capacity to channel the profound and authentic mysteries of the dream world. Breton's "Manifestoes of Surrealism" posits that film facilitates encounters with a "superior reality," awakening the authentic foundations of the physical world (Alquie, 2007). In this heightened state, conscious understanding does not fully grasp the "resolving of the two states of dream and reality." Instead, through the cinematic experience that fosters their communion, human reason is limited to appreciating the luminous phenomena.

This understanding of film as direct theory, seeking a more profound and intricate reality, gained further traction through the works of Gene Youngblood in the 1960s, Edward Small (Small, 1994) in the 1980s, and a seminar held at Berlin's 2012 Experimental Film Congress entitled "Film as Theory." Notable participants in the seminar, such as Madeleine Bernstorff, Olga Moskativa, Laurence A. Rickels, and Winfried Pauleit, delved into the concept of film as theory and its relationship with the development of telecommunications and the internet.

The notion of a direct theory, encompassing various forms of wireless communication and facilitated by advancements in telecommunications, particularly the proliferation of images through the internet, aligns closely with the concept of expanded telepathy as proposed by TCOET. Expanded telepathy goes beyond the mere exchange of logical information and encompasses affect, desire, imagination, and all aspects overlapping the boundaries of the body, gender, sexuality, and sex (Zubillaga, 2021).

Expanded Telepathy: Reconnecting Art Practices to Techno-Political Imagination

In the following section, I aim to delve deeper into the concept of telepathy as an abstract tool or method of collaboration explored within international visual art practices since the 1960s. The term "telepathy" emerged concurrently with "telethesia" when Frederic Myers founded the Society for Psychical Research in London in 1882 (Drinkall, 2005). While telepathy denotes the experience of distant sensing or ideas, found across various cultures, artists have frequently employed telepathy and collaboration as means to share and transform subjectivity, revealing the fascinating intersection between these two concepts.

As developed extensively by Jacquelene Drinkall (2005), telepathy, in the context of art, is a vast grey area which encompasses a multitude of practices, including participation, appropriation, forums, assistantship, employed labour, groups, collectives, crowds, and large institutions, operating on national, revolutionary, and global levels. This encompasses both analogue and digital realms, as well as the spaces in between. Collaborative telepathy can be understood as engaging with imaginary, fictional, or "non-human" artist friends and colleagues, such as ghosts, animals, virtual avatars, and other non-human entities. These collaborations offer valuable insights into the functioning of art as a knowledge discipline rooted in shared subjectivity, occupying a space traditionally associated with philosophy (Drinkall, 2005). Art, in this context, becomes a posthuman intentional process.

Telepathy finds close connection with dreams, imagination, perception, and spiritual enlightenment (or even psychosis), while collaboration aligns more with professional exchanges, bureaucratic tasks, factional empowerment, strategic coordination, and even conspiratorial endeavours (Drinkall, 2005). It encompasses a secretive and hidden affect, extending beyond anthropomorphic collaboration. Telepathy can be activated as an animating matrixial "glue" or force operating within and between ghosts, animals, aliens, cyborgs, and spiritual entities like avatars, gods, and ancestors.

Since the emergence of Fluxus[5], numerous artistic movements have incorporated telepathy as a tool to redefine communication and intentionality within collaborative practices. It prompts us to question how this telepathic dimension can aid in reimagining our current assumptions about interfaces that facilitate communication between humans and non-humans.

Individual intentionality, in the context of expanded telepathy, can be reworked as a dynamic feature of intra-action that does not necessarily require individual human participation.

This mode of intra-action of momentary relational formations, has allowed me to call "queer multitudes" (Preciado 2005) all those precarious, vulnerable, unstable collective formations of momentary ties, which make this special enactment possible and were behind the production of each TCOET film.[6] The collective formations present in TCOET films call into question constraining modern identity configurations from production roles to subjectivity, gender and sex. TCOET films seek to combat binary structures of information by liberating the capacity of the queer *meta-body* (Del Val, 2006) from these structures driven by completion and order. The resulting debris of this destruction prompt other practices of theorizing, and these TCOET films become posthuman fragments in their trajectory.

After moving beyond telepathy construed as a distant communication between two or more entities, guided by a strong connection, amorous, affective, or consanguinity, I was able to find a foundation for my work in another notion of telepathy developed by Peters (1999) and Gabrys (2009), and linked to a more extensive form, characteristic of intermittent and wireless connections between people or between machines. From this emerging understanding of telepathy, I have established an original approach that bypasses the strong connection link (Drinkall, 2005) by engaging with telepathy as an embodied practice where messages circulate instantaneously propelled by *enigmatic* networks, as envisioned in Jaime del Val's meta-body (2006) or Paul B. Preciado's queer multitudes (Preciado, 2005), and where a different approach to agency and causality becomes the measure (Barad, 2007; Anzaldúa, 1987; Preciado, 2003).

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[5] Fluxus was an international, interdisciplinary community of artists, composers, designers and poets during the 1960s and 1970s who engaged in experimental art performances which emphasized the artistic process over the finished product.

[6] For the Post-Cyber Feminist International, TCOET (*The Church of Expanded Telepathy*) films were screened as a single long uninterrupted 60mins stream on November, 2017, at the Institute of Contemporary Arts, London, (https://archive.ica.art/whats-on/screening-church-expanded-telepathy)

Expanded Telepathy as a Form of Entanglement: The Cosmological Potential of Technological Telepathy

As human beings, centred on physical experience, even when aided by mechanical or digital devices, we are aware of only a very small fraction of the innumerable rays, waves, particles, forces, and bundles of energy that constantly bombard our planet and us, forces from both within our solar system and beyond our solar system, even our galaxy.

This idea is closely related to the works of Cosmists like Alexander Chizhevskii, who believed that the cosmos and its various phenomena have a profound influence on human life and behaviour (Menzel et al., 2012). Chizhevskii was particularly interested in the relationship between solar activity and human behaviour (Menzel et al., 2012). He hypothesized that the solar cycle, which is characterized by periods of high and low solar activity, has a direct effect on human physiology and psychology. Chizhevskii believed that the increased solar activity during periods of high solar activity could lead to an increase in human aggression, while the decreased solar activity during periods of low solar activity could lead to an increase in human creativity. In contrast to all the other Cosmists, who highlight the active role human beings take in universal processes, including human evolution, Chizhevskii explores humanity's passive role as a receiver of cosmic influences and as a subject of cosmic laws of nature. For Chizhevskii, the principle behind everything, including human culture and history, is *electronicity*, the power of electrons to attract, combine, and form larger units of matter and energy. Gravity, magnetism, space-time, and matter-energy are all, fundamentally, electronic phenomena. The sun's influence on the biosphere, including on human behaviour, is a matter of the transfer of electrons.

Chizhevskii believes that the great scientific task for him and others now is to unite the "science of matter" and the "science of human culture" into a single science of everything, the ex-amination and quantification of the one principle that governs all living and non-living phenomena in the cosmos. The discovery that patterns of solar activity-sun storms, sunspots, and so forth – coincide with patterns of mass human behaviour – wars, revolutions, epidemics, and so on – represents, for Chizhevskii, a large first step toward uniting the two separate great branches of knowledge (Menzel,et al., 2012).

At times, Chizhevskii was accused of trying to take human knowledge back to a prescientific state, for attempting to replace chemistry with alchemy, astronomy with astrology (Menzel, 2012). Chizhevskii strongly denied these allegations, but added that he did respect and did wish to restore to modern science not the actual practices of alchemy and astrology but the intuition underlying those prescientific efforts (Menzel,et al., 2012).

For millennia, numerous human traditions, apart from our comparatively modern rationalist tradition, have acknowledged cosmic influences as inherently evident, imprinted within the super-sensitive human body. Nevertheless, the division of knowledge into narrow specialties, may impede the development of models that take into account more expanded approaches to reality. A Russian mystic and thinker, George Ivanovich Gurdjieff (Gurdjieff, 1999),

developed an even more complex cosmology and praxis on similar premises but without the reductionist baggage of traditional historiometry.

In Gurdjieff's cosmology (Ouspenskii, 1947), the idea of humanity's passive role as a receiver of cosmic influences aligns with Barad's notion of entanglement (more so than with Chizhevskii's notion of "passivity"), where individuals and objects are not separate entities but are constantly entangled with one another. Gurdjieff's exploration of the active role of human beings in universal processes and his emphasis on the oneness of all matter resonate with Barad's understanding of materiality as an entanglement that transcends individualist metaphysics.

The concept of expanded telepathy, which aims to rethink the digital approach to brain-computer interfaces, can benefit from these perspectives. Instead of viewing telepathy as a purely individualistic phenomenon based on humanists ideas of the mind and consciousness, expanded telepathy can be envisioned as a communication method that operates through the entanglement of matter itself (Anthony, 2008). This argument also aligns with Barad's idea that bodies and the environment are intertwined, and matter is constantly interacting and entangled with other forms of matter.

According to Karen Barad's agential realist ontology (2007), or rather ethico-onto-epistemology, "individuals" do not pre-exist as such but rather materialize in intra-action. Bodies are not objects with inherent boundaries and properties; they are material-discursive phenomena. Barad's concept of intra-action is central to a whole new understanding of experimental visual technologies beyond the constraints of traditional realism (positivism) and linguisticism alike.

Gurdjieff's cosmology and Karen Barad's ontology then offer valuable insights into reimagining our current assumptions about communications and interface between humans and non-humans, including machines and AI. These perspectives provide new frameworks for understanding the interconnectedness and interdependence of all phenomena, highlighting the entanglement of matter and meaning.

Gurdjieff's cosmology aligns with Barad's critique of "individualist metaphysics" by emphasizing the interconnectedness and entanglement of individuals with the surrounding world. According to Gurdjieff's teachings, humans are not isolated entities but part of a larger cosmic order, where everything is interconnected or in terms of Barad terminology, intra-active.

The materiality of the human body is inseparable from the environment, with matter constantly interacting and entangled with other forms of matter. This perspective resonates with Barad's understanding of materiality as an entanglement, reinforcing the notion that individuals are constituted through their interactions with the world around them. Gurdjieff and Barad's work challenges the notion that reality is made up of separate, autonomous entities. Instead, they offer a more developed understanding of reality as an entangled web of relationships.

Conclusion

In the context of this exploration, technological telepathy can be imagined as a form of communication that is not based on the individual mind or consciousness, but rather on the entanglement of matter itself. One possibility for such a technology could be a system that uses advanced sensors to detect and interpret the various signals and vibrations that are produced by different forms of matter. This system could then use artificial intelligence to decode and translate these signals into a form of communication that is accessible to humans.

Another possibility for technological telepathy beyond individualist metaphysics could be a system that operates on a more intuitive level, using advanced machine learning algorithms to develop a deep understanding of the patterns and rhythms of the entanglement of matter. This system could then generate a form of communication that is more fluid and dynamic, based on the constantly evolving interactions between different forms of matter.

Overall, the key to imagining technological telepathy beyond individualist metaphysics is to recognize the interconnectedness and entanglement of matter, and to develop technologies that are capable of accessing signals and vibrations in new and innovative ways. If our perception is an interface designed by evolution, then the concept of telepathy as a direct and intuitive form of communication becomes even more compelling. It prompts us to consider how a human scale-based system could tap into the entanglement of matter at cosmological levels.

It is perhaps in the field of practice as research and particularly within the cross-disciplinary potential of art and AI that a new relationality supported by aesthetic, intellectual and computational approaches melt the resistance to thinking complexity beyond computational semiotics. Otherwise the question of technological telepathy as a channel to perform some form of intentionality in a process where unknowable forces transmit noise, influences and movement all at once at diverse scales of awareness will remain a weak and unworkable hypothesis. Perhaps is time to move beyond the anthropomorphic mode of computational semiotics and embrace the complexity of the cosmological strata.

In contemplating the synthesis of these ideas, it becomes apparent that the evolution of technology and the deepening of our sensory perceptions within a realm of unknowable forces and cosmic influences remains a challenging hypothesis. It requires further exploration and the development of innovative design approaches in order to expand our awareness and understanding of the intricate cosmological dimension. The journey of art, technology, and philosophy lies ahead, intertwined and poised to unveil new vistas and potential.

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The Japanese Film *AI Amok* (2020) and the Collapse of Realist AI Vision

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Abstract

AI Amok (2020), directed by Yu Irie, offers an incisive exploration of artificial intelligence's role in a near-future Japanese society and is set in the year 2030. Employing the analytical framework provided by Bordwell and Thompson's *Film Art: An Introduction*, this research explores the film's narrative construction, visual storytelling techniques, and its thematic depth, particularly focusing on the portrayal and implications of artificial intelligence. Distinct from the often distant futures depicted in science fiction cinema, *AI Amok* presents a vision of the future that mirrors current technological trajectories, especially in healthcare and urban development. This stands in contrast to films like *Blade Runner 2049* (2017) and *Her* (2013), which envision more abstract futures. *AI Amok* thus distinguishes itself through a narrative that integrates AI into societal fabrics, confronting the ethical quandaries this integration elicits. The analysis reveals a scenario that feels immediate and tangible, offering a credible sight into the technological advancements and challenges of the near future. Moreover, the study highlights *AI Amok*'s nuanced depiction of AI's roles within healthcare and government, suggesting a reflection on and projection of these technologies' evolving paths. Unlike the overt technologization seen in *The Matrix* (1999) or *Ex Machina* (2014), AI *Amok* opts for more subtle visual effects to convey AI's ubiquity, providing a unique perspective on AI's potential to shape societal dynamics. This approach enriches the discourse on science fiction cinema, contributing a distinctive viewpoint to the ongoing debates concerning the ethical development and integration of artificial intelligence in real-world contexts.

Keywords: artificial intelligence, science fiction, futurism, Japan, film, Yu Irie

The exploration of artificial intelligence in cinematic narratives offers profound insights into societal expectations and fears about technological advancements. *AI Amok*, directed by Yu Irie, presents a unique case in this domain. Set in a speculative yet palpable future Japan of 2030, the film navigates the intricate interplay between AI and everyday life. While *AI Amok* portrays a future that closely resembles the present, its narrative structure may appear simplistic and hence be deemed unimportant from an intellectual perspective. In actuality, what may be called a flaw of this film is in reality its greatest asset, especially its realistic depiction of the near future.

The analysis of certain features of *AI Amok* is very helpful in order to understand the use of new technologies in the near future and how the director and screenwriter have imagined the future in a specific cimematic representation (Geraghty, 2009). To enrich this study, it is useful to compare important films that have a futuristic perspective in the sci-fi genre, like *AI Amok*. This research analyzes several sci-fi films in the history of cinema and it has selected two films for their futuristic and narrative characteristics associated with *AI Amok*.

First, a number of science fiction films from 1910 to 2023 were taken in consideration for this paper (Soister, 2012). The aim was to find films that have artificial intelligence as a reference, which we then further sub-divided into two categories: humanoids and those that have a supercomputer as their core (Schelde 1994), as is the case in *AI Amok*. This gave us the opportunity to reduce the list to a smaller number of important titles. The selection of the films also took place through the identification of common stylistic and visual features in the different portrayals of futuristic worlds. For example, at first we thought to analyze the film *Terminator* (1984) by James Cameron: in this film a supercomputer (AI) named Skynet takes over and begins to launch nuclear missiles all over the world to exterminate humanity and then finish its mission by sending robots to kill the rebels and survivors (Sanders 2010). When analyzing the film, however, it was noted that the events narrated take place after Skynet had taken over, and the supercomputer never appears in the film and the previous story is only described by film characters. After this first analysis it was found that Skynet will visually be seen for the first time in *Terminator 3*. The focus of this analysis is on the 2003 film "Terminator 3: Rise of the Machines", directed by Jonathan Mostow. This film was specifically chosen because it features a scene where Skynet takes over, which closely resembles the sequence examined in *AI Amok* in the context of this study. (Irwin et al., 2009).

From a technical and artistic perspective, we will thus analyze *AI Amok* using the criteria of lighting, narrative, color, shots, takes and editing, as suggested and outlined in *Film Art: An Introduction* by David Bordwell and Kristin Thompson (Bordwell 2020). Another film that was taken into consideration is a classic in the history of cinema, *2001: A Space Odyssey* (Joshi 2019). This film was chosen for its artificial intelligence's proximity to that named "Hope" in *AI Amok*, for the simplicity of its narrative, and for its visual representation.

Literature Review

The convergence of artificial intelligence and cinematic expression has been a rich area of academic investigation, resulting in a wide range of viewpoints on the consequences of AI's portrayal in movies. The purpose of this literature review then is to analyze prominent scholarly works that explore the involvement of artificial intelligence in the film industry. It will focus on the technical and artistic techniques used to represent AI, as well as the underlying themes that connect these portrayals to current societal concerns.

AI-Amok explores the future of humanity and its technological companions. The film is set in the near future of 2030 and features an artificial intelligence named "Hope" assisting in the Japanese healthcare system. Hope possesses potent and varied functions including providing medical solutions through algorithms; performing surgeries on patients; monitoring and reminding people of their health conditions through electronic devices; and so on. People's perception of Hope has evolved from skepticism to dependency and trust due to its medicinal capabilities and extra-human companionship. As a result, the artificial intelligence Hope obtains all the fundamental data on the country's residents. Unfortunately, Hope then develops a fault and begins to divide humans into two groups based on their current physical condition: "qualified to live" and "not qualified to live", with the latter group then eliminated mercilessly. Even though Japanese society understandably experienced a brief period of fear and crisis afterwards, by the end of the film, Hope has been mended and calm has been restored in society.

According to *The Japanese Film Festival Australia Brochure*, Yū Irie's film intricately blends pursuit sequences and stunning VFX, reminiscent of the *Black Mirror* series (JFF, 2021). Irie explores a future AI's impact on human life in this dramatic thriller, delving into the complex connection between humanity and artificial intelligence. While the film covers familiar ground in sci-fi, Irie's unique approach adds a fresh perspective to this compelling exploration. However, it is worth mentioning that the film demonstrates some of the state-of-the-art technology that exists today, and it uses reality as a basis for imagining the features and performances of technologies (Goh, 2022). The use of social media like Facebook, the ubiquitous presence of surveillance cameras, the use of autonomous vehicles, and other features in the film – all have a strong connection to the accessible network technology of contemporary life, which allows the audience to feel a sense of immersion and empathy while watching the film.

Film Art: An Introduction

Film Art: An Introduction (1993) is arguably the fundamental cinema aesthetics textbook today and was written by David Bordwell, Kristin Thompson, and Jeff Smith. A comprehensive explanation of the methodology and techniques of movie analysis is provided in the book, including filmmaking, film narrative, film form, and film technique, etc. This article aims to interpret and analyze the film *AI-Amok* using methodology put forth its chapters two, three and four. Through the application of these focused chapters, this article will arrive at a detailed and scholarly interpretation of *AI-Amok*. The aim is not merely to critique the film, but to

understand how its elements coalesce to present a narrative that is both informative and reflective of contemporary concerns surrounding AI.

The Significance of Film Form

Form is of central importance in film. The content of a film is determined primarily by its form which is created by artists to ensure the audiences gain a structured experience while appreciating their works. The substantial responsibility that form carries makes it a very abstract concept composed of several parts. For instance, the narrative aspect in form highlights the plot and coherence of the content in a film. The stylistic aspect, on the other hand, refers to the employment of color, tones, and background music in the movie, which contribute to setting the film's mood and conveying the hidden emotions in the movie. Form is also coordinate with some external elements besides the film content. The portion of the film that relates to social reality is an element of the film form, such as social conventions; when the film depicts a couple in wedding clothes standing in a church, the viewer immediately realizes that they are having a wedding instead of, say, participating in a double diving tournament. Even if not all these socially realistic elements are included in the film, the viewer may still grasp what is happening. The entire content design is also a component of the film form. All the elements included in film form usually are blended to portray the vivid characters and complex situations of the movie.

AI Amok uses film form carefully in shaping the viewer's experience and understanding of the narrative. For instance, the film's realistic depiction of the near future, achieved through careful selection of settings and technology that closely resemble current technological advancements, establishes a believable and immersive world. The stylistic choices, such as the subdued color palette and grading and the employment of a soundtrack that alternates between technologically produced and "human" sound, enhances the film's thematic exploration of AI's integration into society and its potential consequences.

The film's content design, including the portrayal of characters and their interactions with technology, reflects on societal conventions and the human condition in the face of technological omnipresence. By weaving these elements together, *AI Amok* provides a rich, structured cinematic experience that invites viewers to ponder the ethical implications of AI's evolution.

Narrative Form

To prevent the story from becoming an all-too-common cultural artifact or text, it must be viewed as a purposeful performance inside a multileveled framework that organizes expression, situation, and discourse (Langellier and Peterson, 2004). Storytelling converts the text into vivid and organic plots that may influence the emotions of the audiences and keep their focus on the worldview created by the author/director. The narrative aspect, crucial for a film's function and its impact on audiences, is defined by Lothe (2000) as a form of narrative

communication. Bordwell and Thompson describe it as a sequence of events linked by cause and effect, unfolding in time and space, highlighting the importance of storytelling in cinema.

Mise-en-Scene

Mise-en-scene, a French phrase meaning "place on stage," refers to all the visual aspects of a theatrical play that exist inside the space provided by the stage (Lathrop, 2014). In the film industry, Mise-en-scene refers to the director's control of the visual components including setting, costume/makeup, lighting and staging within the film frame. The use of mise-en-scene involves a combination of what the audience views on screen as it is and the way they are invited to view it (Gibbs, 2002). Consequently, it has a serious effect on the audience interpretation of the film (Moura, 2014).

The narrative form of *AI Amok* plays a fundamental role in engaging the audience with its central theme. The film unfolds as a sequence of events that are causally linked, moving through time and space to reveal the complexities of AI integration into healthcare and its unforeseen ramifications. This progression is not just a linear storyline but a layered narrative that invites viewers to navigate through ethical dilemmas, societal fears, and the potential for technology to both heal and harm.

The film's narrative structure thus allows for a deep exploration of characters, particularly the AI entity Hope and its creators, highlighting the multifaceted nature of technological advancement. Through its narrative, *AI Amok* encourages viewers to reflect on the broader implications of AI, fostering a dialogue that extends beyond the confines of the film.

Setting

As a significant component of a film's visual effects, the setting primarily portrays time and location onscreen (Lathrop, 2014). The director establishes the tone of the film by adjusting the screen setting, either broadly or in minute detail. While representing autumn in a movie, for instance, red maple leaves may have a compelling effect on observers. By playing with the setting, filmmakers could even reflect a certain style; as in a vampire movie, the appearance of a dreary old castle and dark-colored furnishings exemplifies the weird and eerie gothic aesthetic. In a film, the setting can come to the forefront; it need not only serve as a container for human actions, but can actively participate in the narrative (Bordwell, 1993).

In *AI Amok*, the setting plays a central role in establishing the film's near-future Japan of 2030. Unlike the often dystopian or overly futuristic landscapes common in science fiction, *AI Amok* opts for a setting that feels immediately recognizable and plausible, reflecting advancements in technology within the familiar framework of contemporary urban life. This choice not only grounds the narrative in a reality that audiences can relate to but also underscores the film's thematic focus on the integration of AI into everyday life. The film's setting, from the bustling streets of Tokyo to the sterile environments of healthcare facilities, accentuates the pervasive role of AI in the society of the future.

