

All Rivers Run into the Sea: Ecological Research Cultures Shaping Situated Convergence in International Research Collaborations at Sino-Anglophone Research Centres for Higher Education

Yiran MA

MSc in Education (Higher Education), 2024

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Acknowledgements

When climate emergences erode marvellous landscapes and vibrant creatures in our planets, when wars burn millions of our brotherhood with warm families, shining smiles, and beautiful dreams, who are as the same as us, it is the time for me to rethink the meaning of higher education: A weapon to win the war? A Utopia to construct a dream?... Or… Concepts, relationality, imaginaries, and possibilities matter!

Until one day, when I learned Professor Simon Marginson's speech, one phrase woke me up and brought me light:

'Global opening ontology!'

Born on a pre-existed planet with billions of years, human beings already used to conceptualise time as linear, and space with boundaries, which gives 'us' and 'others' sense of security and insecurity, hope and depression, community and enemies…

Before asking 'how to stop wars'? I suppose this shared linear thinking following the continuity of every generation with 'an imagined 'pre-exist' past' may already have DECEIVED humans to believe something is always 'LEGITIMATE', like some civilisations' knowledge as modernity and truth, some races' intellectual capacity as superior and progressive, some wars as determinist and necessary, and even complying some hegemony as a wisdom or virtue preserving stability. Therefore, before asking 'how to stop wars'? humans may even feel afraid that 'human beings' historical process lives by war, and humans rely on war to survive' . Some may firstly ask 'Can we live without wars?', 'Without wars, how can we live peacefully with differences?', 'No wars, no winners, no leaders, no orders, how can we split our big cake'…

Consequently, violence, competition, discrimination, alienation, stigmatisation, exploitation, extractivism, nationalism, racism, nativism, chauvinism/jingoism, superpatriotism, ethnocentrism, ethnophobia, xenophobia… SPLIT our SELVES, WORLD, and PLANET!

Humans are so accustomed to living with HATE and WARs rather than living with differences, tolerance, diversity, collaboration, and love. Can love and harmony exist for our entangled future without zero-sum competition but with positive-sum collaborations? Our destiny is entangled by the same planet, how dare we hate each other? How dare we imagine our interests with countless boundaries? It is time to rebuild our existential issues with ONTO-EPISTEMIC shift!

Hate and wars should never be legitimate as our rule of history and existence, should never be the highest wisdom of self-praiseworthy human beings, this designed blueprint with dark traps and evil barriers should never be the roadmap leading to a promising and sustainable future.

Therefore, I would like to extend my sincere thanks to Professor Simon Marginson, who enlightened me to be courageous and convincible about the necessity of global opening ontology as a common ground for the future of higher education.

Bible, Genesis 1:3-5

3 And God said, "Let there be light," and there was light.

4 God saw that the light was good, and he separated the light from the darkness.

5 God called the light "day," and the darkness he called "night." And there was evening, and there was morning—the first day.

In the darkness, I saw the light. Because of light, I know the darkness and shadows must exist. This is our co-existence, no good or bad, no superiority or inferiority. We exist because of the existence of the otherness. WE equal the OTHERNESS. Therefore, knowing others is knowing ourselves. Otherness is our own mirror of self-concept.

I feel grateful to my intellectual inspiring professors who embrace this unity-in-diversity way of thinking, who triggers my reflection, and who gives me the courage to justify the global opening ontology as lifelong visions and mission. Thank you dear Professor Simon Marginson, Xin Xu, James Robson, David Mills, Alis Oancea, and Aliya Khalid who significantly shaped my thought through fascinating classes, in-depth discussions about my research topic, and kindly shared insightful readings. It is my great honour to be empowered by your shining light of global-just knowledge. Your standpoints of embracing epistemic diversity are like a shining sun, whose light inclusively reaches all the creatures, warming every piece of the land, which is just like your enlightening academic debates open to pluralistic knowledges across time and space, and transforming we students' minds to a new world.

Throughout the research design process, I also appreciate the generous help from Professor Jo-Anne Baird's kindly shared documents about research cultures, Dr. Katherine Collins' professional participation in my pilot interview and offering feedback with her valuable experience on research-culture projects. I also thank Professor Jeremy Knox's inspiring guidance and materials on my future critical social media analysis of research collaborations' communicative networks in digital space.