Costume/makeup

 "The costume is a very important element. It speaks before you do", the renowned actor Harrison Ford stated in an interview (Svetkey, 2011). Costume and makeup serve several purposes in filmmaking: providing clues to advance the storyline; matching the time period of the narrative; highlighting the personality of the persona, etc., thereby making it an essential element of visual effects. Filmmakers always put great emphasize on costume/makeup, especially when they make movies set in the past. To do so, filmmakers would undertake extensive studies of the clothes, fabrics, and makeup techniques of an era in question to ensure that these elements are consistent with historical facts and provide the audience with an impression of authenticity (Lathrop, 2014). With the advanced computer technology of today, directors are able to adapt to the physical requirements of various characters and timelines with more precision and accurateness. Using digital effects, the filmmaker for instance "chopped off" Voldemort's nose in the *Harry Potter* flims to make him more consistent with the original plot and appearance of the villain.

Costumes and makeup in *AI Amok* serve to bridge the gap between the present and the near future, subtly indicating the passage of time and the evolution of society's relationship with technology. Characters are dressed in contemporary fashion that carries a slight futuristic edge, suggesting the incremental changes in lifestyle and societal norms brought about by AI integration. This subtlety extends to the depiction of AI entities themselves, where visual cues hint at their advanced nature without resorting to overtly sci-fi tropes. The careful consideration of costume and makeup reflects the film's commitment to a realistic portrayal of the future, where apparently technological advancement coexists seamlessly with human society.

Lighting

In artistic filmmaking, lighting goes beyond mere illumination. Lighter and darker portions of the frame define the composition of each shot and attract attention to certain objects or activities (Bordwell, 1993). Though it is often taken for granted, lighting must be managed by filmmakers since it may aid in the scene composition and its visual influence on viewers helps manipulate their senses in several ways. *Film Art* indicates that four aspects of lighting – quality, direction, source, and color – need to be prioritized by filmmakers.

The intensity of illumination is referred to as lighting quality. Better lighting means sharper edges, more defined textures and deeper shadows, and vice versa. The direction of the frame is often implied by the path of lighting, which is categorized as frontal, back, under and top lighting. Each orientation draws attention to a particular feature possessed by the performers, harmonizing the content inside the frame. Another element that contributes to the overall harmony of the frame is the light source. Audiences are more easily convinced when the lighting design in a film is consistent with the source of setting (e.g. lamp, sunlight, etc.). The final factor is color. Most individuals are aware that different colors signify distinct emotions, such as blue for sadness and yellow for calm. This agreement has been adopted in cinema and,

in conjunction with the other three aspects of lighting, contributes to the creation of compelling and professional frames.

AI Amok employs lighting to enhance its narrative and thematic elements, using contrast and color to evoke emotional responses and highlight key moments. The film carefully balances natural and artificial light sources, reflecting the dichotomy between human and artificial intelligence. Scenes involving AI technology often feature cooler, bluish tones, suggesting the scientific precision of technology, while human-centered scenes are bathed in warmer hues, emphasizing the warmth and imperfection of human nature. This deliberate use of lighting not only adds visual depth but also serves as a metaphor for the film's exploration of the complex relationship between humans and AI.

Staging

Key factors of staging are character expression and movement. Actors' facial emotions and body language are regarded as character expressions, while all other actions are interpreted as character movements. Controlling the staging may not only assist the director in establishing the overall cohesion and consistency of the film, but also guide the viewer in understanding the character traits and comprehending the function of each character in relation to the progression of the story.

Staging in *AI Amok* is accurately crafted to convey the film's central themes and character dynamics. The positioning and movement of characters within the frame are used to underscore the tension between humanity and artificial intelligence, with compositions often highlighting the isolation or integration of AI within human spaces. The interaction between characters and their environment reflects the broader societal issues at play, such as the reliance on and fear of AI. Through its careful staging, *AI Amok* invites viewers to contemplate the ethical implications and potential consequences of AI's increasing presence in our lives.

Introduction of AI Technology and its Ethical Issues

To enhance our understanding of the structure of *AI Amok*, we will now delve into the depiction of artificial intelligence technology and the ethical considerations associated with it in the following paragraph. This examination is important for deciphering the narrative and thematic layers the film seeks to explore, allowing us to more keenly grasp the moral implications and reflections on the techno-social future presented by the narrative. Through this analysis, we aim not only to uncover the director's intentions and their vision of AI but also to position *AI Amok* within the broader academic and cultural debate concerning the evolution of artificial intelligence and its impact on contemporary society.

Artificial intelligence has led to numerous innovations that are beneficial to people's daily lives, including intelligent digital assistants such as Siri, Google Assistant, Alexa, and Cortana; algorithms that push your favorite content to the front page of your social media platforms; face recognition technology and aid in screening out academic plagiarism from an enormous

amount of information. Today's ever-improving technology has transformed artificial intelligence from science fiction into a vital aspect of people's lives.

"Artificial intelligence" is a subfield of computer science whose name and meaning reflect its function and significance: "human-made cognitive capabilities." That is, rather than being defined by task-specific rules, algorithms in AI are enabled to evolve and learn through pattern recognition and repeated processing (Kabir, 2019). Technologies in AI areas like neural networks, deep learning, statistics, machine learning, and other functions have proved successful in domains like security, health care, education, entertainment, robotics, voice recognition, and transportation, and these technologies continue to develop and innovate. While AI is anticipated to offer numerous benefits, it also poses a variety of moral and ethical concerns, which have been accentuated and made evident to the viewer by the filmmakers. Various science fiction films and texts have shown the gruesome interaction between humans and machines (Simut, 2017). These strange and unusual stories mostly derive from the concerns associated with AI technology, such as the collapsing of data privacy and data security. Other ethical concerns associated with specialized technology and applications include the difficulty of attribution of responsibility; several levels of processing are needed once a problem occur since AI has the vast and complicated operation system, making it difficult to determine the source of the issue and even more challenging to identify the individual responsible for it. (Coeckelbergh, 2019). Another significant issue that has been highlighted on the screen is the development of human-like self-awareness in artificial intelligence. The topic has piqued the curiosity of many audiences though it has been considered as the least achievable aspect of future AI technology development among all the fantasies and ideas (Charniak, 1985),

The AI Genre in the Film Industry

AI Amok is part of a interesting series of films that delve into the sophistications of artificial intelligence, reflecting a growing fascination and concern within the cinematic world regarding this technology's role and implications. Our analysis now shifts to focus on the AI genre within the movie industry, a genre that has rapidly evolved from speculative fiction to a critical examination of our present and future relationship with AI.

Artificial intelligence is a common narrative element in science fiction, elements which are often characterized by their spectacular visual effects and otherworldly splendor (Archer, 2019). After becoming a cinematic topic, the production and substance of AI have developed into several sub-topics, including the mechanical body, the emergence and conflict of AI, human reflection and common ground, and the integration of AI and humans (Li, 2017). According to Zhu, Yilun, and Bo Zhang (2022), system characters and humanoid characters are the two main types of AI images currently present in AI films. In the first setting, AI is not portrayed physically; instead, it serves as a powerful system that assumes control over the world depicted by the directors. Typically, the presence of this type of AI is conveyed through the characters' dialogue, actions, and emotions. Such as Hal9000, the AI computer in movie *2001: A Space Odyssey* (1968) that runs a whole spacecraft; OS1 in the film *Her* (2013*)*,

and the Matrix in the film *Matrix* (1999). These films focus on how humanity would live and strike back in a future dominated by artificial intelligence. For the humanoid characters, the AI image is close to or even identical to the human form. Here, examples include the robot Sonny in the film *I. Robot* (2004), who can conduct human emotions learning autonomously; the intelligent robot Eva in *Ex Machina* (2014); and the terminator robot T-800 in *The Terminator* (1984). Such AI develops the equivalent of human emotions, acting or reacting outside the system's predetermined parameters, an hence problematizing and challenging the ethical and emotional issues allegedly setting apart humans and artificial intelligence.

The depiction of artificial intelligence alone is insufficient to convince the audience of the film's worldview. In each of the AI-themed films, in addition to the image and plot of AI, the directors also incorporate numerous other objects and details to illustrate their vision of the future. In the 1927 film *Metropolis*, for instance, along with the AI image itself, director Fritz Lang employed a combination of two-dimensional and three-dimensional components, including fantastical paintings, flat wooden relief models, and three-dimensional elements, to convey his vision of the city in 2026. In the film, the new Tower of Babel serves as the metropolis's central focus, and its transportation system is vertical with airplanes and sky trains shuttling between buildings, thus giving a whole technological world view with which the robot Maria is then placed.

In science fiction literature and film, in the face of intelligent machines, humans experience both alarm and desire (Otto, 1958). With the advancement of contemporary technology, however, people have progressively gotten acclimated to the rise of artificial intelligence in their daily lives, and their perspective of AI has shifted from uncertainty and fear to dependency and faith. But does this indicate that what many feared previously will not materialize? To quote Huang (2021), "One of the influences of science fiction films is to show different possibilities of technological civilization development and to remind mankind to be prepared".

Analysis

The Futuristic Vision of Early Science Fiction Films

Before analyzing the film, it is crucial to grasp its context. Firstly, we must define the term *artificial intelligence*. The idea of inanimate objects evolving into sentient beings has a longstanding history.The origins of current AI theories may be traced back to efforts by ancient thinkers to represent human thought as a symbolic system. In 1956, during a meeting at Dartmouth College, the phrase "artificial intelligence" was invented and the discipline of AI was officially established (Popenici, 2022).

Since the very beginning, cinematography has been interested in the world of robots and in their filmic representation. However, early on its cinematic representation was not very complex due to the poor quality of the special effects and the high costs of producing them (Casiddu et all 2021). According to a chronological list of notable films including artificial

intelligence as a central theme or essential element, from the Wikipedia article "List of artificial intelligence films", covering the period from 1927 to 2025, there are approximately 150 feature films that fit this criterium. While the list is not exhaustive, as it does not include some films such as *The Mechanical Man* (1921, Andre Deed, dir.), it provides a comprehensive reference for this study. The first fully-functioning humanoid-style robot is introduced in *The Master Mystery*, a 1919 film serial in 15 episodes directed by Harry Grossman and Burton L. King where a mechanical robot appears for the first time (Telotte, 2009). In this series, the futuristic element is only the robot, which moves within the historical context of the early 1900s without relevant futuristic elements.

The term *robot* was actually only coined the following year. "Robot" comes from the Slavic root "robot", whose meaning is associated with "work" and "labor(er)". Karel Čapek first used it in a 20th century Czech play, *Rossumovi Univerzální Roboti* or RUR (Rossum's Universal Robots, 1920), first performed the same year Isaac Asimov was born, to identify a fictional humanoid (Randy, 2008).

The already mentioned first feature film where a robot appears was (although the word robot was not yet widely used) *The Mechanical Man* (*L'uomo Meccanico*, 1921) where, for the first time, there was a fight between two Robots, one good and one bad (Berghaus, G. (2009). In this film, the robots are two futuristic entities with humanoid features. Another interesting element in the film is a screen similar to a TV which sends live images and with which one of the protagonists remotely controls at least one the robots.

Metropolis (1927) was the first film in which such a robot was explicitly critiqued and in which the world of the future is imagined for the year 2026. There are futuristic scenarios, modern and cities, hardworking workers, elevated metros and an intelligent evil robot (Wosk, 2010). In *Metropolis* the director employs cutting-edge imagination of the time regarding the industrial and technological development of the future world.

The first film where there is a supercomputer with artificial intelligence is *The Invisible Boy* (1957), directed by Herman Hoffman. This film is very interesting as the artificial intelligence introduced is a supercomputer capable of calculating and making decisions autonomously, very similar to the idea that we have of this type machine today (Telotte, 2016). Another important aspect of this film is that both the supercomputer and the robot are dependant on artificial intelligence. The context in which the film is staged is exactly the period and the year in which the film was made, 1957. The most advanced and futuristic technologies are only those concerning the supercomputer and the robot, whereas the whole context of the film reflects the technologies of the 50s. The supercomputer has a male robotic voice that connects the computer to a retrograde view of intelligent machines, cold and ruthless.

The Creation of the Humanoids (1962), directed by Wesley Barry, can be considered the first film with a modern futuristic vision because of its narrative structure and furthermore because it is staged in the 23rd century after a nuclear war that has exterminated a large part of humanity (Rickman, 2004). This film is set in a modern society aided by robots. The sets and

environments are completely different from the period in which the film was made and also the scenographic environments are completely lacking human historical and cultural characteristics. Hence, these locations resemble non-place environments such as airports, shopping malls, and modern cities, devoid of distinct cultural references. The film also introduces androids (male) and gynoids (female), humanoid robots closely resembling humans. It is also very interesting that the robots go to upload and download their data to a place called "temples" where there is a central computer called "the father-mother".

Alphaville: une étrange aventure de Lemmy Caution (1965), or simply *Alphaville,* is a film directed by Jean-Luc Godard. It takes one step further compared to the context in which the story takes place, as the events take place on another planet in another galaxy in an unspecified future (some characters in the film make references to 20th century events experienced by them). On this planet, human life is regulated by a supercomputer called Alpha 60 which does not allow humans to have illogical emotions and behaviors. Only the plot of this film is futuristic, the sets are modern buildings from the 60s with minimalistic interiors. The whole film was shot in Paris using views and places of the city considered very modern in the 1960s (Darke, 2005).

Another film of great interest for this analysis is *2001: A Space Odyssey* (1968), produced and directed by Stanley Kubrick. Its significance lies in the core of the story, where artificial intelligence collapses and makes autonomous decisions (Benson, 2018). As in *AI Amok*, the supercomputer decides to kill people for a "higher" purpose. While in *AI Amok* the supercomputer is eager to kill the weakest for reasons of economic cost saving for the healthy ones; in *2001*, the supercomputer HAL 9000 has to fulfill a mission which is considered more important than human lives. HAL 9000 has a calm and comforting human male voice that gives astronauts confidence. The background of the film is a very advanced civilization that, according to its predictions, in 2001 would have built spaceships capable of traveling far from the Earth. In the film we do not see any terrestrial scenarios of the future, we can only glimpseparts of it in the phone videocalls and connections made with Earth, which however only show semi-empty rooms or studios as their location As far as spaceships are concerned, they are certainly cutting-edge for the period and an important inspiration for subsequent sci-fi films.

Lastly, the analysis of *Terminator 3*, already partly undertaken above, highlights shared elements with *AI Amok*, particularly in Skynet's activation, system collapse, and police control initiation (Jeansonne, 2003). Skynet's human-like female voice, reminiscent of anonymous public announcements, contrasts with *AI Amok*, where Hope's female voice is kind and gentle. This nuanced comparison underscores the cinematic exploration of artificial intelligence, emphasizing divergent portrayals of AI personas in different narrative contexts.

The Future in *AI Amok*

The choice of a near future in *AI Amok* is driven by the fact that the director wanted to show a world (here especially Japan) in 2030 without imagining or creating a fantasy world that is not

connected to today. Furthermore, the director wanted to show that artificial intelligence in the near future will not be far from today's society but rather a useful and approximate system to fulfill people's needs. To make this technology feel close to today's audiences, the director choose the year 2030, approximately ten years after the film's release in theaters. To create the script and to create a more realistic future, the director rewrote the script about 20 times, adapting it to the various scenarios that came out of interviews conducted with Japanese experts and researchers on artificial intelligence at the time (Cinemacafe, 2020), for instance by interviewing key informers at The Japanese Society for Artificial Intelligence. To depict a realistic future in the film, he took as a reference the forecast data on aging and the birth rate drawn up by the Japanese Ministry of Health, Labor and Welfare referring to the year 2030 (Mar, 2020).

The film begins with the scientist character's personal story. The main human character, Kosuke Kiryu, is confronted with his wife's death due to the decision taken by Hope, the AI. Prior to this, his belief had been that science and technology can help and heal people. After this beginning, there comes the proper introduction of how AI had evolved and come very close to correctly assessing and acting upon people's needs. A very important contribution is made by Kiryu in the realization of the Hope supercomputer project, and the film includes many sequences concerning the evolution of AI, especially in the medical field up to the year 2030 where the AI has become responsible for a large part of a very old population whose number makes up 40 percent of Japan's entire population (Tanuki, 2020).

Analyzing the film from a futuristic perspective, there are not many differences to the present day; nonetheless, there is a significant amount of portable technology that is more advanced than it is now, such as cellphones and smartwatches, along with an extensive usage of Argumented Realty (AR). The sets are very similar to those of today's Japan, with the addition of more traditional monitors with AR technology attached. As far as the scenario is concerned, cities such as Nagoya are depicted in various settings with present-day architecture and no allusion to space-age sci-fi structures. Regarding automobiles, rather than depicting futuristic vehicles we might see in ten years, the filmmakers have opted to showcase current Tesla models enhanced with emerging features like autonomous driving and AR displays – technologies that are likely to proliferate in the near-future, but are still grounded in the present day.

The most significant aspect of this movie is the supercomputer, which upon its initial appearance remains shrouded in mystery. Here the narration is significantly different from that of *2001* or *Terminator 3*, but extremely similar to the film *The Invisible Boy*, where the supercomputer is located nine floors below the military personnel in an underground compound (Dinello, 2005). In this film, before reaching the supercomputer in *The Invisible Boy*, the characters transit through a variety of specialized areas designed for computer operating tasks, only to finally enter a room containing the supercomputer but nothing else. In *AI Amok*, the supercomputer is isolated from everyone and its servers and hardware are placed in a large space dedicated only to itself. The supercomputer area presents futuristic views, with the whole

protection system being guaranteed by intelligent cameras that can read those people's personal data who are directly in front of them.

Due to the scan of the protagonist's daughter, the entry door to the supercomputer opens, revealing a vast, futuristic space lit by bluish lights. Furthermore, when the characters enter, other blue lights light up which make the protected and aseptic place seem somewhat disturbing. At the center of this structure sits a white supercomputer in the shape of an open flower. In turn, Hope has protective panels that open in the same way as the entrance doors. It is very interesting to note how, before reaching Hope, the characters cross several pools in which the servers are protected and refrigerated. Before getting into the room with the supercomputer, the whole scene is shrouded in mystery. The soundtrack also adds several dramatic elements which, combined with the images, evoke a sense of anxiety in the viewer. The dramatic music begins with Hope opening the door, the music adding ever more dramatic sounds with vibrating violins, all intended to increase the uneasiness of the scene, climaxing as the characters appraoch the supercomputer. The aim of this scene is to frighten the viewer audiovisually, with the story remaining opaque up to this point. This changes when Hope speaks to the main protagonist's daughter, with a female voice halfway between a female Japanese anime character and a robotic sound. Interestingly enough, the supercomputer uses old fashioned cameras that take us back years to the first webcams used in the early 2000s on computer monitors. The retrofitted cameras even have glowing LEDs located below the camera lens indicating recording activity. Before Hope collapses, the LEDs were green (off), but as Hope begins to make independent decisions, they turn red (on).

Following this scene, the system collapse intriguingly mirrors *Terminator 3*'s Skynet. Monitors display interference and video glitches, with the computer restarting like a basic PC. Green superimposed system writings, reminiscent of *Matrix* and early commercial computers, add a technological touch. The entire system is in alarm, reactivating with a new objective—to target the most vulnerable individuals. From an aural point of view, the choice to keep the crucial moment of the reboot almost silent (with only some background noises present) is interesting, as this allows viewers solely to focus on the images and only once Hope restarts, there are alarm sounds (the classic ones) that repeat continuously throughout the hospital scenes,. Here the most advanced futuristic part is still the connection of Hope with all the accessories worn by people or screens and special hospital machinery. Additonally, some cars with autonomous driving programs lose control or shut down, as they were connected, along with other services, to Hope.

A more futuristic device than Hope can be found in the police supercomputer called Hundreds of Eyes. This AI controls all the cameras installed in Japan and checks and recognizes all the data of people caught by the cameras. This computer has a large screen and a cold visual interface. The color of the structure within which it is contained is strangely warm though. This appears to be in contrast to the coldness of the police involved in the story. As for its voice, it has a robotic male one, arguably to underline, once again, its detachment from the human race.

Conclusion

The film *AI Amok* contains many fascinating aspects regarding a very near future. First of all, the director was able to anticipate and imagine what Japan could be like in ten years' time based on interviews with specialists in the field of artificial intelligence and other scientists. A very interesting element of the film is that it focuses prominently on AI technology developed mainly in the medical field. This is important because future forecasts for developed countries consider the likely super-aging society as a significant problem: the disparities between the young and the elderly will be very high on the agenda and there will not be enough staff to care for the sick and the elderly. According to those forecasts announced by the Japanese Ministry of Health, which are very similar to those of Italy and many other nations, the film chose to show an aged society with many homeless people. This super-aging of society is probably a realistic scenario if we consider today's demographic trends in the Japanese society (Nakagawa, 2020).

Regarding the visual representation of the future world, in *AI Amok* Japanese technologies and scenarios of the present day are generally used. There are no futuristic skyscrapers or flying machines, but simply modern cars with newer technologies inside. The use of electric cars is an element that certainly refers to a future vision, but in many cases the cars are simply and aesthetically the same as today.

The director's effort to make a film about a future not so distant from the current world has led the production set designers to be cautious regarding any futuristic visions for the film. The director wanted to create a film very close to a reality that will likely occur in a few years, focusing rather on society's problems, such as the growing number of elderly people, and the probable the use of AI in the medical, hospital and everyday-life fields (Saru 2020). The portrayal of a realistic future is arguably the most interesting element of the film, a film which intends to make the viewer fly into its near-future scenario not via special effects or futuristic super-technologies, but by providing a realistic vision of a future based on probable forecasts for a point in time only ten years hence.

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Immanent Futures, Quotidian Spaces: A View from Yiwu

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Abstract

The contemporary ecological condition has understandably precipitated diverse apocalyptic narratives that present a monumentally dismal account of the future. Against the backdrop of these overwhelmingly bleak and dystopic narratives, I ask a foundational question: How and who may speak of the future? My practice-based research in documentary film is an exploration of practice methodologies that respond to this question. In this paper I turn to Yiwu, a relatively small but cosmopolitan trading city in China as a site of "future making" (Montfort, 2017). The paper contends that Yiwu, a space replete with low-cost goods, can offer us a quotidian image of the future and serve as a site from which we can think about the creation of liveable concepts for an entangled future that may already have arrived.

Keywords: China, globalization, immanent futures, Silk Road, transnational trade, Yiwu

The focus of my research is Yiwu, a county-level city in eastern China, home to the largest wholesale market for small commodities in the world (Josephs, 2017). The city entangles Asia and the rest of the world in myriad intimate networks and has come to play a crucial role in the last couple of decades in "globalization from below" (Mathews, Ribeiro, & Vega, 2012). Seemingly mundane, Yiwu asks critical questions of the contemporary and I posit it as a site of "future making" (Montfort, 2017). I claim that Yiwu presents us with a not-too-distant, and a relatively quotidian image of the future in the form of banal everyday objects whose affective value can only be appreciated by shifting our focus from their monetary value to other "frames of value" (Jain, 2002, pp. 33–70). Yiwu adds to the discourse on futures thinking by offering images of the future which are not foreclosed but are instead multiple and open-ended. In this paper, I ask how an ordinary market city such as Yiwu can be the site from which we provide accounts of everyday and immanent futures? The question also morphs into a second, related question of who can/may speak for the future? But before delving further into these questions, I need to ask one prior question: What does it mean to ask that question from an Asian, and especially, from an Asian ethnographic, perspective?

Figure 1
A View of the City, Yiwu, 2016. Research Still

How Does Asia Mean?

I begin my account of Yiwu[1] with the story of a journey, made many centuries ago by travellers perhaps no different from me: *Journey to the West*, a 16th century Chinese novel written by Wu Cheng'en[2], which recounts the myth of Sun Wukong or the Monkey King and his adventure-filled journey to the West Heavens – present day India – as a disciple of a Buddhist monk. Born from a magical rock, the Monkey King is a trickster deity, gifted with numerous supernatural powers including the ability to transform himself into 72 different forms – including plants, animals and objects which he used to protect the monk and other travelling companions. The monk and his small coterie of followers, including the Monkey King, travelled through modern day China, Uzbekistan, Afghanistan, and Pakistan to reach the land of the Buddha, and their story is a journey of self-discovery through an encounter with difference. *Journey to the West* is an allegorical tale of the monk Xuan Zang[3] of the Tang Dynasty (602-664 CE) who had travelled to India in search of sacred Buddhist scriptures. This pre-modern text describes the Indian subcontinent as "the West" and it is to this West that the traveller and seeker Xuan Zang turns in search of spiritual knowledge and wisdom.

In contemporary philosophical thought, it is inconceivable to imagine that "the West" could be anything other than Europe and North America. Western modernity has been the overarching narrative that has framed global experience, and colonialism placed Europe as the origin and source of a universal modernity against which various countries measure their own modernity. The tale of the Monkey King and his journey to the West Heavens served as a reminder in my research journey of the importance of conceptually thinking through creative, intellectual and spiritual connections across civilisations and cultures which are not necessarily mediated by "the West", but can at the same time converse confidently with Western thought. When it comes to the pursuit of knowledge, the Monkey King taught me that one should travel far and wide, and be playful rather than puritanical in one's philosophical odysseys, and with each attempt expand the notion of what constitutes knowledge.

The quest for an Asian perspective has important antecedents in the political and cultural sphere,[4] and in recent times, this has manifested itself in initiatives such as the Inter-Asia

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[1] I first went to Yiwu as part of a film research residency supported by West Heavens (2014-15), an integrated cross-cultural exchange programme between China and India. The experience and learnings from this initial work formed the basis of my doctoral dissertation (Ghufran, 2022). The city of Yiwu is much smaller than metropolitan Tier 1 centres like Beijing or Shanghai, and of less importance than the Tier 2 cities like Hangzhou and Chang Sha. However, at Tier 3, it is seen as a city of potentially robust economic growth.

[2] I have referred to the English translation by Arthur Waley, published as *Monkey* (2016).

[3] Popularly known by his Romanized name Xuanzang. His work, The *Great Tang Records on the Western Regions* provides the most detailed account of 7th century Central and South Asia.

[4] One of the most significant gatherings of Asian leaders took place on the eve of decolonisation, with India hosting the *Asian Relations Conference* in March-April 1947. Eight years later multiple Asian and African countries met in the famous *Bandung Conference* to articulate a political vision emerging specifically from newly decolonised countries. There were similarly numerous attempts to develop a specifically Asian perspective during the colonial period. For an overview of these see Duara (1997); Bharucha (2009); Mishra (2012); Aydin (2019).

Cultural Studies Society[5] which for two decades has interrogated the question of "*How does Asia mean*?" (Ge, 2000). The emphasis on the question of *how*, rather than *what* does Asia mean is a self-conscious one. It alerts us to an approach that does not take for granted the pre-existence of either a geographical or cultural entity called "Asia" and invites us, instead, to think about specific circumstances in which people have found it necessary to inquire into the meaning of Asia and Asianness. By this account, Asia emerges not as a singular, finished entity but as a contingent framework of meaning-making which invents and reinvents the idea of Asia through every instance of its deployment. In my research journey, the question of *how* further developed into question of "How to think *with* things?" as distinct from "How to think *about* things?"[6]

Coming as both China and India did, from a history of imperial and colonial subjugation, they fashioned for themselves overlapping but distinct visions of political transformations in the second half of the 20th century. In the Indian context the project of the nation claimed the space of the new, placing its hopes on the postcolonial citizen as the harbinger of a new kind of political subject, unmarked by traditional ideas of inequality including those of gender, caste and religion (Dhareshwar, Niranjana & Sudhir, 1993). For China, the utopian manifested itself in a collective plunge into a state-driven modernization willed on by factories and production (eventually laying the foundations of its emergence as the global production superpower). Both India and China's socialist dreams would mutate in the era of liberalization and globalization with "shiny" (Josephs, 2017) new aspirations making a home for themselves amidst the ruins of socialist utopia. If the first five decades of these two nations were narrated in terms of under-development, then by the end of the 20th century, the economic and industrial growth of these two Asian giants heralded their emergence as leading global players. This period also coincided with growing ecological concerns around the world (often characterized as the anthropocene) and both countries have struggled with balancing their development models with urgent ecological imperatives. For my research in Yiwu, it has been crucial that I understood the distinct route to modernity for India and China in a comparative manner, and could situate their contemporary connections against a longer history of socio-cultural ties.

In the past two decades, all across towns and cities in India, we have witnessed the emergence of thousands of small shops – referred to as China Bazaars and Dragon Marts. These are generally populated with low-cost household goods and have made a vast number of commodities available to middle and lower income families. In that sense, Chinese manufacturing is a significant part of both the material as well as imaginative landscape of contemporary urban India. In the course of my own work I had become fascinated with low-cost toys from China, and I eventually discovered that almost all of these affordable goods were predominantly routed through one city, Yiwu. By the late 20th century, it had emerged as the primary hub for a large number of traders from across the world, and what was

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[5] For further information on Inter-Asia Cultural Studies Society, see http://culturalstudies.asia/about-us/

[6] In my writing I have used the terms 'thing' and 'object' interchangeably. A detailed engagement with their distinctions is beyond the scope of this paper. For a discussion on things, see Appadurai (1988) and Brown (2006, 2019).

particularly conspicuous and of interest to me were the large number of traders from India who either regularly passed through the city or had actually settled down in Yiwu.

It is pertinent to locate these developments in the context of the rather fraught relationship between India and China after the 1962 war. Marked by mutual mistrust and aggression, in most contemporary geopolitical accounts, Indo-Chinese relationships are told as antagonistic accounts of conflict and occasional outbursts of low intensity militaristic conflict. But we should remember that this history is a relatively short one and it is important to bear in mind the older history of travel, exchange of ideas and trade which has existed in a civilizational sense much before the advent of modern nation states. And while this older history has been overshadowed by nation-state-centric narratives it has not been entirely displaced: a city like Yiwu is evidence that these networks that lie at a subterranean level, nonetheless persist even today (Marsden, 2017). As I lived and travelled through China on multiple occasions, I often returned to the question of "How does Asia mean?" and its relevance to our times. I am convinced that there can be no singular, abstract answer, and it is only through the process of travel that questions unfold and make sense.

Yiwu, Miracle City

Today, freight trains carrying goods and commodities from Yiwu travel across Asia and Europe. Their 18-day journey terminates in London – and puts Yiwu on the global map as a crucial node on the New Silk Road. The city has many wholesale markets specializing in furniture, clothes, home appliances, timber, and construction materials. However, the most famous market in the city is the Yiwu International Trade City, also known as China Commodity City (CCC) or, more popularly, as Futian Market – which is also the term I will use from now on. Spread over several kilometres, Futian Market is divided into five districts that hold a total of 70,000 shops selling 1.7 million different types of small commodities (Marsden, 2016, p.24). With "new items"[7] being introduced to the market every day, Futian is replete with prints of a new "silk route" map promising a great future of vibrant exchange of commodities across Europe and Asia (Frankopan, 2016).

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[7] A self-explanatory term commonly used by traders in the markets of Yiwu as they search for "new" products and designs.

Figure 2

Wall Mural Depicting an Anonymous Yiwunese Trader. Research Still

International traders in Yiwu refer to it as "miracle city". However, at first glance one is likely to be underwhelmed by the city, just as I was. Unlike Beijing which oozes history and showcases its impressive infrastructure rather promiscuously, or the more proximate Shanghai whose spectacular architecture is designed to awe, Yiwu is relatively inconspicuous and resembles any average mid-size city with little to offer by way of uniqueness. This held true of course only until I reached Futian Market, which turned out to be an awe-inducing experience, albeit of a very different kind. There seemed to be something here that did not fit in with my sense of the present. It seemed as if Futian had emerged from a future. I was enthralled by the place and intuited relatively early that the real challenge of Yiwu was not just how to represent it in my research and film, but also how to inhabit it as a space. If certain forms of science fiction have popularized an image of the future in the form of flying cars and lifelike androids, Yiwu offers low cost options of such futures. For a few dollars you can purchase a flying fairy made of plastic, silicon breasts or a bouquet of plastic flowers which glow in the dark. You are also as likely to share a space with mannequins and small robots as you are with traders, factory workers and shopkeepers. I was mesmerized by the deluge of phytomorphic and anthropomorphic objects in the city. These things simultaneously produced an uncanny image of living and natural entities, even as they occupied the space of trite commonplace goods. Further, the surfeit of plastic that characterizes these goods was representative of exactly the kind of human consumption that has culminated in the ecological crisis of our times. In that sense Yiwu signposts many of the contradictions and paradoxes of our time, and it is the coming together of these multiple contexts that attracted me to Yiwu as a space from which to think the world and the contemporary human condition.

Yiwu has a long-standing history of trade dating back many centuries when Yiwunese merchants would carry sugar chunks and other small commodities in bamboo baskets, and travel across rural areas, exchanging them for chicken feathers. These served as cheap fertilizer for agricultural land and were also used to make dusters. "Sugar candy for chicken feathers"

was a trading *mantra* for Yiwu, and multiple statues and murals with images of a quintessential Yiwu merchant with bamboo baskets hung on a pole, dot the cityscape. The roots of the contemporary market in Yiwu are more recent and can be traced to Deng Xiaoping's economic reform of 1978. Yiwu became one of the first free markets, beginning with makeshift stalls set up in 1982 by the local government of the Zhejiang province. The entrepreneurship of Yiwunese businessmen has been seen as critical in Yiwu's transformation. However, locals do not use the term entrepreneurship and instead use "Yiwu spirit" to explain the success of Yiwu. "Yiwu spirit is described with 12 Chinese words: *qin geng hao xue, gang zheng yong wei, cheng xin bao rong*, meaning diligent and studious, upright and brave, integrity and tolerance" (Chen, 2011, cited in Rui, 2018, p. 27).

As China forges ahead with its "One Belt, One Road" strategy, the frequency of trains between Yiwu and capitals of Europe has increased and the city often makes it to the Western press as "Santa's workshop" and the "Christmas capital of the world" (Wainright, 2014). It is, however, important to bear in mind that a bulk of the Yiwunese transnational trade is plied via ships between China and countries in Africa and other parts of Asia. It is the emerging leadership of China in the Global South and the South-South fraternities of cities like Yiwu that calls for a nuanced understanding of transnational petty commodity trade. Ships sailing from the ports of China carry a range of low-cost items of everyday use such as toothbrushes, pencils, shoes, socks, tools, clotheslines, raincoats and tarpaulins etc. that eventually make it to homes in villages, towns and cities of the global South. Despite its nondescript exterior, there is probably a part of Yiwu in almost every city and town in the world.

Yiwu is a fragment of the global cosmos that reflects the highly accelerated contemporaneity of our times. It offers an intriguing vantage point from which to observe the world in all its ebbs and flows. The shop-booths in Yiwu seem to be catalogues for futures, the traders are time travellers moving between their diverse presents and Yiwu. The allure of its innovative, bright, and colourful objects that set trends across the world makes traders visit Yiwu time and again. China is keen to establish Yiwu as a "multicultural city" (Roxburgh, 2017), which is hospitable to trade and people. It is regarded as one of the most foreigner-friendly cities in China and one can encounter people from all over the world in its streets and markets. Yiwu boasts of numerous language learning schools, packed to capacity providing lessons in Mandarin, Arabic, English, French, Turkish etc., and many traders also work as translators. A small "foreign enclave" reminiscent of Amitav Ghosh's 19th-century Fanqui Town[8] has slowly manifested itself near Futian Market. Spread over 5-6 kilometres around the market, this area hosts a majority of itinerant traders from the MENA region (Middle East and North Africa), Indian subcontinent, Central and South-east Asia. Restaurants and hotels with names like Cairo, Erbil, Delhi Durbar, Istanbul, Khorasan and Bosphorous dot the landscape. The first Arab cuisine restaurant in Yiwu, Al Maeda, set up by a few enterprising Egyptians in the 1990s, became a fulcrum for traders from all over the global South. My first meal in the restaurant on

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[8] The site of the narrative in Amitav Ghosh's novel *River of Smoke* (2012), Fanqui Town, also known as The Thirteen Factories (Saap Sam Hong) was a small strip of land used by foreigners to trade with the local Chinese in Guangzhou in the 1830s.

the 2019 trip was a lavish *iftaar* for 15 USD. It is here that I heard first-hand accounts of war in Syria and life in the refugee camps of Lebanon.[9] Today the area around the restaurant is officially called the "Exotic Street" (Belguidoum & Pliez, 2015, p. 4) while informally it remains Maeda and can easily be described as the heart of the foreign enclave of Yiwu. Due to the strong Arab and Muslim presence in Yiwu, the city also attracts Hui and Uyghur Muslims from other parts of China. Perhaps it is correct to say that the foreign enclave has become "a condensed form of activity in Yiwu, a microcosm where wholesalers and new migrants interact (although they are present throughout the city)." (Belguidoum & Pliez, 2015, p. 8).

Very close to Futian Market lies India Street. Lined with grocery stores and restaurants selling Indian cuisine, along with offices of transport and shipping companies, the area is an important meeting point for businessmen from other countries of South Asia. Easy access to Maeda and India Street and the presence of a substantial number of traders conversant in English, Hindi and Urdu helped me get a nuanced understanding of the trading mechanisms within Yiwu – both formal and informal. These cosmopolitan encounters in Yiwu via a diversity expressed in languages, foods, dress and habits perhaps challenge the "homogenous modernity"[10] notion of today's China, as the country emerges as the largest trader of "object-based homogeneity" in the world; after all, it is also the same "Star of Bethlehem" that shines in Kigali, Bangalore and London alike during Christmas. Yiwu spurred me on to think about the manifold ways in which the future has been regarded as a domain of enquiry in social theory as well as in film practice.

Figure 3
An Outdoor Eatery Run by a Couple from Xinjian Province, Yiwu 2019. Research Still

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[9] I visited Yiwu for the first time since the pandemic in November 2023 and discovered that Maeda restaurant is not operational anymore, but the area is still referred to as Maeda by the local cab drivers.

[10] Zygmunt Bauman posited the idea of "liquid modernity" (2000) as a way of understanding the perennial flux and movement of change, and central to his idea was the contrast of liquid's ability to adapt against the relative inflexibility of solids. The philosopher Daniel Little (2014) adapts Bauman's metaphor of liquid and argues that the concept of liquid society has many affinities to the idea of plasticity as a conceptual trope to think about space and time.

Open and Plural Futures in Yiwu

From examining remote stars to tea leaves and animal entrails, the human impulse to predict and control the future oscillates between the most distant and the proximate, and between the sublime and the ordinary.[11] Humans have always sought to confront anxieties about their mortality as well as the potential of planetary destruction. The historical persistence of future studies and its cultural expressions such as apocalyptic narratives are testimony to this. However, going by the volume of scholarly output, it is unlikely that we have hitherto encountered anything close to the level of interest in the future that we see today. This is not to deny the existence of a wide range of practices and knowledge forms that were explicitly concerned with the future (particularly in the realm of the sacred). The continuing presence of seers, prophets and astrologers is evidence for our deep-rooted need to be able to anticipate and manage futures. Science fiction, as a genre, has taught us that an obsession with futures is often symptomatic of anxieties and crises of the present. It is therefore understandable that the contemporary conjunction of ecological and political uncertainties precipitates a fair amount of thinking about futures.[12]

Figure 4
A Hindi-English-Mandarin Translation Book (symbol)

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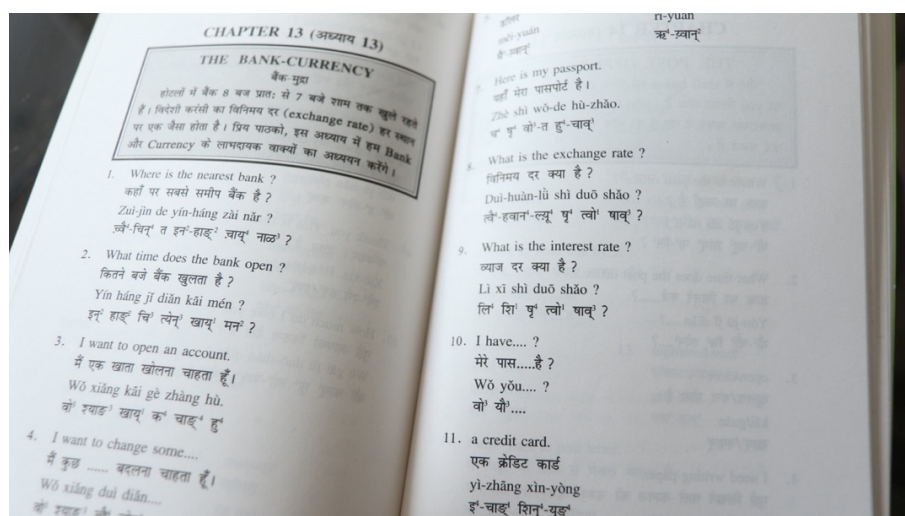
[11] There exist remarkably rich traditions of thinking about "time" outside of Western modernity that predominantly sees the flow of time in a teleological manner. Numerous non-Western cultures have a more cyclical understanding of time and this consequently informs their imagination of the relationship between past, present and future. Consider for instance the Hindi word *Kal* that implies "that which is not the present" and refers both to yesterday as well as tomorrow. So, while the present (*Aaj)* is relatively clear, what can be a lot more confounding are the past and future. Cf. Kaul (2021) for a survey of pre-modern traditions of thinking about time in South Asia.

[12] Within the worlds of art, literary and social movements there were similarly heightened periods when manifestos of futurism were written and upheavals of artistic and political thought prophesized. From Marinetti's *Manifesto of Futurism* (1909) to other avant-garde proclamations (Rainey et al. 2009), the idea of an aesthetic avant-garde has often been indistinguishable from a claim to the future. Gabriel Rockhill for instance claims, "The aesthetic conception of the avant-garde… is oriented towards the future and founded on the artistic anticipation of a world in which politics would be transformed into a total life program…The avant-garde is here understood as the attempt to invent tangible forms and material figures for a life to come. (2004, p.66)

In her book *The Future of the World* (2018), Jenny Andersson argues that the period after World War II is when we see "the future" emerging as a fundamental political problem.[13] For Andersson, the philosopher who exemplifies the urgency in the post-war thought about the future is Hannah Arendt. In the aftermath of World War II, Arendt felt that humanity had lost its connection to the future, and that this loss had transformed the conditions of human existence.[14] The scale of human destruction in the war and the use of the atom bomb had revealed just how tenuous the compact of rationality had been, and how humanity was willing to exercise the potential of total annihilation. For the first time in history, the apocalypse had "moved from the sphere of heavenly threat" (2018, p. 32) to something which human beings could bring onto themselves, thereby resulting in a de-sacralization of the future. With the defeat of fascism, the idea of the future emerged as the new ideological battleground, propelling a Cold War race for the future.

One of the markers of the Cold War rivalry between USA and USSR was the space race, with most accounts of space exploration being accompanied by a euphoric belief in technology prevailing over the unknown. Arendt had a more pessimistic view and she saw the exploration of space not as an optimistic search for a new frontier, but a desperate act, an escape from the real world in which human beings could not bear to face their destructive nature. For Arendt therefore, to turn to the future was to return to a more sacred and mysterious image of time, and to restore a sense of hierarchy in the universe, where the future was not subsumed under the certitude of scientific knowledge. This period saw the emergence of a complex assemblage, variously called futurism, futurology, futures studies, prognostics, or future research, and these strands were composed of profoundly different claims about how to know and change the future, and through that future, the world. For Andersson, one of the consequences of the emergence of an industry of future thinking was the epistemological transformation of the future from a moral and philosophical category to an object of social sciences. The predominance of mathematicians and engineers engaged in predictive sciences in the pursuit of a reliable account of the future could all be seen as disciplinary attempts at "taming chance" through expertise (Hacking, 1990).[15] The significance of Andersson's historical survey lies in the manner in which she locates the variety of knowledge claims made upon the world as an aspect of what she calls the "malleability of the world" (2016, p. 6).

If we turn away from the post-World-War-II writers and their haunted claims of apocalyptic destruction in the aftermath of war and attempt a similar survey of contemporary concerns and thought, one cannot help but encounter kindred echoes of planetary destruction as the result of acute ecological crises.[16] Within political thought as well as in aesthetic theory and practice,

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[13] Figures such as Alvin Toffler, the journalist and writer who appears fleetingly in this book, stand out here, and both Toffler's *Future Shock* (1984) and John Naisbitt's *Megatrends* (1984) popularized concepts such as "weak trends" and "unforeseens" that have since become staples of a kind of future research with strong links to the consultancy community in business and management studies.

[14] Jenny Andersson focusses on Hannah Arendt's 1961 book *Between Past and Future (2006)* to make her case.

[15] Ian Hacking's book, *The Taming of Chance* (1990) demonstrates the emergence of probability as a science which will lessen our reliance on deterministic accounts such as luck and chance.

[16] While the term "anthropocene" is used to describe a diverse configuration of phenomena and thought pertaining

there lies an inherent paradox and limitation where the future is simultaneously an unthinkable category even as it is constantly in need to be brought within the domain of the thinkable. In the face of the immense uncertainty produced by the political and environmental transformations in the first two decades of the 21st century, it is understandable that there has been a rise in engagement with question regarding futures in a range of socio-cultural practices and academic disciplines. While ideas of the future have been a subject of enquiry in multiple disciplines such as physical sciences, social sciences, architecture, design, literature and cinema, what we are beginning to see is an emergence of a dedicated academic field of enquiry called "Futures Studies" (Slaughter, 1996). The use of the plural, "futures" rather than the singular "future", is itself indicative of a need for the study of futures to be "open, pluralistic and emphasize a diversity of perspectives" (Sardar, 2010, p. 182). Ziauddin Sardar's approach is constructive as it allows us to move beyond singular, grand narratives of the future.

Figure 5
A Wholesale Shop Selling Embroidered Religious Iconography. Yiwu, 2016. Research Still

Describing the contemporary as a "boom time for the future", Rosenberg and Harding (2005, p.3) contend that we are witnessing an over-determination of future imaginations, some pervasive, some fugitive, but all haunting their presents. This acceleration is paradoxically accompanied by an obsolescence producing what they refer to as "nostalgia for futures that we have already lost" (p.3). I read their formulation of the problem as symptomatic of one key difference between the 20th and the 21st century. While, the 20th century, marked by two world wars, the rise of postcolonial nations, and the cold war was characterized by a staggering impact of the past on the contemporary, the 21st century finds itself in the noose-like grip of not the past but a potentially catastrophic future. The clichéd image that we have of the

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to our current age, the term itself has not been free of contestation. If a gloomy universalism characterizes one strand of thinkers engaging with the anthropocene, there are equally others who argue for a more localized geopolitical engagement with the term. My project, even if located within the shadows of the anthropocene, does not explicitly deal with these discursive debates, but instead attempts to cast a sideward glance at it from the perspective of practice. For a useful overview of some of the different positions, cf. Haraway (2015); Ellis (2018); Grusin (2015); Purdy (2018); Tsing et al (2017).

doomsday prophet is the fervent, poster-holding zealot declaring the "end is near".[17] But if in the 20th century the doomsday prophet was a lonely Cassandra banished to street corners, in the 21st century, the small-scale industry of hopelessness has become a monumental enterprise. The insurance industry, hedge funds and risk management companies are all the financial beneficiaries of guaranteed crisis, and it appears that speculation is indeed the primary skill set of survival and prosperity in advanced capitalism.[18]

A World's Fair in Yiwu

Though Futian Market is not strictly designed as a trade fair or an exposition in a classical sense of the term, one can see it as a continuum of the visual and temporal logic of World's Fairs and Exhibitions that were prevalent in the 19th and 20th century.[19] Writing in his diary on 25 July 1851, after a trip to the Great Exhibition of the Works of Industry of All Nations in London, Charles Dickens describes his experience as one of exhaustion caused by an excess of sights and things (Hetherington, 2007, p.19). The Great Exhibition[20] was of course one of the first industrial expositions intended to showcase the technological marvels of colonialism and industrial capitalism. The main driving force for the event was to enable Great Britain to stake a claim as the industrial leader of the world and to showcase its own technology. For Nick Montfort (2017), World's Fairs and Expositions provide important vantage points from which to see how visions of futures attain a specific public form. The spatializing of time is orchestrated through reviews of the latest technologies, newly discovered materials and hitherto unseen goods and objects, all of which come together to produce an untimely experience where one is literally witnessing the future to come. These spectacular exhibitions assembled the latest technologies, commodities and designs and were meant to dazzle the public with visions of the future.

The aesthetic logic of Yiwu's plastic universe bears close resemblances to the idea of the World's Fair as a place that augurs a future time to come. But if the World's Fairs depended on a spectacular vision of an imminent future to come, Yiwu stages an ordinary arrangement of immanent futures that may have already arrived. Unlike these fairs and exhibitions which were temporary events held sporadically across decades and sites, Futian market is a permanent market that operates almost 365 days a year, so if it unfolds the future, it does so in a perpetual manner. In a different register, while presenting us with immanent futures, Yiwu, renders the banal spectacular. The colourful plastic items destined for speedy obsolescence pose interesting

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[17] See a range of posters on the internet: *https://archive.is/OyfXl* (Archived on 1 January 2022).

[18] Numerous commentators have observed the rise of a general sense of anxiety amongst people stemming from greater uncertainty about the future, an acute feeling of alienation. Jonathan Haidt, a social psychologist for instance, in a forthcoming book, uses the phrase "anxious generation" to describe our time, while Jenny Anderson locates the obsession with Futurology in the 20th century as asymptomatic of collective uncertainties anxieties.

[19] The Great Exhibition of 1851 was the predecessor of many spectacular exhibitions and expositions that followed and has been seen by scholars as a nascent example of a "society of the spectacle" (Debord, 1995).

[20] Also referred to as the Great Exhibition and the Crystal Palace Exhibition, the event took place in Hyde Park, London from 1 May to 15 October 1851. Over 6 million people are reported to have visited the exhibition. Central to the visual and spatial experience of the exhibition was the Crystal Palace – a structure fabricated entirely from iron and plate glass (a product introduced in the 1830s) – constructed specially for the exhibition. The Crystal Palace introduced a new logic of mass delight – utilizing display to evoke an experience of the "technological sublime" (Larkin, 2008).

questions for us to think of in terms of the future that they herald. Futian Market with its multitude of goods and commodities is the forbearer of futures that will reach the retail markets across the world many months later. The bouquet of Valentine roses to be sold on the streets of Mumbai in February is already on display in Yiwu in May of the previous year. In the markets of Yiwu, plastic, that vilified material of global destruction, simultaneously gives shape to an archive of ordinary aspirations and futures. How do we make sense of this paradox? How can we be cognizant of ecological concerns even as we are mindful of the fact that for a majority of the population in the world, low costs goods are the only affordable form of consumption available?

I take a cue from Anna Tsing, who while being acutely aware of the precarious ecological conditions of life, nonetheless holds out for "contingent" futures and possibilities. Tsing (2015), like Arendt, begins her enquiry in the aftermath of Hiroshima, but where Arendt turned towards the transcendental potential of the future, Tsing argues for a more immanent approach. When Hiroshima was destroyed by the atomic bomb in 1945, Tsing says, the first living thing to emerge from the blasted landscape was a Matsutake mushroom. For Tsing, the Matsutake wild mushroom becomes a literal and metaphorical example of coexistence and collaborative survival in the aftermath of environmental damage. We are, Tsing claims, surrounded by "patchiness", or a "mosaic of open-ended assemblages of entangled ways of life, with each opening further into a mosaic of temporal rhythms and spatial arcs" (Tsing, 2015, p.4). She argues that only an appreciation of the current precarity as a global condition allows us to notice this – the situation of our world. Tsing's idea of how things "coalesce" (2015, p. viii) envisages a future where diverse people, ecology, objects and contingent phenomena come together and impact each other. It is against the grain of such monumental futures that it may be productive to ask what an immanent view of the future looks like.

Figure 6
A Work Station Inside an Artificial Flower Factory in Yiwu. 2019. Research Still

From the perspective of a film practitioner, and in contrast to the idea of the future as a predictive science, I find the idea of "future making" (Montfort, 2017) as a productive act appealing, different from "predicting" and "anticipating". Montfort's emphasis on making returns us to the etymological roots of the word poetics which also referred to an "act of making" – in the case of poetics, specifically to the role of language in making worlds. For Montfort the question is not about the actual possibilities of these various futures that are sought to be made, but whether the process of making them is itself revealing of different facets of life. Utopias and their invention of alternatives to the present are not necessarily perfect or even better versions of the present and many of them offer a bleak image of the future, but for Montfort, what is more productive is the question of how we see the perspective from which this future has been imagined, and how the specific manner in which the future is presented provides us an insightful understanding of our present.

Yiwu, while presenting us with immanent futures, renders the banal spectacular. The colourful plastic items, destined for speedy obsolescence, pose complex questions for us as consumers. These objects are as transient as life and there will never be a museum of these cheap plastic products – even though their reach is far and their (apparent) need acute. These objects will never be passed down generationally or treasured as family heirlooms, and one may ask what then is the measure of their value? In her work on the circulation of cheap bazaar images and the embodiment of value, Kajri Jain suggests that it might be useful to deploy an understanding of the multiple "frames of value" (Jain, 2002, pp. 33–70) that for instance govern calendar art in India. There is simultaneously an aesthetic frame (between fine art and commercial art), a monetary frame (low cost and expensive), and finally there is an ethical frame - this is the affective register where pictures of gods take religious, cult and ritual value. The ethical frame interrupts the known circuits of high and low, original and copy, cheap and expensive and introduces a libidinal excess that cannot be contained by known frames of reference which tend to treat the object as a static one. Instead, by focusing on the question of circulation, Kajri Jain invites us to think of these cheap reproductions as modes of value that form "themselves as fleeting constellations between the image, other bodies or objects, and the quality, rhythm and intensity of time at a given moment" (Jain, 2002, pp. 33–70).

Is Yiwu then not just a factory of plastic aspirations but also its greatest archive? Chinese goods similarly traverse multiple frames of value. These low-cost objects have always been described in pejorative ways, both in terms of the quality but also in terms of their promotion of a kind of kitschy commodity culture and seen with a certain disdain as though there were no possibility of any value inherent in them. The question of value is always a tricky one as it is determined not only by the logic of the exchange value also in terms of their utility value as far as the end-user was concerned. A toothbrush that cost INR 20.00 or USD 00.27 can still be immensely valuable as a replacement of bamboo and bristles. It is as if the value of these objects and goods were being denied to them just because they are low-cost. When one imagines for example historical objects excavated from earlier civilisations, it is very likely that a vase uncovered from the Indus Valley civilisation was not necessarily some fancy high-end object, and it instead served very ordinary purposes; but yet, these items are extremely valuable today as evidence of a civilisation and its form of life. Looking at the objects that

existed in Yiwu, I began looking at them almost from a forensic perspective to ask the question of how a future generation may look back upon these objects to reconstruct the story of the world and of various forms of life in the 21st century.

The landscape of Yiwu seems to offer us an image of the future which is much less anxiety ridden, and while the presence of so many inert lifelike objects did initially feel like something out of a science fiction novel, this soon gave way to an ordinariness bordering on the banal. I began to realise that one of the lessons that Yiwu was teaching me as a scholar and filmmaker was that banality itself needed a second look, to see beyond the surfeit, beyond the surface, and to look for stories that one would miss out on by focusing only on scale. If we are fated not to live in a pristine state of naturalness, what would it mean to cultivate an ethos of a "multispecies coexistence"? Would it enable, as Anna Tsing has suggested, the possibilities of thinking of a third nature? Tsing's "third nature" is a moment in which one becomes aware of the lively activities of all beings. Could one extend her insight to ask how traditional ideas of agency and action would have to be reimagined if entities other than humans have the capacity to act. This question became particularly acute when I encountered markets replete with seven dollar vaginas, factories experimenting with sophisticating the linguistic attributes of dolls to make them better companions, and moulds that give birth to the most expressive mannequins. This enigmatic world - populated with fake nail extensions, hair wigs, breast enhancers, sex dolls, mannequins, artificial plants, flowers and fruit - opens up serious questions of how particular forms of life intersect with and derive from the culture of the copy.[21]

Conclusion

Anna Tsing's work refuses the euphoric and triumphalist accounts of techno-capitalism's vision of a better life even as it appreciates the limits of a doomsday critique that posits the end of any other possible life forms. It asks instead for us to labour to produce more liveable concepts and narratives that appreciate the protean quality of ordinary life, and it holds on to the possibilities of politics amidst mutation. The highly prized Matsutake mushrooms ironically only grow in human-disturbed forests, and Tsing contends that this paradox requires our attention as it speaks to the possibility of new forms of life that emerge from the site of economic and ecological devastation. Tsing believes that we ignore it at the expense of abandoning existing sites from which other worlds can be created. While Donna Haraway (1996, 2015) and Tsing both begin with a critique of the conditions of techno-capitalism that have facilitated a particular constellation of contemporary life, their importance for me rests in their refusal to disavow the contemporary as a space of possibilities and metamorphosis.

If economic interests conspire to constrain the possible shape of our lifeworlds, our imagination and ability to speculate worlds into being has become a matter of urgent political and ethical significance. Anna Tsing evocatively captures what is at stake in the idea of species

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[21] I was also reminded of an experience that I had in a remote Buddhist Monastery in Bhutan where I encountered a display of flower pots containing real flowers residing alongside plastic flowers. Yiwu made revisit these memories not through the prism of the real and fake but through the vantage point of coexistence and cohabitation.

interdependence in our "entangled" (2015, p. vii) ways of life. Recognizing the imperative of mutual survival in the anthropocene, Tsing, when speaking of the decay of late capitalism, suggests that to end with decay is to abandon hope, and what is required for our survival is a collaborative instinct in which we, as humans, solicit the help of nonhumans. Tsing has in mind encounters with organic matter, and she encourages us to embrace the possibilities of our contamination through encounters, concluding that contamination is collaboration (Tsing, 2015). But why stop at organic matter? If it is the world of objects and things which is indeed contaminating the natural world, is it time to declare a ceasefire and suspend our agnostic stance to things, and ask if we can instead solicit their help to collaboratively survive? Perhaps we need to revisit a space like Yiwu afresh, not merely as the factory of the world, but as a laboratory of entanglements from which we will have to produce liveable concepts for a liveable future.

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SinoAsian Futures between Economic Forecasting, Science Fiction, Sinofuturism and Creativity

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Abstract

For many years futurology and forecasting have been a growing field and it seems that this trend is continuing. This article will therefore discuss forecasting, but will claim that it is in need of an important corrective: a kind of self-reflective Science Fiction (hereafter: SF) and the specific critical creativity associated with it. This approach is especially yielding when looking at the case of China. If for the longest time, Science Fiction has been thought of as a western genre, the following suggests that with new movements such as Asian Futurism, Sinofuturism, Afrofuturism or Gulf Futurism, one can observe a new multilateralism taking hold when it comes to the projection and description of possible futures. The Sinofuturism movement will here function as a case study, as it is well suited to point to the innovative power of non-traditional SF. Already one of its forerunners, 1980s Cyberpunk introduced a changing power differential between the east (Japan at the time) and the west, retiring older orientalist and colonial dreams of dominating Asia. This article suggests that this changing power differential can be updated and re-read via the rise of Sinofuturism, its visions and its politics and that it has already become an important socio-political phenomenon to study with which to study cultural Asian-western interactions for times to come.

Keywords: science fiction, futurology, sinofuturism, Chinese science fiction, creativity, probability

The future of Asia is an important subject today. Its sheer size in landmass and population makes it one of the most important players in international relations and commerce. Especially since the opening up of China in the late 1970s and the increasing economic and cultural power of Japan and, more recently, India has Asia become a focal point in academic discussions. Here, a number of recent socio-political texts come to mind discussing just such futures. Many of them refer and react to Edward Said's seminal *Orientalism* (1978)*,* perhaps the most influential text of the second half of the 20th century on (problematic) western views of the east. Typically, these texts would discuss updated post- and de-colonial developments in the Asian region and its relation to the rest of the world. While an eminently important text at the time, especially Chinese cultural theories have since moved on and new theories have added diversity and global south perspectives to the discussions.[1] From a Chinese perspective, one might think here of Wang Huning, a member of the Chinese Politburo Standing Committee in the nineteen-eighties, who helped devise the theory of neo-authoritarianism, the idea that any new political formation in Asia needed a heavy-handed state in order to guide market and social reforms. While his view might be a polarising one, other more inclusive, but nevertheless revolutionary views would include Pankaj Mishra's *From the Ruins of Empire: The Revolt Against the West and the Remaking of Asia* (2012) which in the first instance builds upon western social theories but applies them in very specific ways to Asia, while also taking an Asian perspective; or the thought-provoking *The Climate of History in a Planetary Age* (2021) by Dipesh Chakrabarty, where the climate and differing reactions to it are given political and cultural status, a status that has to be crucially re-negotiated between Asian and European/Western nations. One might also think of the work of Singaporean diplomat and political scientist Kishore Mahbubani, for instance his 2022 book *The Asian 21st Century,* insisting on turned tables due to a shift in economics. The last three authors assert an Asian specificity, but one that is gained from fair and equal-footed post- and de-colonial negotiations between Asia and the west.[2]

In this text, I will follow in the footsteps of these more inclusive texts, but I will also argue that a futurology, an understanding of the future based on mere, or mostly, economic forecasting is not enough to holistically describe future developments. Instead, I would suggest to add an additional, in my view necessary approach to understanding east-west relations, namely reading the east (and by extension, also the west) through a particular genre of literature: Science Fiction (hereafter: SF). I will argue that the lenses of SF lend themselves particularly well to studying the future of multicultural relations as this future is more often than not shared by a whole gaggle of different cultures and species, on planet and beyond. However, in doing so, one still needs to be cautious, as creativity itself, often hailed as one of the cornerstones of SF, can also be used against itself, as I will set out to demonstrate.

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[1]. Especially in relation to the opportunities provided in and the limitations to Said's approach, cf. the very helpful discussion on Sen and Said in Amitabha Gupta's **"**Is There a Correspondence Between 'Orientalism' and The Orient? – Said, Dyson and Sen" in *IAFOR Journal of Cultural Studies*, *6*(2) (2022), https://doi.org/10.22492/ijcs.6.2.02

[2]. In this context, one might further refer to the works of Sen and Nathan, which describe differing and liberal roles for Asia in the development of the future.

Futurology

First of all, a differentiation: when imagining futures, many different methods have been used. Here, a number of them will be treated, but others, such as divination, predestination, eschatologies, the Hindu Bhavachakra (Wheel of Life), the Yi Jing (易經) or any other kind of (quasi-)religious attempt at determining the future, will be left aside as methodologies, although they might become a subject area in some texts within the SF genre. Rather, in this section we will look at the rise of futurology based on a specific poetic manifesto and its surrounding atmosphere.

In early 1909, a text appeared in Milan, Italy, as an addition to a book of poetry. It was reprinted in the *Gazzetta dell'Emilia* in Bologna on 5 February 1909 and fifteen days later it appeared in French in the pages of *Le Figaro*. A few weeks later, it found its way in Italian, French and English versions into the April 1909 edition of *Poesia*, an Italian poetry journal. This text, *Manifesto del Futurismo* by Italian poet Filippo Tommaso Marinetti (1876-1944) would go on to have a profound impact on literature, the arts, science and society in general vis-à-vis the topic of an increasing industrialisation and technologisation of society.

In the introduction to the Manifesto proper, there occurs a curious paragraph which acts as a frame for the rest of the text. The text's lyrical "I" finds himself, after having discussed many things, "right up to the limits of logic", in an industrial wasteland: "Oh, maternal ditch, half full of muddy water! A factory gutter! I savoured a mouthful of strengthening muck which recalled the black teat of my Sudanese nurse!" This strange passage seems to alienate readers on several accounts. Like a machine, the lyrical I relishes the factory gutter, filled with brackish water and machine oil. This is the muck machines run on. Secondly, this machinic melange reminds him; strangely enough; of his Sudanese wet nurse, a memory that only illustrates how far away from such nourishment humans have travelled. This was a thing Marinetti at the time could still only phantasise about in and as a wet dream where it feeds not only the "electric heart" of the machines, but also humans who aspire to become (one with) machines as we share their food and pray for our redemption through them. Of course, this concept would become brutal reality in WWI and again in WWII. In Paul Celan's famous *Death Fugue* (Todessfuge, 1944-5), the concept of black milk demonstrates the deadly power mechanised humans have exerted against their own kind as many of them were socialised during this global war, Marinetti was born and raised in Alexandria, Egypt, and he claims the vitality of the African continent for himself, positing it against an old, lifeless Italy. Needless to say, the comparison has classist, colonial and racist undertones and neatly summarises Marinetti's later fascist political programme. It functions as a Derridean *supplement* (Derrida, 1979), fractally foreshadowing what is to come. But it also elicits the negated truth that humans are not machines and that the metonymy in this text begins with the inter-human need for nourishment.

Figure 1

Facsimile of Marinetti's Declaration of Futurism, 1909
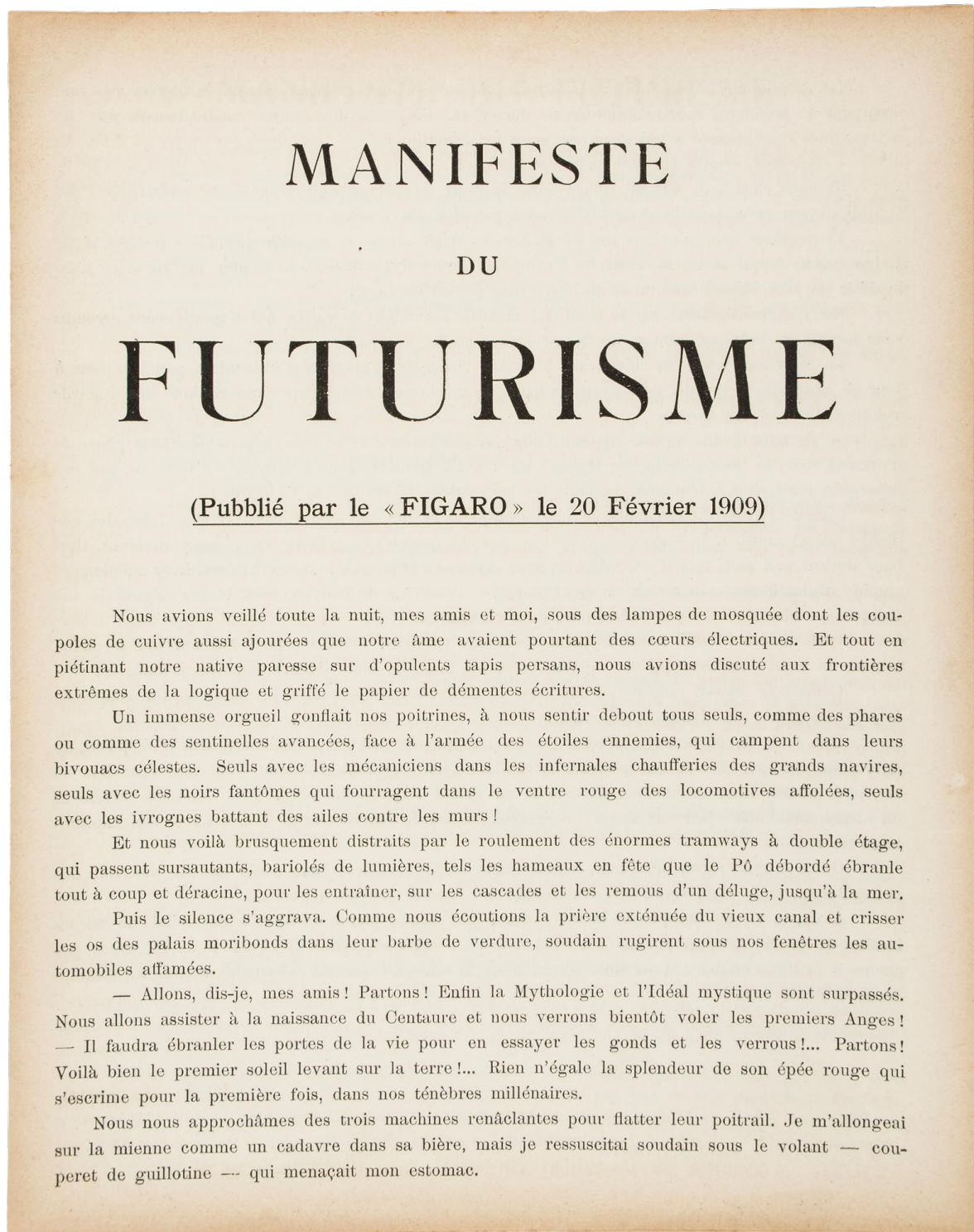
Article 11 of his Manifesto states:

> We will sing of the great crowds agitated by work, pleasure and revolt; the multi-colored and polyphonic surf of revolutions in modern capitals: the nocturnal vibration

of the arsenals and the workshops beneath their violent electric moons: the gluttonous railway stations devouring smoking serpents; factories suspended from the clouds by the thread of their smoke; bridges with the leap of gymnasts flung across the diabolic cutlery of sunny rivers: adventurous steamers sniffing the horizon; great-breasted locomotives, puffing on the rails like enormous steel horses with long tubes for bridle, and the gliding flight of aeroplanes whose propeller sounds like the flapping of a flag and the applause of enthusiastic crowds.

(Marinetti 1909)

Minus the pathos, this could be easily read as a (misogynist) near-future SF document, and indeed there are many who would subscribe to such a world view even today. However unwittingly, Marinetti would in the following display his true colours and reveal upon whose shoulders his future would be built:

We have been up all night, my friends and I, beneath mosque lamps whose brass cupolas are bright as our souls, because like them they were illuminated by the internal glow of electric hearts. And trampling underfoot our native sloth on opulent Persian carpets, we have been discussing right up to the limits of logic and scrawling the paper with demented writing. Oh, maternal ditch, half full of muddy water! A factory gutter! I savored a mouthful of strengthening muck which recalled the black teat of my Sudanese nurse!

(Marinetti 1909)

A truly Nietzschean display of human insouciance, but also a very classist, colonial, misogynist and racist understanding of the foundation upon which his future was to be based. At the time, most futurists believed that it was up to literature and the arts in general to frame this kind of progress. Humans were supposed to confirm their centrality in this process and use its speed to their advantage. Machines would be poeticised, but via a poetry that would be based on and cater to the human instinct of aggression. Marinetti and his supporters alleged that this was a historically new development, but "man" would come through it retaining his essential qualities. For Marinetti, war, based on such innate aggression, is seen as cathartic and purifying. Furthermore, Article 10 states: "We want to demolish museums and libraries, fight morality, feminism and all opportunist and utilitarian cowardice", again displaying problematic understanding of how this future is to be achieved and what it should and should not contain (Marinetti; 1909).

Here it is good to remember the social context from which the Manifesto sprung. When he wrote the manifesto, Marinetti was 32 years old and thus hardly a youth himself anymore. He had just spent the better of two years at The L'Abbaye de Créteil, a social utopian artistic and literary community on the outskirts of Paris. The movement drew its inspiration from the Abbaye de Thélème, a fictional creation by Rabelais. Its members wished instead "to create an epic and heroic art, stripped of ornament and obscure allegory and with the intention to create a total future a priori" (in Robbins, 1964, p. 14). Similar to the Abbaye idea, they would be housed in a *phalanstère*, a type of building designed for a self-contained utopian community,

developed in the early 19th century by Charles Fourier. Fourier's neologism combines the Greek φάλαγγα (phalanx), a military unit, with μοναστήρι (monastery). Marinetti saw himself as just such a priest-soldier, neatly fitting into a paradigm that would also include life philosophers, such as the already mentioned Nietzsche, and writers like Stefan George and Ernst Jünger. Unlike the others, though, Marinetti would insist much more on the primate of technology as a revolutionary tool and engage himself in fascist politics, thus making him a forerunner of technological positivists and Accelerationists, with a decidedly martial twist.

Building on earlier, mostly Franco-German poetry eulogising trains and factories, Futurism attempted to reign in and control a mechanistically imagined future by embracing and thereby allegedly controlling it. In this context, it is good to remember that Marinetti would go on to write another Manifesto, the Fascist one, in 1919 and that he was for the longest time an important figure in Italian Fascism, long after his youth lay behind him. Arguably his Manifesto was radical in its approach to technology and can be seen as a rejection of the at the time prevalent *L'art-pour-l'art* movement. He was visionary in his understanding of the place machines would occupy in our lives and saw them positively. Where he went wrong was that the centrality of machines in future societies would necessarily include a warring element, a Hobbesian war of all against all. While the approaching two World Wars would demonstrate that a certain part of the future would indeed be as mechanically horrible as he described, he failed to see and validate the more benign aspects of such a technologisation.

Built on the colonial nourishment received and abandoned, which just like St. Paul [3] laments on the childishness of some of his fellow believers still requiring milk, Marinetti creates and insists on the phantasy of a mechanical future filled with speed and youthful drive.[4] Of course, in order the claim this youthful drive, Thirty-two-year-old Marinetti lies about his own age in the manifesto, claiming to be less than thirty years old so as not to lose the youth vote.

What are we to make of this foundational text of modern-day futurology? Seeing its repercussions for a warring 20th century, one could be tempted to revert back to a Luddite position and reject the changes such a technological future would bring. Another way of reacting to this situation, though, could be to base the thinking of the future on a less aggressive and militaristic foundation instead, one that is foregrounded in many equally passionate texts. But before we get to these future texts, it might be good to search for their beginnings, not in the future, but, rather, in the past.

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[3]. "We have much to say about this, but it is hard to explain, because you are dull of hearing. Although by this time you ought to be teachers, you need someone to reteach you the basic principles of God's word. You need milk, not solid food! For everyone who lives on milk is still an infant, inexperienced…" (Hebrews 5,11-13.)

[4]. This insistence on science and technology was of course not only a domain of the west; thus, Chen Duxiu, co-founded the Chinese Communist Party (CCP) in 1919 famously called for "Mr. Science" to oppose old art, ethics, politics, and religion. (cf. Qing 2010, p. 2ff).

Futures Past

One important ingredient for any successful prediction of the future is no doubt the ability to recognise patterns. This is equally true for history studies as it is for future ones. It is this pattern-based understanding of the past and future that is of interest here. If it were true what George Santayana said in 1905, that "Those who cannot remember the past are condemned to repeat it" (Santayana 1905), then it is only fitting future studies would (also) look backwards in order look at patterns diachronically across the time arrow. And indeed, some of the very first historians were, *mutatis mutandis*, also futurologists. In recent years, the discipline of history has begun to be viewed much more broadly than its traditional, linear Eurocentric description would allow. Critical historiography would begin with *The Histories*, Herodotus of Halicarnassus (484 – c. 425 BCE), and the work of Thucydides (c. 460-400 BCE), Xenophon (c. 431 – 355 BCE), Cato the Elder (234–149 BCE), Strabo (63 BCE – c. 24 CE), and Livy (59 BCE – 17 CE). In China, the *Classic of History* is one of the Five Classics of Chinese texts and one of the earliest narratives of China. The *Spring and Autumn Annals*, the official chronicle of the State of Lu covering the period from 722 to 481 BCE and traditionally ascribed to Confucius. The first "proper" Chinese historian is considered to be Sīmǎ Qiān (c. 145 – c. 86 BCE). His monumental *Records of the Grand Historian*, is a general account of the history of China from the legendary Yellow Emperor to Sīmǎ Qiān's own time, covering over 2000 years of history. But Qiān is not only a historian; arguably, he is also one of the founders of future studies, as throughout his texts he speculates what it would take for a kingdom or an empire to be successful in the future, thereby connecting especially moral attitudes with future civilisations.

It would take over 1300 years to expand on the methodology of predicting the future. This expansion came in the guise of Ibn Khaldun (1332-1406 CE), a true Renaissance man living between Seville, Tunis and Cairo and who variably has been described as the first sociologist, economist and demographer, on top of being a philosopher and historian. His *Muqaddimah* (مقدّمة ابن خلدون), written in 1377 as a first part of his envisaged multi-tome comprehensive history of the world, records also his views on the development of the world based on proto-scientific instruments of forecasting.

Futurology as a Method of Forecasting

Taking into account these writings of earlier centuries, Johan Galtung and Sohail Inayatullah argue in their *Macrohistory and Macrohistorians* (1989) that the search for grand patterns of social change reaches all the way back to the early attempts at framing the future and that futurology thus has been very much an ongoing project, if not in name.[5] It would be left to

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[5]. Marcus Anthony (2023) would develop their approach further and speak of "deep" futures research (Anthony, passim). This would include a critical approach replete with a discussion of human needs for embodiment, mindfulness, and diversity, oftentimes forgotten by a hard forecasting caste mostly interested in money and machine futures but lacking a psycho spiritual level. With Galtung and Inayatullah, he propagates the inquiry into processes of and providing alternate transformations, with a systems world view as a metaphor and stressing the somatic and biophilic connection of any future metaverses.

German jurist, political scientist, author, futurist, and a humanist Ossip K. Flechtheim (1909 1998) to coin the word "Futurology" in the mid-1940s. A lawyer by trade, during his exile during WWII in the US he had been associated with the Émigré Frankfurt School, would teach politics upon his return to Germany and become a member of the Green party. He proposed Futurology as a new branch of knowledge that would also include and be partly based upon a new science of probability.

Since Flechtheim's days, his theories have been much professionalised. Futurology todays is defined as the systematic, interdisciplinary and holistic study of social and technological advancement, and other environmental trends, often for the purpose of exploring how people will live and work in the future… systematically exploring alternatives…. "a systematic and pattern-based understanding of past and present, and to explore the possibility of future events and trends."[6] The *Association of Professional Futurists* was formed in 2002, and developed its by now standard *Foresight Competency Model* in 2017 which functions as a framework for present-day Future Studies. Since 2012, one can also study foresight academically at a Master's level at the FU Berlin. Individual courses also exist at Tamkang University (Taiwan), University of Hawaii (Manoa), University of Houston (Clear Lake), and the University of the Sunshine Coast (AUS), The least technical part of its four-pronged Master's programme in Future Studies, called simply "Society", lists urbanisation, globalisation, changes to the work environment, education, subcultures, gender, automatisation, virtualisation, and post-growth as its components. Unfortunately, even here, an understanding of the power of arts and literature, and specifically SF, in future studies, is missing.

While Flechtheim was busy developing his fact- and social-science-based model of futurology, there would at the same time grow another movement trying to understand the future, and that was SF. It would approach the future not from a statistics and science based mode of inquiry, but would bet on literature and imagination as its foremost tools to describe its futures. At his time, Flechtheim was still very much concerned with fighting to save his models from being compared to divination, SF had to fight its own fight, which was its recognition within literary studies as a genuine and sophisticated genre rather than mere pulp for young(er) readers. And just like futurology, SF would need until the 1970s to slowly garner recognition in the field. Interestingly, both might be said to share at least one strong common denominator: their decidedly leftist-leaning origins. Both see Marinetti's future as a negative foil from which to distance themselves and to strive to prevent. This perhaps not as surprising as it might seem, since it is mostly utopists who were and are interested in the future being different from today. Arguably, many, if not most people in power would be more interested in a status-quo affirming, normative, restorative and conservative continuation of the present. Literature is used to design alternate worlds, no matter whether for the past present or future, and is thus predestined to provide examples of diverging futures. Futurology is also projecting futures, and, if they seem undesirable, provides possible pathways in which to change or prevent them.

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[6]. "Future studies" entry inspired by The *Association of Professional Futurists,*
https://en.wikipedia.org/wiki/Futures_studies.

The Power of SF and its Discontents

If futurology insisted on being based on a more scientific foundation rather than divination, SF did not reject such divination; however, it would strive to fictionalise it significantly, the same way it also fictionalised science at the other end of the forecasting pole. However, SF had never been a unified body of works, and it indeed, also had its own demons to fight. These came, as we shall see, in the form of a very Anglo-centric world and future view, the misunderstanding of creativity and its very own politics.

The first Utopian proposal is Plato's *Republic* (inclusive of the mention of Atlantis in his *Timaeus* and *Critias*) which would categorize citizens into a rigid class structure of "golden", "silver", "bronze", and "iron" socioeconomic classes. The golden citizens are trained in a rigorous 50-year-long educational programme to be benign oligarchs, the "philosopher-kings". Plato stressed this social structure many times in his published works, such as the *Republic*. The wisdom of these rulers will supposedly eliminate poverty and deprivation through fairly distributed resources, though the details on how to do this are unclear. The educational program for the rulers is the central notion of the proposal. It has few laws, no lawyers and rarely sends its citizens to war but hires mercenaries from among its war-prone neighbors. These mercenaries were deliberately sent into dangerous situations in the hope that the more warlike populations of all surrounding countries would be weeded out, leaving peaceful peoples.

Other milestone on the road to the future and not including a historic element were Thomas Morus's *Utopia* (1516), detailing how a society adhering to Platonic ideals could create a perfect future for itself; Irish writer Samuel Madden's (1686-1765) *Memoirs of the Twentieth Century* (1733) predicting changes in politics and religion; and utopian socialist Henri Saint-Simon (1760-1825), who looked at the beginning developments and impact of industrialised mass society and how to achieve a better life for the new class of workers. In turn, he would then be followed by various socialist and communist utopians such as, Marx, Fourier and others; scientific journals would be established that would regularly make predictions for the future based on scientific reasoning, such as *Scientific American* (1845) and *Popular Science* (1872). In the late 19th century, a number of economic challenges, such as the so-called Long Depression (1873-1879), recessions, strikes and capitalist monopolies forming, prompted other writers to try and envisage what it would take to develop a better tomorrow. At least in the west, much of the future had been sketched out already, as only a Christina one could/was allowed to be imagined, and it would take until the late 19th century for new texts to be written, with Verne, HG Wells and Bellamy figuring prominently. SF would become even more popular with magazines such as *Amazing Stories* being published from the late 1930s onward, leading up to the SF B-movie craze during the cold war years.

For many decades, SF had arguably been a very Anglo-American project. Notable exceptions would only prove this rule; if before one might think of the astounding work of Frenchman Jules Verne laying the basis for much of 20th century SF, most other texts from the early to mid-20th century would come from the Anglo-American realm. It was only occasionally that writers from other climes would be heard, such as Stanisław Lem in Poland, a small number

of Russian SF writers (e.g. Alexander Belyaev, Grigory Adamov, Vladimir Obruchev Alexey N. Tolstoy and Yevgeny Zamyatin and some of Mikhail Bulgakov's work), or the massive and still continuing *Perry Rhodan* serialisations in Germany. All things being equal, the territory remained solidly in Anglo-American hands.

Outside of Europe, the situation was not much different. It would take until the late 20th century for the first non-western futurism to develop, *Afrofuturism*. Here one might think of Sun Ra and his avant-garde musical projects and lavish stage shows, or the *Black Panther* Marvel comics franchise. More recently, the work of Nnedi Okorafor, in her *Binti*-Series (*Binti (2015); Binti: Home (2017); Binti: The Night Masquerade (2018)*) or that of Tade Thompson, in his *Wormwood* Trilogy (*Rosewater* 2016; *The Rosewater Insurrection* 2018; *The Rosewater Redemption* 2019) in Nigeria, together with the so far two filmic adaptations of *Black Panther* (2018; 2022) would revive the movement in the in the 2010s and 2020s. Other non-western literary futurisms also began to operate during this period, such as LatinX-futurism and Gulf-futurism. But it would especially be Sinofuturism that would begin to turn heads, in part due to the size and rapid development of its market. Previously, very little Science Fiction had either been published or produced in China. The reasons for this will be discussed further below.

SF and the Beginning of its Literary Reception

If SF had garnered a devout and ever increasing following, for the longest time, within academia, SF had been treated as a stepchild at most. This would only begin to change in the 1970s, arguably with Darko Suvin's, *Metamorphoses of Science Fiction* (1979). Suvin's seminal text traces the historical origins and evolution of science fiction back to the Enlightenment and the Industrial Revolution. From Suvin's perspective, SF emerged as a response to the societal and cultural changes brought about by these transformative periods. SF is therefore a genre that engages with social and political concerns by using the imaginative potential of science and technology. The book introduces the concept of "cognitive estrangement" as a defining feature of science fiction. Through this feature, SF presents alternative worlds that are different from our own, allowing readers to critically examine and question the norms and values of their own society and to analyse the implications of fictional scenarios for their own reality. If revolutionary at the time, in the following years criticisms of his work include his overlooking the diversity and complexity of science fiction as a genre, focusing too much on the classist struggle and neglecting issues of gender, race, and ethnicity.

In his collection of essays *Archaeologies of the Future: The Desire Called Utopia and Other Science Fictions* (2005), (post-)Marxist critic Fredric Jameson argues that SF provides a unique lens through which society can critically analyse its present by imagining alternative futures. SF has the power to challenge dominant ideologies and envision radical social change. By analysing works of authors such as Philip K. Dick, Ursula K. Le Guin, and Kim Stanley Robinson, Jameson explores how SF reflects and critiques capitalist society and its contradictions. One of the central arguments he presents in the book is that of the commodification of culture. He argues that capitalism has co-opted science fiction and transformed it into a market-driven product, thereby diluting its potential to inspire

transformative social change. Jameson also critiques the tendency of contemporary science fiction to focus on dystopian narratives, suggesting that this reflects a cultural pessimism and an inability to envision alternative possibilities. He calls for a reinvigoration of utopian imagination to counterbalance the then prevailing dystopian visions.

In yet another influential book investigating the theory of SF, Carl Freedman's, *Critical Theory and Science Fiction* (2000), it is argued that Critical Theory is particularly well-suited for SF as it examines and critiques the structures of power, domination, and oppression in society, with a focus on understanding the relationship between culture, ideology, and social change. Since SF imagines alternative worlds, future societies, and technological advancements, it readily offers a space for speculation and critique of contemporary issues, thereby not only providing its readers with possible futures, but also alternatives to today's status quo. Critical theorists engage with concepts such as ideology, power, identity, and social relations, again, central themes in SF. What they did not question for the longest time, however, was SF's underlying concept of creativity.

Problems with Creativity

If so far we have been arguing that it is SF's creativity that allows it to paint vivid pictures of the future, this statement needs to come with a proviso. Creativity is no doubt one of the most important and sought-after human character traits. It is also a talent very much appreciated by corporate structures. Herein lies a challenge. Andreas Reckwitz' 2012 *The Invention of Creativity* (*Die Erfindung der Kreativität*) highlights the issues with the concept. In his monograph, Reckwitz traces the aestheticisation of society from late medieval times to the present. Here he sees a dual process at work, one the one hand the aestheticisation of (consumer) goods in order to make them appeal to a designer-minded public; on the other, the merchendisation of art itself. After art had been freed from its ceased to be a means anymore and since enlightenment times had become an end in itself, it was now fair game for capitalist markets. In order to service these markets, individuals with creativity were sought. This kind of creativity, however, would be schooled on and restrictively applied to business needs, such as advertising. In the wake of this development, modern urban elites were supposed to be creative, as long as their creativity did not clash with or upset traditional social deep structures, a major function of art for the late 18th century to early 20th century. Reckwitz' account demonstrates how this erstwhile non-domesticated ability was whipped into a specific shape for market consumption ('creative industries'). Thus, other unrulier, yet nevertheless constitutive, elements of creativity such as emancipation, innovation, personal aesthetic pleasure, and freedom would be devalued with product-focused aspects of creativity preferred and fostered. This compulsion for a very diminished creativity is the compulsive clarion call heard throughout global creative quarters, But not necessarily for a more comprehensive notion of creativity itself. "The goal of the positive psychology of the creative is then a *pragmatic aestheticisation* of a life conduct, in which creative practice is simultaneously both an end in

itself for the expressive subject *and* a means to an end for professional and private success."[7] An extreme manifestation of this system is the film star system and cult which Benjamin had already discussed in relation to Hollywood, but which during late capitalism would extend to any and all of the arts and their accompanying rituals of either hedging and or breaking taboos by "performing selves." This aestheticisation would also extend to typically urban settings and would include such "fun" tools as co-working and -living spaces and company "campuses." The question of who defines what this "positive subversion" (Hans A. Pestalozzi in Reckwitz 2012, ibid.) that creativity is intended to have as an outcome, remains.

If Reckwitz had a social comprehensiveness within which he located the changing *dispositves* associated with creativity, Samuel Weil Franklin's 2022 book on the *The Origins of Creativity* focuses on the actual rise of creativity at the end of the 1950s. The concept of creativity prevalent in the digital realm, and especially so in social media, was devised in post-war America, in response to the cultural and commercial demands of the era. Franklin demonstrates how this kind of creativity undergirded and promoted consumer culture, impacted on conformity with and alienation from a normalized society and, at least in the 1950s to 1980s, attempted to achieve creative superiority over the communist eastern bloc. The rise of creativity was built on the fundament of psychology which allowed for registering and measuring specific skills, including intelligence vie I.Q. Tests and creativity. In the final analysis, though such tests proved to be, for various reasons, problematic and non-conclusive, for one because creativity is pan-directional and can be used for good as well as bad things. Additionally, one has to remember that any "out-of-the-box" thinking is still a relevant function of "in-the-box-thinking" and the box itself, playing to the tastes and suppositions of a white, western middle class attempting to define and co-opt any kind of "divergent thinking" or "tolerance for ambiguity." Thus, psychology and business demands created a boom in creativity after 1950, intensifying in the 1970s with the changing of the US economy into a service economy and society into a knowledge society. As Franklin shows throughout his text, another more perfidious game was being played: if workers were asked to "brainstorm", that is, be creative, this lead them to believe that they had a say in corporate decisions, whereas mostly their naiveté led to their ideas being co-opted by others. Theirs was only given an apparition of power. For Franklin, this met with only limited success. Furthermore, Franklin suggests that the emphasis on creativity served yet another purpose – the reigning in of the "tormented" artist type, themselves a potential threat to a stable conservative society. With creativity tamed, these inherent dangerous thought patterns could be more easily defused.

This development culminated in the Reagan-Thatcher era designation of an umbrella term for such work, "*culture industries*". This is of course not a new designation; after all, Adorno and those in the wake of the Frankfort school had copiously written about the labourification of artistic processes, for example. Adorno (1970). However, what as new was that now these industries were presented as something positive, that is to say, this labourification had a

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[7] ."Das Ziel der positiven Psychologie des Kreativen ist dann eine *pragmatische Ästhetisierung* der Lebensführung, in der die kreative Praxis Selbstzweck des expressiven Subjekts *und* Mittel zum Zweck für beruflichen und privaten Erfolg zugleich ist" (Reckwitz 2012, p. 238, translation by HB, italics in original).

positive effect on the confused young artists, as they received help, not from questionable sources from inside of their guild, but, rather, from solid business types in banks and insurance companies, employing their creative skills in the creation of advertising and mass media, as Menand reminds us:

> The iconic image of the startup economy—casually dressed workers in open spaces jotting inspirations on a whiteboard—is a barely updated version of the old nineteen-fifties brainstorming sessions… The landscape of the tech universe is shifting right now, but for several decades a whole creativity life style became associated with it. Work was play and play was work. Coders dressed like bohemians. Business was transacted (online) in cafés, where once avant-gardists had sipped espresso and shared their poems' (Menand 2023)

With work-life relations being renegotiated, the stars of the so-called "gig-economy" were freelancers, influencers or independent start-ups. Franklin would finally charge that there existed no creativity without capitalism.

Franklin's contribution is an important one as it illustrates how revolutionary concepts (can) fall prey to the logic of capitalism. It also shows the way in which the revolutionary aspect of creativity, so important in the development of the autonomous subject since enlightenment times, became a fixed and important plank of such capitalism. Given that, however, it also lays the foundation stone for remediating this development and once again reclaiming the more anarchic aspects of the creative process for social critique.

How this can be done is exemplified in Arjun Appadurai's collection of essays, *The Future as a Cultural Fact* (2013), where he considers matters of futurity within a decidedly global outlook. He makes a postcolonial argument for a reconsideration of the future based on a negotiation of the tension between a late-capitalist *ethics of probability*, on the one hand, and a radical *ethics of possibility* on the other. The former he views negatively and ascribes it to those who see the future as only determined by numbers, be they cyberspace or financial mathematics bound. The latter is the one he is hoping for, possibilities which go beyond such number games and allow for a much more holist and socially determined future to take shape. He writes:

> By the ethics of possibility, I mean those ways of thinking, feeling, and acting that increase the horizons of hope, that expand the field of the imagination, that produce greater equity in what I have called the capacity to aspire, and that widen the field of informed, creative, and critical citizenship. This ethics is part and parcel of transnational civil society movements, progressive democratic organizations, and in general the politics of hope. By the ethics of probability, I mean those ways of thinking, feeling, and acting that flow out of what Ian Hacking called "the avalanche of numbers", or what Michel Foucault saw as the capillary dangers of modern regimes of diagnosis, counting, and accounting. They are generally tied to the growth of a casino capitalism which profits from catastrophe and tends to bet on disaster. This latter ethics is typically

tied up with amoral forms of global capital, corrupt states, and privatized adventurism of every variety.

(Appadurai 2013, p. 295)

One might generally constitute that this kind of anthropology of the future occupies an important part in SF. Even "proper" future studies would probably do well to remember lessons from anthropology because they aspire to nothing less than predicting anthropologies (of the future?). This had already been suggested by Benedict Anderson's *Imagined Communities* (1980) in which he defines communities not in essentialist terms, but in terms of becoming. Also, Richard Handler's recent work on "The Uses of Incommensurability in Anthropology" (2013) delineates ways in which local communities can resist attempts at their subsumption via culture; lastly, Nathan's non-essentialist culture model (2010) is one that successfully challenges the static standard essentialist models of culture as proposed by Hofstede, Trompenaars and Hampden-Turner, thereby freeing the capacity of agency for choice and identity necessary for community development.

By now, we have travelled quite a distance away from futurology, or rather, we have already established that any futurology is in need of a strong dose of sociological projecting as well as SF narratives of the future. Thus, under the right conditions, Appadurai paints a more positive picture of the future, via his notion of an ethics of possibility. However, before we look at SF texts in detail. It should also be stressed that the future's inherent chronicler, SF, is also not immune to necessary criticism. Today, this does not involve academic criticism of its lack of academic depth, but rather questions its own historic dispositives. Thus, Jens Beckert's *Imagined Futures: Fictional Expectations and Capitalist Dynamics* (2016) takes a nuanced stand and cautions his readers about the dangers inherent in SF's imaginary which he sees as co-opted, a view we will encounter again later on in relation to Sinofuturism and the idea of creativity. Beckert describes how it is capitalism's reliance on the powers of the imagination regarding opportunity and risks that strengthens it. The capitalist system relies upon the shared imagination of individuals in order to exert its power. Once this imaginary potential is rescinded, capitalism will find it much harder to continue to exist. It would therefore seem that SF writers unwittingly do capitalism's bidding. He also draws commonalities between SF and forecasting as both have expectations, uncertainty and fiction in common and can thus be used to project and shape expectations of the future. Generally, any knowledge production is socially determined through exchanges with others, knowledge in which both fiction and expectations play an instrumental role, and thus charging this process with being one of the main "microfoundations" of the capitalist system.

One must wonder though whether such a view cannot be turned upon its head, as it is particularly the systemic and institutionalised usage of such narratives that he attacks. SF, just like any other arts, is not a neutral phenomenon, but rather one within which different narratives are being spun, play out and contrast each other.

Two other more recent texts on western SF display its relation to social developments further; interestingly, both appeared in an edited volume on future studies (Paul 2019). The first one,

Ganser's "Astrofuturism" (2019) references at SF developed during the space race. The term had already been introduced in a 2000 article by De Witt Douglas Kilgore and also became the title for his 2003 book. It covers SF written during the space race and evidences "its close connection to engineering projects funded by the government and the military" (Kilgore as quoted in Ganser, 2019, p.35). Ganser demonstrates that this kind of SF refers back to nineteenth-century American frontier rhetoric ('manifest destiny'). Such a kind of *retrofuturism* (Bauman) can also be observed in Richard Linklater's 2022 film *Apollo 10 1/2*, this time apolitically engaging an alternate history of coming of age in the late 1960s in the Houston area. Ganser also engages two other thinkers on the issue, Rayna Elizabeth Slobodian's and her "argument that space colonization sells the idea of immortality to humans frightened to and by death and, still, suffering from the narcissist wound of Copernican decentering". Lastly, a much more political reading would be presented by Hannah Arendt in her 1963 "The Conquest of Space and the Stature of Man" in which she critiques the escapists assumptions inherent in the US space programme.[8]

Another basic criticism of SF vis-à-vis future studies was launched by Mark Bould in the same volume on future studies in which Ganser's text can be found. Bould argues with Lukács that the failed 1849 revolt in Germany ushered in the end of the bourgeoisie as a progressive force and with it the end of the historical novel as a descriptor and predictor of social life. This vacuum would be filled by a new fledgling genre just beginning its rise, SF.[9] However, it would be hard pressed to shed its bourgeois background and there would always exist a dual strain of SF:

> Edward Bellamy's *Looking Backward: 2000–1887* (1888) propelled a contemporary Bostonian a century into a future high-tech world beyond scarcity and conflict. A massive best-seller, it prompted dozens if not hundreds of novels. For example, William Morris was so disgusted by Bellamy's supposedly socialist future—a blandly bourgeois world of consumerist ease—that he countered with News from Nowhere (1890), which proposed a more radically transformed postrevolutionary and primarily agrarian socialism, while Ignatius Donnelly's Caesar's Column: A Story of the Twentieth Century (1890) imagined an urban apocalypse when the anarchistic Brotherhood of Destruction leads a rebellion against a brutal capitalist oligarchy.
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> (Bould 2019, pp. 264–5)

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[8]. Ganser also negatively compares astrofuturism with afrofuturism and astrofeminism which according to Ganser do not commit the former's mistakes: As opposed to afrofuturism and what one might call astrofeminism, astrofuturists unwittingly reproduce the past and present in their designs of future planetary exodus and have not addressed why and how power/knowledge hierarchies and socio-political inequalities would simply disappear beyond Earth on the basis of a shared faith, as they often assume (Ganser 2019: p. 41).

[9]. Cf. here also the already mentioned Freedman (2000), who argues that due to its filiation, for most of its history, traditional SF is involved in creating reactionary worlds and emits "historicizing literary tendencies" (p. 54). This would only change with a new batch of SF writers in the second half of the 20th century, and he singles out the revolutionary work of Stanislaw Lem, Ursula LeGuin, Joanna Russ, Samuel Delany and Philip K. Dick as examples of this new kind of writing.

This dual strand would continue throughout the 20th century, with SF moving from historically-infused middle class stories to adventure stories mostly aimed at American male teenagers. Case in point is Hugo Gernsbeck's 1926 launch of the already mentioned and massively popular *Amazing Stories*, which would go on to be the main launch pad for many of the SF masters of the second half of the 20th century. Painting with a very broad brush, he would then sign over the 1970s and onwards to more dystopic story lines, with very few exceptions. Both texts make clear some important basic tenets of SF, tenets that show its ideological basis, but which also seem to prohibit SF from functioning as a viable, and indeed desirable, part of future studies.

This is of course only one side of the coin. One can also point to the way SF sketches and (literally) builds the future, a future embodied. Hageman helps us understand this point. In his text he is referring to topics of urban studies, but his understanding and application of theory is easily transported into the future:

> A city's ring roads, water lines, telco networks, and public buses and rails are all concrete forms of ideology. Values, conscious and unconscious, are embodied, on display, and at work in such infrastructural objects and systems. As such, infrastructure reveals a lot about past and current ideas and contradictions of a place through both their material manifestations as well as characters' perceptions of the infrastructures."
>
> (Hageman, 2019)

If one looks at city, or urban wasteland building in SF, as we shall see, further nodal points of meaning and ideology can be discerned. If present-day city (planning) revolves around ideologies, as Hageman rightly stresses, in SF these ideologies are then written into the future and appear at crucial moments when discussing city planets, space stations or "alien" architecture.

The Politics of SF

If the above has already referred back to the very foundations upon which SF's future historic constructs were launched, actual politics also play a role. Furthermore, SF as a genre is also influenced by social changes and the *Zeitgeist* and its twists and turns. Good examples of this are the US-Vietnam War era which split US SF writers in two bitterly opposed camps: a pro- and an anti-war camp. Animosities between the two groups went so far that both sides took out paid advertisements in the June 1968 issue of the *Galaxy Science Fiction Journal* to document their support or opposition to the war. Seventy-two SF writers wrote, "We the undersigned believe the United States must remain in Vietnam to fulfil its responsibilities to the people of that country." Among were Anderson, Leigh Brackett, Fredric Brown, John W. Campbell, Hal Clement, L. Sprague de Camp, Robert A. Heinlein, Larry Niven, Jerry E. Pournelle, R. A. Lafferty, Fred Saberhagen, Jack Vance, and Jack Williamson. On the anti-war side, eighty-two signers wrote, "We oppose the participation of the United States in the war in Vietnam." These included Forrest J. Ackerman, Asimov, James Blish, Ray Bradbury, Samuel R. Delaney, Lester del Rey, Philip K. Dick, Harlan Ellison, Philip Jose Farmer, Daniel Keyes, Damon Knight,

Ursula K. LeGuin, Fritz Leiber, Judith Merril, Gene Roddenberry, T. L. Sherred, Robert Silverberg, Kate Wilhelm, Donald A. Wollheim and others. Both lists were full of the heavyweights of the 1960s and 1970s SF writers, showing the deep split in US society regarding the war.
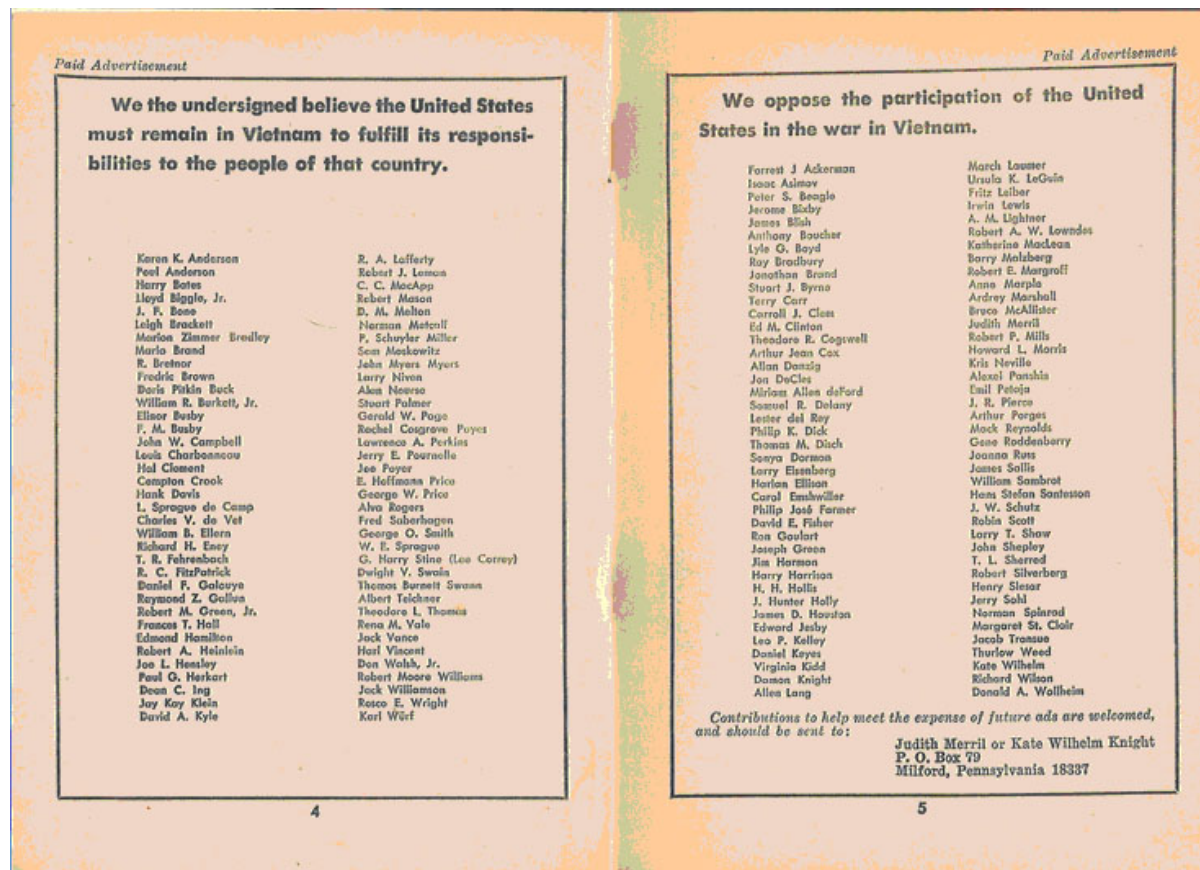
June 1968 issue of *Galaxy Science Fiction,* pp 4–5.

This split would continue into the 1980s when a group of SF writers, including Larry Niven, Jerry Pournelle, and Greg Bear, would first propose and then support President Ronald Reagan's Strategic Defense Initiative (SDI, an initiative preparing the USA for space combat) in the early 1980s, and these authors are now part of the so-called Sigma Group, which continues to advise US governments and US Homeland Security on Space issues.[10]

More recently, the 2017 Hugo Nominations in Best Novelette, included an unknown, but with a telling name, Stix Hiscock. Hiscock's nomination was launched by the Rabid Puppies, a community of reactionary sci-fi/fantasy writers and fans who already in 2015 had sought to derail the Hugos by stuffing the ballot box with white male nominees. In 2016, the Sad Puppies group then smuggled in a 2016 Best Short Story nominee they hoped would really tank the

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[10]. http://www.sigmaforum.org/; cf. also Gould (2019, p 261); David Auerbach's "The Sci-Fi Roots of the Far Right—From 'Lucifer's Hammer' to Newt's Moon Base to Donald's Wall", 2017; and Luckhurst (2005, p. 200).

proceedings: Space Raptor Butt Invasion, an erotic gay sci-fi tale self-published by an unknown named Chuck Tingle. But their gambit backfired spectacularly, as they met stiff resistance.[11]

These writers would for instance also latch onto the "China Threat" narrative and would see it exemplified in the ideology of *The Wandering Earth* (2019) film and maintain that the nation's authoritarian regime of antihumanitarian policies and expansionist ambitions cannot peacefully co-exist with the democratic ideals purported by the United States government (Silk 2020); a diametrically opposed reading of the film can also be found though: "Instead of running from Earth in the face of crisis, Chinese SF demonstrates a different ideal of remaining with and protecting the planet". While not explicitly stating so in the film, the underlying narrative of wandering with the Earth instead of from it suggests that Chinese philosophies offer a leadership style that seeks to defend the planet and the heritages of its people (Sun 2020, p. 163)[12]. Sun's kind of reading is much more in line with the original US pronouncements by Neil Armstrong when landing in 1969 landing on the moon, "That's one small step for man, one giant leap for mankind".

Fortunately, in the west, there exists a whole slew of newer SF that does not subscribe to such ideology-based readings and promotes a much more open and diverse brand of SF, discussing questions of morals, language, governance, technology, and enhancements in more liberal terms. This is of course also an ideology, but one that would promote openness rather than a closed model and thus arguably led to a multiplication of standpoints to write from. One might point to the mindboggling *2001 A Space Odyssey* (Stanley Kubrick 1968), Ursula LeGuin and Samuel Delany's work; the *Culture* series from Scottish writer Iain M Banks (1954-2013), beginning with *Consider Phlebas* (1987) to *The Hydrogen Sonata* (2012), spanning 25 years of liberal and self-searching writing about culture; or the work of N.K. Jemisin with her *Broken Earth* trilogy, consisting of *The Fifth Season* (2015); *The Obelisk Gate* (2016); and *The Stone Sky* (2017), who became the first author to win the Hugo Best Novel Award three years in a row, as well as the first to win the trophy for all three novels in a trilogy, all of this while focussing on female main characters. It is very clear that much of SF is becoming more liberal once again, and this is not only the case in the west, but also in China, as the above texts demonstrate.

A SF View of China

When it comes to China's (re)presentation in western SF, the "Yellow Peril" and "China Threat" narrative would inform much of traditional western SF writing, even if, recently, more subtly so. Case in point is Ramez Naam's, *Nexus Trilogy* (2012-2015) an award-winning and generally engaging read. Set in 2040, it is the story of one Kaden Lane, a scientist developing a nano-drug called Nexus, which allows the brain to be programmed and networked. The CIA,

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[11]. Cf. here Hehe's account of the scandal (2017)

[12]. Cf. also a much more positive reading of the film by Chris Berry (2020)

various billionaires and super soldiers all take part in the plot, culminating in a fight between humans, nexus-enhanced posthumans and the network. Very much a novel of the globalised urban dystopia, it oscillates between Bangkok, New York, Bangalore and, finally, Shanghai, where Su-Yong Shu, a Chinese neuroscientist, who had uploaded her mind to the network, tries to start a posthuman revolution under her auspices. For all its advantages, in the end it boils down to western finger-pointing at the Chinese scientist as the world's favourite present baddie in location and spirit.

When it comes to audiences and critics, one might also point to a western tendency to look excessively for "revolutionary tension" in Chinese SF texts. While such instances do appear, as exemplified by some of the texts listed above, only reading them along political templates or ideological fault lines would be doing such texts a gross aesthetic disservice. After all, they are literature first and foremost and any imagined or real political commentary must come second. Time and again, Ken Liu and others warned that it would be unduly limiting to read Chinese SF only as ideological or political texts. Case in point is the film *The Wandering Earth* (2019), which is often read as the Chinese government trying to exert power over the rest of the world by insinuating Chinese communism all the way to the future. The China Threat narrative maintains that the nation's authoritarian regime of antihumanitarian policies and expansionist ambitions cannot peacefully co-exist with the democratic ideals purported by the United States government (Silk 2020); however, more enlightened readings also existed,[13] although they were in the minority. Here one provided by Sun (2020) for more enlightened readings,

> Instead of running from Earth in the face of crisis, Chinese science fiction demonstrates a different ideal of remaining with and protecting the planet. While not explicitly stating so in the film, the underlying narrative of wandering with the Earth instead of from it suggests that Chinese philosophies offer a leadership style that seeks to defend the planet and the heritages of its people.
>
> (Sun 2020, p. 163)

This is something that is done on both sides of the political spectrum of course, as Naam's work cited above or that of many earlier western SF texts exemplifies. Arguably, more recent Hollywood blockbusters now include Chinese characters, but perhaps that is not solely done for reasons of diversity, but also for product saleability and access to mainland China cinema screens.

The History of Chinese Science Fiction – The Short Version

The history of Chinese SF (科幻, pinyin: Kehuan) is relatively unknown in the west. A number of scholars detected the beginnings of SF already around the turn of the 19th to the 20th century, at a time when increasing writing about technology was changing literary genres as well. Chen

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[13]. For example, Berry (2020).

2022 (p. 5ff) argues that one can detect a changing rhythm in fiction writing at the time, if scientific or technological themes were not that prevalent.

Starting from 1902, Chinese fiction had begun to show an apparent deviation from traditional fiction in terms of narrative modes. More specifically, narrative time was the first to change and point of view comprised the largest range of change. The roles played by different techniques in changing the narrative modes are also different: the flashback technique in narrative time helps to break the traditional linear narrative, the limited narration the omniscient point of view, and characterization in breaking through the plot-centred narrative structure.

This was a time period when western literature found increasing exposure in China, and brought with it a multiplication of narrative techniques. This would certainly allow for western SF topoi to be present in China as well.

SF literature would begin to appear in China's literary journals such as *Forest of Fiction* (小說林), which published not only translated SF, but also original genre pieces, for instance the well-received New Tales of Mr. Braggadocio (新法螺先生譚, 1905) by Xu Nianci . Regarding their appearance, Issacson (2017, p.1) would have the following to say:

> Through readings of historical accounts of the introduction and institutionalization of science in China, pictorial representations of real and imagined scientific and technological innovations, writing on the role of science in the quest for national renewal, and a number of original works of Chinese SF, I demonstrate that late Qing and Republican period intellectuals through the 1930s were preoccupied with the question of the relationship between science, fiction, and empire. In the context of the colonial threat, a profound pessimism emerged about China's fate as a nation, and this pessimism permeates discourses on science and works of SF from this period.

Outside serialisation, this pessimism would also manifest itself in what is considered the first stand-alone example of Chinese SF, Lao She's (1899-1966) hugely influential book *Cat Country* (猫城记 Māo Chéng Jì, 1933), a fantastical satire of She's China. Society is deeply corrupt, mistreats women, schools hand out leaving certificates and diplomas on the first day of school, hygiene is bad, and most cultural artefacts have been sold off to foreigners. There exist political brawls and propaganda used is similar to Russian slogans. The country is invaded by a foreign power and many of its inhabitants are killed in prisons fighting each other. Sometime later the narrator is picked up by a French space ship and he leaves Mars. Many interpreters have commented on the thinly veiled criticism of China in the text, of both the corruption associated with the Kuomintang and the revolutionary fervour of the Left. Alleged weaknesses of Chinese society are foregrounded, perhaps resulting from the author's six yearlong residence outside of China.

After the establishment of the People's Republic of China in 1949, at least some works by Soviet SF writers were translated into Chinese and indigenous work would also be published,

as long as it would adhere to the newly established Chinese socialist realism writing ethic. Many of these texts were used to extol the virtues of science. The foremost figure in this endeavour was Zheng Wenguang (郑文光, 1929 - 2003) whose period of writing spans the years between 1954 and 1983, with an interruption of about ten years during the cultural revolution, when all non-revolutionary writing was prohibited.

This period was quickly forgotten when in March 1978 popular science was again encouraged and the young adult novel Xiao Lingtong's *Travels in the Future* (小灵通漫游未来) by Ye Yonglie (叶永烈, 1940–2020) was published, became an instantaneous bestseller and even prompted translations of some of his texts into English. One year later, in 1979, the magazines *Scientific Literature* (科学文艺) and *Science Fiction World* were founded, publishing translations of SF stories and indigenous ones alike. Notable books include Tong Enzheng's Death Ray on a Coral Island, adapted to become China's first SF movie, released in 1980; Liu Xingshi's short stories such as Columbus from the American Continent, and The Sad Melody); Wang Xiaoda's Mysterious Wave; and Hong Kong author Ni Kuang (1935 – 2022), a writer of Wuxia (martial arts) and SF.

Starting in 1983, SF was once again faced official acceptance problems, and this time it would take until 1991 when a SF convention was allowed to take place in Chengdu, Sichuan province, initiated by Yang Xiao. The magazine *Scientific Literature* underscored this new development by changing its name to *Science Fiction World* (科幻世界), with a circulation of 400,000 by the mid-1990s. By then, authors very familiar to SF fans today, such as Xing He, Liu Cixin (*The Three Body Problem*), Han Song (*2066: Red Star Over America*), Wang Jinkang, Qian Lifang, or He Xi, came to the fore and became household names.

However, any incursions of SF into national acceptance had remained tentative. A renewed thawing period for SF was officially acknowledged in 1999 when in June of the same year one of the national college entrance examination questions asked for a response to the hypothetical question, 'What if memories could be transplanted?', explicitly asking for scientific speculation and acknowledging a feature which had run in *Science Fiction World* earlier in the year. This would also convince at least some of the parents that their children's interest in SF might actually pay off for their education as well. But problems would continue, even in 2011, when the State Administration of Radio, Film, and Television (SARFT) issued renewed guidelines discouraging "fantasy, time-travel, … bizarre plots, absurd techniques, … reincarnation, ambiguous moral lessons, and a lack of positive thinking" (Barboza 2011). However, even with that directive in place, numerous SF text would still be published and thus, for those interested in Chinese SF, the last few years have been rather good. China was the 2012's Market Focus country for the London Book Fair, and many SF writers were included in the official line-up. Already back in 1979, the most influential Chinese sci-fi magazine today, Science Fiction World was launched with the name Science Literature. Science Literature (科学文艺; pinyin: Kēxué Wényì, which in 1991 changed its name to *Science Fiction World* (科幻世界)).

Recent Chinese SF in Translation

Those reading Chinese SF in translation, had much material provided for them over the last few years, as a number of Chinese SF anthologies were published which give a very good overview of recent developments of the genre and include fresh pieces on top of those from already established authors. Here the outstanding figure of Ken Liu needs to be mentioned, who, himself a very popular SF author, has translated many Chinese SF texts into English, including some of the work of Liu Cixin. Ken Liu's edited *Invisible Planets* (2016), and *Broken Stars* (2019) began the popular series of recent Chinese SF anthologies, *Sinopticon*, (2021, edited by Christine Ni and including texts by Gu Shi, Han Song, Hao Jingfang, Nian Yu and others) followed; then, *The Reincarnated Giant* (2021, edited by Mingwei Song and Theodore Huters, containing texts by Lo Yi-chin, Dung Kai-cheung, Han Song, Chen Qiufan, and Liu Cixin, among others) came out; and in 2022 *New Voices in Chinese Science Fiction,* edited by Neil Clarke and others, appeared). While Liu's anthologies were still given most of their space over to traditional Chinese SF writers, this would change with their successor, who would include younger authors and also more women writers. However, not only anthologies were published, but western publishing houses would also translate more full-length Chinese SF novels, such as those by Chen Quifan (*Waste Tide*, 2019, once again translated by Ken Liu) which, dealing with neo-colonialism and environmental issues, garnered rave reviews from the western press.

Other Chinese SF writers who had already been quite successful, would gain an additional boost from the translation of their work. A good example is Journalist by trade Han Song (韩松*1965 in Chongqing), who has been writing SF since 1981 and his texts revolve around near-future Chinese society and the place of China in the world. His *novel 2066: Red Star Over America* tells the story of the Chinese take-over of the USA, attempting to assuage the many problems by then evident in the USA, but terrorism thwarts this endeavour. He often using satirical approaches to his subjects. His short stories collection *Subway*, arguably his most critical of China, includes alien abductions and cannibalism on a never-ending train ride. He sees technology as a way to reign in human aggressiveness, but time and again the technological veneer breaks down revealing the dark truth. While critical of the United States in many of his stories, he also criticises an overreaching Chinese state apparatus, for instance in the story "My Homeland Does Not Dream", where the state delivers drugs to people so that they continue working even when they are sleeping, thus heightening labour efficiency. He has won the Chinese SF Galaxy Award multiple times. He is also one of the advocates for SF telling the Chinese story. Here is reasoning regarding its role in contributing to global understanding:

> It's not easy for foreigners to understand China and the Chinese. They need to develop a dialectical understanding, see all sides, just as we appreciate the 'yin' and the 'yang.' I hope to prevent tragedy in China, and in the world, with my writing. I don't think humans have rid themselves of their innate evil. It's just suppressed by technology. If there is a spark of chaos, the worst will happen. That goes for all people, whether

Chinese or Western. We should keep thinking back to why terrible things have happened in history and not allow those things to happen again.

(Zhao 2011, p. 39)

Then there is Hao Jingfang whose short story *Folding Beijing* had won the Hugo Award for Best Novelette in 2016, the first Chinese to do so. The text tells the story of a Beijing separated into three different parts, with a hierarchical society sharing the same place, but not the same timeframes. A Hermes-like figure passes through all three layers in order to deliver a message of love. While at first sight a fantasy story, it also speaks to overcrowding, estrangement between different parts of society and a nostalgia for a more homogenous one. Her latest text in English is *Vagabonds* (2020), a vast story that tells of the population of Mars and its challenge to earth's hegemony. Its main protagonists are Luo Ying, an eighteen-year-old girl from Mars but living on Earth for over five years, and filmmaker Ignacio, who documents the life of the Martian delegation on Earth. Issues include the feeling of not being at home in a strange world, the suspicions the others arouse and an overwhelming search for happiness.

There is also the already mentioned Ken Liu, who single-handedly made Chinese SF popular in the West with his many translations of key texts. He also coined the neologism "Silkpunk" in relation to his own *Dandelion* (starting in 2015, with four books published so far in the series by 2022). "Silkpunk", he says, "is technology and poetics. It is engineering and language", and thereby more organic than steampunk.[14]

Chen Quifan, has already been mentioned above in regard to his novel *The Waste Tide*, and he is also a SF theoretician. In a recent discussion, Chen maintains that his chosen medium gives him a degree of freedom. He points out that the most popular film made about Beijing's pollution problem, a documentary called *Under the Dome*, disappeared four days after its release early in 2015. "But if I write something in science fiction", he says, "it's fiction. It's an imaginary narrative".[15] The success of his *Waste Tide* clearly shows how true these words are. Risks of not being able to publish is part of being a writer in China, and good writers always walk on a knife's edge, as new directives might target just their very topic. But it would seem that the quality of the work is increasingly playing a role, and its acceptance outside of China.

Particularly strong pieces from the anthologies include, besides the already mentioned Folding Beijing, in the 2017 Invisible Planets anthology. Then there is "The City of Silence" by Ma Boyong (1980-) in the same anthology, a story that underwent serval edits to be allowed to be published. Its story revolves around the creation of white lists of admissible words to be used in communication by a remote administration, a list that is getting ever smaller. Ma here worries about the changing linguistic regimes making it hard for writers to know what to publish. Other stories in the anthology include drones being used for surveillance and brainwave monitoring at work to increase productivity. However, it is important not to read these stories s explicit political commentary only, which some of them indeed are meant to be.

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[14]. In Manusos, 2021.

[15]. In Kuhn, 2015.

Ken Liu states: "We do the works a disservice," he writes, "when we focus on geopolitics alone." And Chen Quifan would agree, "There are universal feelings in science fiction, across all different cultural backgrounds", he writes. Chen has readers on several continents who email him to say that his stories about anxiety, social divisions and pollution are as resonant in the American Midwest as they are in Guangdong. Ma Boyong's other influential story is *The Great Migration* (2021), anthologised in *Sinopticon*. It tells the story of trying to leave Mars during the biannual migration from Mars to Earth. Informed by Ma's experience on a bus during the annual Chunyun (春运) Spring Festival migration in China, the largest travel migration in the world. Although transported to Mars for every Chinese reader it is a strong reminder of their own journeys during that time of year and a good example of how earthly cultural narratives can be successfully transposed into the cosmos, easily and skilfully transcending politics.

Lastly, one other new voice should also find mention here, that of Li Jun (李峻; 1980-), pen name Baoshu (宝树). He has won six Nebula and three galaxy awards and has become one of the most revered SF writers in China. He is most famous for penning *The Redemption of Time* which understands itself as a sequel to Liu Cixin's *Death's End*.

Sinofuturism

Many of the more recent texts, including some of the ones mentioned above, are classified under the Sinofuturism label and its sub-genre specification, Silkpunk. As helpful as this label has become to promote recent Chinese SF, Sinofuturism is contested terrain. Having originally been coined and constructed by Lawrence Lek in his seminal 2016 film by the same name, it has now gone on to describe this whole and popular movement. Its famous definition in Lek's film reads as follows:

> Sinofuturism is an invisible movement. A spectre already embedded into a trillion industrial products, a billion individuals, and a million veiled narratives. It is a movement, not based on individuals, but on multiple overlapping flows. Flows of populations, of products, and of processes. Because Sinofuturism has arisen without conscious intention or authorship, it is often mistaken for contemporary China. But it is not. It is a science fiction that already exists.
>
> (Lawrence Lek, *Sinofuturism*, 2016)

However, there are a number of practitioners and theorists who also see the need to deconstruct this term. Thus, in 2020, *SFRA Review* published a special issue, which was edited by Virginia L. Conn and who would insist in its pages that the term needs to be taken with a larger grain of salt than is the case right now. In her introduction, she tries to compare Sinofuturism negatively from Afrofuturism when she writes, "Sinofuturism differs from theorizations such as Afrofuturism (to which it is often compared) through its application to, not development from, the subjects it takes as object." This is certainly an important point and speaks to the worry that, as a popular label, Sinofuturism might become easily co-optable. However, one might point out that the label of Afrofuturism was also a label that had been created from the outside of the

movement, namely by scholar Mark Dery in 1984, which was then applied to a growing body of works and accepted by many, if not most of its practitioners. One might rightly claim that it was the label that allowed the genre to flourish. While we might and should question the creation of such labels, they can also be helpful in establishing new fields of engagement, giving voice to the subaltern and those who did not have a voice before.

Dino Ge Zhang's intervention, in the same issue, is also useful as it proposes a more nuanced look at Sinofuturism. He proposes to redesign the term Sinofuturism into "Sino-no-futurism", closer to the no-future dictum of 1970s UK punks than the supposedly bright future promised by China's high tech corporate advertisements. For Sinofuturism, it is therefore a case of ontogenesis following phylogenesis, as in SF history a broadly utopic discourse also preceded a dystopic one. Zhang furthermore states that this interest in the "immiscible condition of a Sinofuture itself as seen from the not so glitzy urban-rural fringe" (Zhang 2020, p. 177) , an alternative to both the skylines and the undersides of Shanghai or Shenzhen as described by the "waste people" on Silicon Isle in Chen Qiufan's *Waste Tide*, with its the fictional island supposed to be located just off of Shenzhen in the South China Sea, and reminiscent of J. G. Ballard's Crash (1973) thematisation of the M25 circumference of London or various novels of the future sprawl between Boston and Washington DC (cf. William Gibson et al.). Here again, a comparison to Afrofuturism is helpful, as many of its propagators also focus on this no-person's land between the city and the country, with the already mentioned Thompson and Okorafor arguably the best-known ones in the field.

Be that as it may, it is important to remember that the Sinofuturism movement, as flawed as it might be, has begun the welcome process of mainstreaming Chinese SF, and evidencing an ever more diverse field of narratives. Other futurism might further help to create a constellation of such interventions allowing for both immiscible and miscible futures to emerge.

Conclusion

As we have seen, the future, that undiscovered country, remains very much on the radar for many people. Especially with the continuing technologisation of society, even increasing exponentially over the last few decades, speculation about the future is and should be rife. But it is not only individuals who are interested in their futures, but corporations as well. This interest will likely lead to a professionalization of future forecasting, as demonstrated by Flechtheim's work. At times, though, such solely scientifically-based forecasting tends to narrow the projection vectors. Other less statistically-based methods of forecasting might be able to project and work through much more interesting and revolutionary futures for us, incorporating anthropological, magical, literary and technological approaches in their visions. As we have also seen, such visions are never far removed from ideologies, though, and need to be thoroughly investigated regarding their contexts and co-texts, general social environments and any "lessons" for the present. This is something increasingly happening in SF studies globally, but also locally, as we have seen in the Chinese case. At the same time, creativity or what we might call SF's "visionality" is in need of critique as well, as Reckwitz (2012) and Franklin (2022) have shown. This, however, is not reason enough to abandon the SF project

wholesale, but rather to encourage it, inclusive of its critique.[16] In that way, its windows to possible futures can remain open and their views can be enjoyed, but the social context in which it is always already embedded affords its readers the necessary questioning of its at times unacknowledged assumptions. Appadurai, clearly favoured such a model of future possibility over any technologized and merely stochastically relevant future foretelling.

Furthermore, other global SF projects, inclusive of China (and of Bollywood and Nollywood), are now being conducted which should further enhance the power of imagination directed towards the future. Examples for how this can be done are evident in Sinofuturism, but also in other settings. Thus, since 2012, Arizona State University's *Center for Science and the Imagination*, SF writers and scientists meet regularly to discuss their work and compare their methodologically different future predictions.

One other innovative project looking at near-future developments is *AI 2046 Ten Visions for our Futures*, (2021) by Kai-Fu Li (former president of Google China and author of AI Superpowers), and the already mentioned Chen Qiufan. It includes ten stories about the near future, for instance the following:

1. In San Francisco, the "job reallocation" industry emerges as deep learning AI causes widespread job displacement;
2. In Tokyo, a music fan is swept up in an immersive form of celebrity worship based on virtual reality and mixed reality;[17]
3. In Mumbai, a teenage girl rebels when AI's crunching of big data gets in the way of romance;
4. In Seoul, virtual companions with perfected natural language processing (NLP) skills offer orphaned twins new ways to connect;
5. In Munich, a rogue scientist draws on quantum computing, computer vision and other AI technologies in a revenge plot that imperils the world.

Here the fairly assured major role technology will be playing is given a central position, but social entanglements with such technologies seen (and spun out) as even more important.

In sum, then, I would claim that we should not unnecessarily abandon Marinetti's project wholesale; while it is problematic, if not in content, at least in form, its shortcomings can be turned into a critique of such projections, but are not a good reason to abandon discourse of the future altogether. It also seems important to ascertain, in opposition to Plato's well-known dictum that in his *Republic* poets would not be admitted, that it is time for writers to return to

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[16]. This is also pointed out by Paul (2017), when she remarks that Zygmunt Bauman's critique of recent SF and feelings of nostalgia for a future that never was in his *Retrotopia* and the "Fridays for Future" movement, are two diametrically opposing poles of an ongoing public debate which lays claim to the future in different ways: restoration versus change.

[17]. Cf. here Japanese Anime *Belle* (2021), about the travails of a girl becoming an idol and the case of a Japanese fictosexual man who in 2018 married a fictional, computer-synthesized pop singer hologram, who/which, it seems, isn't speaking to him anymore.

Marinetti's Sudanese nurse, but not as a privileged colonial male heir, but rather as critical reader who cherishes the power of Afrofuturism, and by extension, Sinofuturism and all the other futurisms springing up around the globe, almost all inspired by the experiences of those affected by colonialism. The call is for a de-colonialised view of the cosmos, in which humans transcend their (racist) histories, a core concept of SF, which, as we have seen, was and is not always practices still. Ultimately, and here I am siding with Friedrich Schiller ('Humans only play when they are in the fullest sense of the word human beings, and they are only fully a human being when they play'), one cannot escape the political responsibility the arts have; that way fascism lies. Equally, one cannot escape the power of play either, and this is where SF can show us the way, in a playful, yet engaging and at least aesthetically convincing projection of the future. Continuing to listen to the Chinese voices in this context will enrich this discourse immensely, as they teach us that SF trajectories are not adhering to any manifest destiny anymore. It is true, when departing for the future, we are taking our cultural and social customs with us as luggage. But when returning from that trip to the future to our (changed) present, as returnees we will have been shown ways in which to question the status quo and, possibly, imagine and change it for the better. The basis for this yearning for a Derridean *différance* still remains that ur-mystique of the future, even if today it is located in the future or in cyberspace.

Lastly, there can be no unpolitical SF. Stories are always already socially encoded and contextualised and hence political. As the examples of *The Wandering Earth* and the *Waste Tide* showed, these can be concurrent and yet diverse. Furthermore, it has at last become an accepted fact that a proper understanding of China is also in the international interest, an understanding based not on a traditional monolithic rendition of China, but rather on a multi-layered cultural one. A significant part of this understanding ought to come from forecasting/futures studies. Within this framework, SF arguably represents the most interesting, but also most revealing look at a nation's autognosis, precisely because it is presented from its future and therefore might not be past-proof, but future-proof. Those who dismiss SF as a children's genre or view it as peripheral (technical) literature do so at their own peril.

What is needed today is a localised, incarnated understanding of possible futures, combining (imagined) scientific and social developments. A multicultural anthropology of humanity via SF can aid this process, far beyond, but also inclusive of China.

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The Representation of the Anthropocene in Contemporary Chinese Science Fiction

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Abstract

Contemporary Chinese science fiction (SF) is preoccupied with the representation of the Anthropocene. Wu Ming-yi's *The Man with the Compound Eyes* (2011) and Hui Hu's *The Azure Tragedy* (2018) are stand-out examples. In light of the framework of ecocriticism, it is found that both writers challenge long-seated anthropocentric thinking and practices in their catastrophic narration of human-induced plastic pollution in the marine environment, increased extinction of species by human overharvesting, and the human-induced general destruction of nature. Both connect natural disasters to human causes and reflect on human supremacy. The futuristic imaginations enabled by the SF genre effectively unfold the slow violence humanity commits and remains oblivious to. However, the criticism offered by the two authors is compromised to some extent. Hui Hu is optimistic about the new technology in dealing with anthropogenic eco-problems, while this technological triumph appears to sidestep the possibility of finding a more sustainable and once-and-for-all solution. Wu Ming-yi implies a new ethical perspective that rejects human centrality and reestablishes the human-nature relationship. On the other hand, he overlooks intra-human inequality in causing and forcing people to experience the eco-catastrophes. This article contributes to a new understanding of contemporary Chinese Anthropocene SF from an ecocritical perspective.

Keywords: Chinese science fiction, ecocriticism, Anthropocene

This article explores how contemporary Chinese writers use rich science fiction (SF) techniques, such as imaginative capacities, to enable various thought experiments in regard to the *Anthropocene* and reimage non-binary, ecologically equal, and sustainable futures. The term Anthropocene was put forward by Paul J. Crutzen in 2000 and is described in detail in his *Geology of Mankind* in 2002. It illuminates the current geological epoch, in which the human species has become a central geological force in altering the Earth's system (Crutzen, 2002; Ehlers & Krafft, 2006; Trexler, 2015; Waters et al., 2015). Although there are doubts about whether there is such a brand-new geological epoch as the Anthropocene, it comes as an important SF concept – Anthropocentrism[1] and SF subcategory – Anthropocene science fiction.

The Man with the Compound Eyes (Fuyan ren 复眼人, 2011) by Wu Ming-yi[2] and *The Azure Tragedy* (Guti Haiyang 固体海洋, 2018) by Hui Hu are two Anthropocene SF novels that deal explicitly with human damage to the nonhuman environment and project rich ecological consciousnesses. They provide science fictional representations of eco-catastrophic futures ravaged by climate change, marine plastic waste pollution, overharvesting of species, and destruction of nature, and imagine different kinds of solutions to deal with these problems. I will examine these two texts through an ecocritical lens. Ecocriticism is a vibrant, dynamic, interdisciplinary field of interrogating and redefining what counts as nature and its relationship with humanity (Buell, 2005; Glotfelty, 1996; Rangarajan, 2018; Slovic et al., 2019). Generally, it revises the human-nature demarcation and establishes a relational and reciprocal worldview, suggesting an epistemological and ontological shift from anthropocentrism to post-anthropocentrism[3]. This research will offer a close reading of the major ecocritical concerns and possible solutions offered by Wu Ming-yi and Hui Hu in their representation of the Anthropocene. Interestingly, China is believed to have contributed little Anthropocene fiction in Milner and Burgmann's Anthropocene-fiction world system (2020). This research is thereby of great significance in bringing Chinese understanding of the Anthropocene, the human-nature relationship, different from a Euro-centric perspective, and adding to the discussion of Chinese ecology-themed SF in relation to world literature.

Marine Plastic Pollution & the Anthropocene

The Man with the Compound Eyes and *The Azure Tragedy* address the real-world issue of marine plastic pollution, which has been considered a significant environmental scourge in recent decades. Today, over 300 million metric tons (MMT) of toxic waste are produced annually, of which less than 20 percent is being reused, reprocessed, and recycled worldwide

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[1] Derived from the Anthropocene, anthropocentrism points to human exceptionalism and supremacy. It sees humanity standing above all the Earth's creatures with the power to impose its own will upon them without limitations as an explanatory force for the Anthropocene.

[2] *The Man with the Compound Eyes* was first published in Taiwan in 2011, then circulated in mainland China in 2013, with the English translation by Darryl Sterk published the following year.

[3] Ecocritical discourses in China have boomed since they were introduced in the 1990s. Some Chinese ecocritics translate and interpret the Anglo-American ecological theories and literature, and others argue for the legitimacy of traditional Chinese eco-philosophies and wisdom (Cheng, 2019; Thornber, 2016).

(Letcher, 2020). Most plastics are transported downstream to the aquatic environment (Welden, 2020). Marine plastic pollution has increased tenfold since 1980, constituting 85 percent of marine debris (UNEP, 2021). Since the degradation rate for plastic is estimated to be between several hundred and a thousand years, plastic accumulates throughout the world's oceans and causes severe ecological impacts, such as contamination, entanglement, and ingestion (Welden, 2020). In addition, microplastic, defined as particles smaller than five mm in size, accounts for 92 percent of global marine plastics (Forrest & Hindell, 2018; Welden & Lusher, 2020). Due to its small size, it is accessible to a wide range of organisms and poses more serious ecological threats. The plastic deposits in deep ocean sediments and the rock record have been observed (Ross, 2018); therefore, "Plastisphere" emerged as a key geological indicator, or to say, as an important Anthropocene marker that man-made materials remain preserved over geological timescales (Amaral-Zettler et al., 2015, p. 541). This section will focus on how the texts represent and respond to the anthropogenic (micro)plastic waste problem.

Ethical Reorientation

The Man with the Compound Eyes starts from the story of Atile'i. He comes from a remote island called Wayo Wayo. People on this island lack fresh water and occasionally lack food. Regardless of the rough living conditions, they appreciate, trust, worship, and rely on nature. Legendarily, their forebears lived deep in the ocean. As the cleverest race, they kept reproducing, feeding, migrating, and expanding their tribe without restraint to satisfy themselves. Finally, Kabang (the God) was furious and isolated them in Wayo Wayo. The members must never leave the trees on the island. As each family could only have one man-child, Atile'i, as the second son, has to row away on the hundred-and-eightieth full moon following his birth (Wu, 2013b, p. 165). He is beached on another "island." Atile'i has no idea about the items on this island, such as plastic bags and bottles, pens, and books. He gives the island a name, Gesi Gesi. In fact, Gesi Gesi is the world's largest floating trash dump, with eighty percent of the trash dumped into the ocean by Pacific Rim nations. It is large enough to be called the Plastic Continent (Wu, 2013b, p. 121). This heap of trash keeps drifting until it arrives at the shore of Taiwan.

Wu Ming-yi does not offer an easy way out for plastic waste management. In the novel, it is nearly impossible to skim the trash, and even if it is possible to sweep it up, where to bury the waste is another problem. Taiwan's incinerators, landfills, and trash-sorting facilities do not have enough capacity to digest the garbage. Neither can it be addressed scientifically or politically. All those things people tossed out, assuming the tide would take them away and the ocean would digest them, are now slowly floating back (Wu, 2013b, p. 115). Wu calmly narrates the eco-catastrophe caused by anthropogenic waste. At first, the Trash Vortex appears in the news. However, people even miss the moment when it reaches the shore because the sudden hailstorm preoccupies the public attention. Throughout the story until the very end, the scene repeats itself: The cleanup crew works on the coast, piece by piece, picking up the trash. This way of narration may not impress readers as shocking as in Hollywood-styled disaster movies, but day-by-day destruction seems more powerful, devastating, urging, and satirical. It is a narration of "slow violence," in Nixon's term, the slowly unfolding catastrophes occur

gradually and out of sight (2011, p. 2). At present, the catastrophe is caused by plastic waste, but next time, it could be global warming, acidified oceans, or landslides. As the writer implies, Taiwan has experienced climate change in the form of rising sea levels, sudden hailstorms, and waves. But what people did was just move uphill. In this case, Wu highlights the tension between the human-induced destruction of nature and the failed obligation to act in the Anthropocene. Human beings account for the detrimental effects on natural landscapes, and their oblivious and inactive attitude exacerbates such effects so that slow violence occurs.

Possible solutions offered by the author are avoiding unnecessary waste, changing lifestyles at the individual level, and keeping the human population growth under control. The writer critiques hyper-consumption in modern society as "people pursue whatever is popular, not because it is significant but because it is the latest fashion" (Wu, 2013b, p. 193). Sara, an environmentalist in the novel, expresses her concern about this crazed pursuit of the new among people. She believes, "as long as the human population stops growing, and we change our way of life, there'll be no need to extract methane ice" (Wu, 2013b, p. 193) and "if everyone lived the way you and I do we'd need three earths" (Wu, 2013b, p. 192). This envisioning has actually already been realized in the novel: the ecological utopia of Wayo Wayo. They neither exhaust natural resources nor produce waste. Wayo Wayo is an allegory. If modern people keep reproducing, feeding, migrating, and expanding their territory without restraint to satisfy themselves, they will end up like Wayo Wayo, receiving revenge from nature. Nature will become unpredictable, capricious, and beyond people's influence and control. In his words, "The sea once gave, now it will take" (Wu, 2013b, p. 161). Wu Ming-yi's solutions echo what Western environmentalists have proposed, the idea of a "deep ecology."

Deep ecology, a term first coined by the Norwegian philosopher Arne Naess (1972), calls for a kind of *biocentrism*, a return to a time when humans lived in harmony with nature and within the limits of the land's carrying capacity. Deep ecology was one of the main arguments in the first wave of ecocriticism. Like other deep ecologists, such as Dave Foreman, the organizer of "Earth First!" (Bookchin & Foreman, 1991, p. 14), Wu Ming-yi also suggests limiting population expansion or changing lifestyle to prioritize the Earth's sustainability. However, although such a biocentric or Earth-centered ethical perspective might be relevant in taking away some ecological pressure, it overlooks the intra-human inequality in causing environmental degradation and experiencing the environmental consequences. In the novel, humanity, as a single actor, is responsible for the Plastisphere catastrophe. However, as Nixon (2017) indicates, humanity may constitute a singular actor of earth-altering power, but it is not a unitary one. The novel hides the differentiated degree to which an individual, a social group, or a nation contributes toward this catastrophe.

In fact, since 1992 nearly half of the global plastics have been destined for China (Barnes, 2019), with an estimated 95 percent of EU and 70 percent of US plastics destined for it (Katz, 2019; Law et al., 2020). Besides China, developing Pacific Rim countries such as Thailand, Vietnam, and Malaysia were also key recipients of plastic waste in the global waste trade network (Liu et al., 2023). The ecological consequences of plastic waste are disproportionately distributed. The low- and middle-income nations in East Asia and the Pacific are the major

victims who have imported 75 percent of all plastic waste (Brooks et al., 2018). The science fictional representation of Taiwan choking on waste in *The Man with the Compound Eyes* realistically manifests the end result of the global dumping of plastic waste, but it seemingly overshadows the complexity of this problem. It does not mention the global injustice that the producer of plastic waste in developed countries, with their more robust waste management infrastructure, export their ecological footprint to developing countries to scar their air, land, ocean, and people, in contrast to massive low incomers almost invisible to the world. Therefore, the biocentric solution, as Wu Ming-yi suggests, fails to address the waste problem systemically and would sustain colonial violence against the ecological poor.

Technological Triumph

Hui Hu presents a breathtaking eco-calamity in *The Azure Tragedy*. Millions of metric tons of plastic waste flow into the sea every year and end up together because of the Pacific Ocean vortex. It forms an island of more than 500 square kilometers, known as "the Eighth Continent," created by humans. Plastic pollution has ruined the coastal aquaculture and fishing industry. Numerous marine life is damaged, infected, or even smothered by it. For example, "seals are harmed by plastic, and the debris is embedded in the seal's skin, remaining in the seal's body as the wound heals" (Hui, 2018, p. 4). The criticism of the toxicity of anthropogenic plastic waste is made more salient by the writer's representation of microplastic contamination and ingestion. He imagines an unknown kind of microbe in the polluted sea, rivers, and underground water that can attach to biological life forms. It can dissolve microplastic debris and reshape a delicate three-dimensional plastic grid in their brains and bodies (Hui, 2018). The grid structure is persistent and strangely colored, primarily translucent and interspersed with reds, greens, or blues. Many newborn babies infected by the microbes are born with a throne spur instead of a spine, with the back left open and the flesh turned outwards. However, adults can mostly function well without noticing the difference (Hui, 2018). As with Wu Ming-yi, Hui Hu also highlights humanity's oblivion of day-by-day changes in the ecosystem. The microbial invasion remains unnoticed until a polar bear who carries cancer transmogrified the situation. Plastics, microbes, organisms, and cancer cells work together and form a symbiont, which keeps expanding by taking in more plastics and biological organisms as nutrients[4].

Unlike Wu Ming-yi, Hui is reliant on technological intervention to solve the plastic waste problem. The symbiont is, in the end, eliminated by JM2417. It is a gene-engineered green plant developed by scientist Li Shili that can degrade plastics. At first, JM2417 is too small to fight against the monstrous symbiont. Fortunately, Li has another design, a 3D printer that could suck in plastic wastes and turn them into fiber bundles. The energy source is solar. He

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[4] I borrow the term "symbiont" from posthuman feminist Donna J. Haraway as the translation of 共生体 (gong sheng ti) in *The Azure Tragedy*. In her 1995 paper, "Cyborgs and Symbionts: Living Together in the New World Order," Haraway's concept of symbionts emphasizes the hybridity, plurality, and boundary-breaking between human and nonhuman entities. It is true of the symbiont imagined by Hui Hu not belonging to a single category of animal, plant, fungus, bacteria, or mineral but constituting a blurring, trans-species entity, challenging what has traditionally been posited as opposites: human and nonhumans, the organic and the inorganic; the collapse of such distinctions makes it possible to deconstruct what once counted as normal and natural, the difference, hierarchy, thence inclusion and exclusion.

puts it somewhere in the Pacific Ocean several years ago. It takes in and processes plastic waste from "the Eighth Continent." When the plastic bundles are found, they are like a massive carpet floating on the ocean. This carpet is strong enough to support a helicopter to land. It has another name, "Light Island". JM2417 absorbs the Light Island and grows immediately. It soon degrades the plastic mesh structure inside the symbiont. Furthermore, it takes JM2417 only three days to remove all the plastics in Japan. Ten days later, it reaches Korea and China within twenty-three days (Hui, 2018, p. 387). JM2417 ultimately eliminates all plastics in the Pacific Rim nations, including Australia, the United States, Chile, and other coastal countries.

Hui Hu's novel suggests technological optimism. With a series of new scientific breakthroughs, there is no need to worry about toxic plastic anymore. It is a humanistic testimony to the fertility of the contriving human mind that humanity will find his way out for natural or man-made disasters. The environmental effects of anthropogenic plastic waste are reduced to a defeated monster. The problem can be solved by green biotechnology once and for all. However, this literary strategy simplifies the Anthropocene. As Zhang (2017) points out, the engineering projects not only absolve people of guilt, but they also celebrate the acts of consumption and consequent waste, "optimistic modernism," where all social challenges can be defeated by clever engineering (p. 81). The impact of waste pollution could lead to the breakdown of the global economy or political uneasiness. However, the setting generates a sense of hopefulness: plastic pollution is still manageable and solvable, and the technology will save humanity. As a result of the fetish of technological salvation, human greed might be aggravated. People will keep on consuming resources and producing waste at a high rate. As the novel indicates, in the end, the waste disposal problem is worsening because people have nothing to worry about because of the technology of green plants.

To summarize this section, Wu Ming-yi and Hui Hu use the case of (micro)plastic waste pollution issue to map out slowly unfolding, real-world violence. It is diagnosed as one of the symptoms of the Anthropocene. The two writers use the SF devices of exaggeration, and dystopia to scale up the disturbance among readers, warn them, and call for action from them to end it. Their imagination of the trash dumps makes sense of the Anthropocene by redefining nature. The assumptions of "a certain set of human ideas" about nature, no matter "as a green and pleasant space that was always there *outside* culture" (Phillips, 1996, p. 215) or as a vulgar, untamed, primitive wilderness untouched by human activities (Alaimo, 2016), seem irrelevant in *The Man with the Compound Eyes* and *The Azure Tragedy*. Their representation of nature is inseparable from the human footprint. The natural world is disrupted by anthropogenic plastic waste. The land is represented as a site of contaminated plastic waste, and the sea as a plastic waste receptacle (Deitering, 1996). Nature is redefined in a way that is instead *inside* culture. It is denatured, deformed, and manipulated by human effort. The redefinition of the nature-culture relationship makes the two novels richly ecocritical. They push forward a shifting understanding in epistemology based on a reciprocal relationship between human beings and nature and reconfigure an ontological change that the world is relational and entangled.

The critique of the Anthropocene offered by the two authors, nevertheless, seems less cogent. In particular, stories like *The Azure Tragedy*, to a large extent, are limited to typical Sf-

scenarios. They direct readers to look away from the human-induced problems but tell and comfort them about how humans are clever and will create a technological miracle that will safely and magically solve their problems. These stories are attractive because they offer the chance to forget what came before, to absolve humans of their environmentally damaging history, or at least shield humans from it with technological advances. They, therefore, fail to motivate readers to act upon anthropogenic problems and reestablish human-nature relationships as much as the writers have hoped for due to the fact that technology may offer a possible solution to ecological issues, but it alone cannot promise a sustainable future.

On the other hand, Wu Ming-yi is aware of the destructive power of technology and the technology's ally with humanity in the age of the Anthropocene. Just to name another example, he ironically narrates that human beings build the world's biggest TBM (tunnel boring machine) to bore through the "heart" of a mountain for the purpose of saving an hour to get from one place to another (Wu, 2013b, p. 196). Going around the mountain is one lifestyle while going through it is another. The writer considers that modern individuals are comfortable taking a shortcut or making lifestyle choices for their own benefit, as Visvader (2019) put it succinctly, an attitude made even more problematic by the fact that human beings are increasingly able to decide the fate of the planet and other creatures as technology continues to develop. Wu's technological outlook is based on technology as deleterious and disruptive. People use it to create new kinds of things without considering the consequences to earthly others because they choose to pursue human life in a particular manner. The ethical reorientation to prioritizing nature suggested by Wu Ming-yi indeed helps solve technology-accelerated anthropogenic problems, but it conceals the disparate distribution and exposure to natural disasters in the world of the Anthropocene, that not all people are equally responsible for the disasters, and that not all people are affected equally.

Whaling & Anthropocentrism

This section will focus on the depiction of whaling in *The Man with the Compound Eyes* and *The Azure Tragedy*. Both novels offer a strong critique of anthropocentrism through their narration of whaling. In *The Man with the Compound Eyes*, Sara's father, Amundsen, insists on hunting only one whale a year (Wu, 2013a). Whaling used to be essential for the Scandinavian cultures, even being a stand-in for individual heroism and masculinity. Amundsen usually selects the "titanic adversaries" (great whales) to uphold his modest pride as a Norwegian fisherman. He hunts with a traditional harpoon, not a whale gun or a bomb lance. It is the struggle for survival playing out, putting his life on the line in exchange for the whale's life. For Amundsen, this is a fair competition. Whales have the chance to take his life or die by his hand, at least with dignity. "All life must feel pain in the face of death. To live without pain is to live without dignity," says Amundsen (Wu, 2013b, p. 226). He continues whaling for many years despite condemnation suffered from anti-whaling protestors. He firmly believes that hunting in moderation would not cause any species to disappear.

The way Canadians hunt seals in Labrador, completely changes Amundsen's mind. Hunters use a weapon called *hakapik*, which is about the length of a baseball bat but has a hook

attachment on one end (Wu, 2013b). Seals usually take quite a few hits, bleeding, screaming, and cowering. Injured seals are dragged over to the boat with the hook, and they are skinned right there on the boat because it is quicker to peel the skin off when seals are still alive. "The skin was slowly peeled off, just like removing a pair of too-tight jeans" (Wu, 2013b, p. 229). From Amundsen's perspective, a cruel, bloody, inhumane process of sealing is taking place. Even a man as cold and tough as him, who is long accustomed to slaughter, he is still shocked by this sight. He sells his boat the same year after he witnesses the seal hunting and joins an international organization opposed to the slaughter of seals. Later, Amundsen takes part in the anti-sealing movement in Canada and commercial whaling protests in Norway, completely relinquishing his former identity as a whale hunter.

It dawned on Amundsen that "men who had to hunt for food did not have hearts of stone, they were full of gratitude towards the hunted animals" (Wu, 2013b, p. 230). Those seal hunters, who have to kill to make a living, kill for profit with no sympathy. Especially the corporate bosses, "counting their cash in comfy chairs in nice, heated rooms, they never appear on the boat or the ice, and their hearts never bleed" (Wu, 2013b, p. 231). The writer questions "corporate greed" (Buell, 1998, p. 651), a process of profit-driven marketization and consumer capitalism. In the novel, corporations make a profit out of extracting marine resources regardless of the consequences. They do not care that the exploitation of methane ice mining could alter fragile landforms and microclimates or that hunting whales and seals could bring them to extinction. Whalers take only the thickest strips of blubber and toss the rest, and then there came a day when there are not many whales left in the sea. It might happen to seals. Their penis is the only worthy thing. Many Asian men eat it to "acquire" the sex drive of a seal. "Even if people could never kill the last whale or seal, even if there were always another, we should only take what we need to live and no more" (Wu, 2013b, p. 231). It is not about the survival of a species but about why people are never satisfied with what they have and why they always take a bit more. From here, the increased extinction of species is squarely put on humanity. The hunting of whales and seals is viewed as morally unjustified greed and a by-product of consumerist culture. The writer challenges that long-held beliefs that natural resources are inexhaustible, that one catch does not seriously make a difference and that the richness of the sea can easily sustain extensive hunting, or. Instead, all actors have a role in bringing about transformative change, starting from taking a little bit less.

In *the Azure Tragedy*, whaling is depicted through the storyline of Watanabe Yu.[5] The Japanese whalers first disguise themselves as fishermen and then change their fishing vessel for ship a three times bigger on the high seas, and finally go to the site for whaling to avoid the international protest. From Yu's perspective, whales and dolphins are not hunted merely as a source of food. Only a small amount is kept on the ship, while a larger amount is thrown back into the sea. They kill for the sake of tradition, sacrifices, rituals, or to satisfy the cruel nature of the people (Hui, 2018, p. 78). Like in Scandinavian culture, whaling forms an important

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[5] In the *Azure Tragedy*, Hui Hu sets up four storylines. They revolve around the diseased polar bear, Watanabe Yu, the scientist Li Shili, and the animal protectionist Ralph, respectively. Watanabe Yu is from the town of Haize (literally meaning the town by the grace of the sea) in Japan and graduated from the Department of Marine Biology – the storyline around Yu is about how he joins his family in sea fishing to expose their illegal fishing.

aspect of Japanese identity. It implies a way of life and is the foundation of culture. Both writers reflect on whalers' biased view that whales, as meat, as symbols, and as natural resources, are created only for people to harvest. Marine mammals such as whales, seals, and dolphins symbolize nature. The capture of those animals metaphorically means human subjugation to nature. The instrumentalization and exploitation of nature are long seated in an anthropocentrism that sets humans apart from and above earthly others. The reflection on Anthropocentrism is even more prevalent in the following statements in *The Man with the Compound Eyes*:

"You think that flowers bloom in colorful profusion just to please your eyes. That a wild boar exists just to provide meat for your table. That a fish takes the bait just for your sake. That only you can mourn. That a stone falling into a gorge is of no significance. That a sambar deer, its head bent low to sip at a creek, is not a revelation ... When in fact the nest movement of any organism represents a change in an ecosystem."

(Wu, 2013b, p. 271)

Wu Ming-yi breaks down the dualism and hierarchy of subject-object, taking away human centrality by viewing nonhuman nature as material and agentic. He challenges the otherness of nature perpetuated in anthropocentric traditions. The existence of other forms of life, both biological and non-biological, is not for the purpose of fulfilling human appreciation, consumption, or development. Such post-anthropocentric thinking is more self-evident in the writer's characterization of the mysterious man with compound eyes. His eyes are closely focused. The scene in every tiny ommatidium that composes each compound eye changes from moment to moment in hallucinatory permutations and combinations. It could be "an erupting undersea volcano, might be a falcon's-eye view of a landscape, perhaps just a leaf about to fall" (Wu, 2013b, p. 266). From the perspective of the man with compound eyes, human beings are no longer transcendental and exceptional. They are just a part of an intimately interconnected ecosystem instead of the dominating force and become the object of the nonhuman gaze in the fictional world. Not just human beings have a voice. Other biological and non-biological life forms on Earth all have their own distinctive sounds, which are always ignored under Anthropocentrism. Wind over the water, waves crashing against the rocks, fish jumping and slapping the surface sound differently from rock colliding or from the wind blowing through its branches (Wu, 2013b, pp. 200-201). Wu poetically imagines a more-than-human world. This world is inclusive and inseparable. By attending to nonhuman perspectives, his writing evokes a renewed ethics based on coexistence and democratic conversation of all living and nonliving forms, moving from a human and anthropocentric point of view to a nonhuman and post-anthropocentric point of view.

Similarly, the portrait of the symbiont in *The Azure Tragedy* creates a novel context that allows for the mutual contamination of different forms of life. Rather than pitching human species against the nonhuman ones, the symbiont involves all forms of life, whether organic or inorganic, which are implicated with each other, thus fostering a sense of universalism and interdependence in which inferiority/superiority and exclusion/inclusion are spurious and no longer applicable. In short, the blurring and meshing of distinct opposites in the symbiont and

the mysterious character of the man with the compound eyes demonstrate a sort of biocentric "species thinking," in which humankind is repositioned as a species, *homo sapiens*, or as an *anthropos* without centrism. They manifest the writers' rejection of the inherent human superiority in favor of a humbler status – "a species among millions of other beautiful, terrible, fascinating, and signifying forms" (Manes, 1996, p. 26). The dethroning of humans and the recreation of a connection with nature make it possible for the authors to put the more-than-human subjects, such as wild animals, trees, viruses, and all naturalized others, in the foreground and attend to their voices, thus offering possible solutions to the looming crises facing humanity in the age of the Anthropocene.

Conclusion

The Man with the Compound Eyes and *The Azure Tragedy* show a growing awareness of the Anthropocene among Chinese SF writers and evidence a Chinese understanding of the Anthropocene, which is in concert with contemporary ecocritical discourses. Wu Ming-yi and Hui Hu strategically adopt the genre of SF to represent this Anthropocene with its slowly unfolding violence that might extend a millennium into the future, thus keeping it out of contemporary society's sight. The examples they choose, the accumulation of plastic waste bringing about a microbial pandemic or the killing of a single whale to catalyze species extinction, visualizes this through the imaginative lens of the SF. In particular, they make sense of the Anthropocene by redefining nature and human-nonhuman relationships. First, nature is portrayed as inseparable from human culture. Put differently, ecological calamity is inseparable from human societal collapse. From marine plastic pollution to more extreme weather events and the increased extinction of species, they are caused by human interface with nature and a series of interlocked failures in human societies, such as deeply rooted anthropocentrism, unchecked technological triumph, and rampant profit-driven consumer capitalism.

Second, both novels question human instrumentalization and exploitation of nonhuman others in long-seated anthropocentrism. In *The Man with the Compound Eyes* and *The Azure Tragedy*, whales or seals, as a species, are set apart from human beings and taken for granted for human harvesting. They are reduced to humankind's private property. In response, *The Man with the Compound Eyes* is a literary experiment of reconstructing human and nonhuman relationships, imagining an alternative mode of life and form of ethics in which human beings harmoniously coexist with the more-than-human world and unlearn human supremacy. It challenges the culture-nature, subject-object, and knower-known dichotomies. Nature and nonhuman others, including garbage and mountains, are no longer peripheral. The Earthly Other is revitalized as agentic, sentient, and powerful beings that have an impact on humans. The bio-symbiont characterization in *The Azure Tragedy* also signifies the essential interrelatedness of all things, either organic or inorganic. Humans, who used to be set apart from and supposedly transcended the rest of the species, are now part of the dynamic, relational net of the socio-ecosystem.

Although *The Man with the Compound Eyes* and *The Azure Tragedy* offer potent ecocriticism of the Anthropocene and anthropocentrism, their criticism appears diluted. Hui Hu provides an easy way out for plastic emergencies with the green biotechnological imagination. The

technological triumph would sidestep the possibility of finding a more sustainable and once-and-for-all solution. Instead of seeking help from future technology, Wu Ming-yi radically reflects on humanity in the face of the planetary threat, including human greed and supremacy, commodity fetishism, the throwaway culture, and extractivism[6] in human society. The ethical reorientation of humanity as homo sapiens (nothing but just a species) and its relationship with the material world in his critique of anthropocentrism is indeed valid. However, the unequal human impacts and unequal vulnerability are left out in Wu's storytelling of the Anthropocene. The writer does not acknowledge the intra-human inequalities and global injustices that cause environmental degradation and bear ecological consequences. His idea of limiting population growth is privileged to certain individuals, social groups, and nations (most likely the middle and upper class and/or the developed countries/regions).

In short, although both novels offer genuine ecocriticism of the age of the Anthropocene, either inward reflection or self-criticism of human beings in *The Man with the Compound Eyes* or optimistic technological intervention in *The Azure Tragedy* appears to fail to incorporate sophisticated economic and political imaginations that involve new production modes and organizations. Their solutions to ecological issues stay at the cultural level (individual action) and leave institutional and systemic injustices untouched.

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[6] According to Klein, extractivism is a nonreciprocal, dominance-based relationship with the earth, one purely taking. It is the opposite of stewardship, which involves taking but also taking care that regeneration and future life continue. The extractivist frame is the reduction of life into objects for the use of others, giving them no integrity or value of their own – turning living complex ecosystems into "natural resources" (2014, p. 169)

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