Besides, I thank the generous professors at Oxford who warmly opened the doors to me when I sincerely requested to audit their 20 courses in the past three terms at the Departments of Education (classes: Comparative Approach; Philosophy of Education; Research Training Seminar; Critical Qualitative Research Method; Education and Digital World), Geography (classes: Society, Space, and Place; Anthropocene; Geographical Thought), Philosophy (classes: Philosophy of Science; Hegel and Critical Theory; Ethics; Practical Ethics; Schopenhauer; Nietzsche; Philosophy of Relationship; Indian Epistemologies; Time Travel), Economics (class: History of World Economy), English (class: Postcolonial English Literature), and Archaeology (class: Early Modern Urbanisation).

Sincerely, I would like to extend my deepest thanks to all the 21 interviewees supporting this research in your tight schedule. Your significant help and generous recognition of this research theme gave me endless power and belief in the feasibility and willingness of supportive open, inclusive, and collaborative research cultures. I feel deeply moved by the total ten-hour transcription with all your in-depth enlightenments.

Moreover, I want to thank all the cilvilisations pursuing harmony and peace. Like the *tianxia* (all under the heaven) imaginary constructs my identity as a global citizen, the Taoist harmonious relations among self, others, world, and nature shape my identity as a planetary citizen. These ways of thinking give me confidence, courage, and determination to justify the global opening ontology as my lifelong responsibility and aspiration. This dissertation is my first step to exploring an open global knowledge

system through international research collaboration. The future next step is to explore multi-epistemic-knowledge informed peacebuilding. Finally, when there are no wars in the world, humanity can collaborate on the mutual global grand challenges of climate emergencies. It is my great honour to find my lifelong rewarding visions and missions following these three dreams situated on a cultural positionality of 'building a human community with a shared future'. I am firmly convinced that as a member of this generation's scholars, I shoulder the obligation of drawing a blueprint for a better world, just like many courageous and pioneering decolonial scholars like Sharon Stein and Riyad A. Shahjahan who call on onto-epistemic shift instead of unitary Western metaphysics, as well as Prof. Simon Marginson's pursuit for opening ontology and multiplicity of knowledge. Peace, solidarity, love, harmony, collaboration, and sustainability should be the immortal and unchangeable human civilisation in the changing time rivers. We should strongly believe that the hope, possibilities, and reality for peace always exist. Just like the latest signed 'Beijing declaration' on 23 July 2024, by long-term rivals Hamas and Fatah, as well as 12 other Palestinian groups on working together for 'national unity'. China describes it as a deal to rule Gaza together once the war ends. China is turning John Lennon's *Imagine* into reality:

Imagine there's no countries. It isn't hard to do. Nothing to kill or die for…
Imagine all the people. Livin' life in peace…
You may say I'm a dreamer. But I'm not the only one
I hope someday you'll join us. And the world will be as one

Most importantly, I want to thank my beloved parents. Your love transcends time and space, giving me the power to 'Learn to change the world'. Thank you my dear dad for generously supporting my mind, growth, and study with your endless love, trust, and encouragement. You taught me the most rewarding lesson in life: (1) be true to my heart (2) be independent in my mind (3) be strong and transactional to storms like temporarily changing weather. Look inward. Look forward. Look high. Look broad. You and mum create a lifelong happy childhood, a wonderland where I can live in forever. I love my pure, fearless, kind childish shining eyes that are protected by you.

This is the magic of education.

Just like the song 'Remember Me' in the film Coco, my beloved mum, I believe you would know and be proud that your daughter is determined to grow up to be a kind person with great dreams of making our world better with peace and love. She is now pursuing her lifelong dreams in a magical place where a thousand years of scholars critically, reflexively, and bravely fight for justice, dignity, and freedom of human civilisation. She is never alone since her professors and friends all dream of changing the world. Dear mum, the sunshine, bloom, ocean that we have spent time together shaped my mind of positivity, empathy, and openness. I remember. I am burning this hopeful and courageous fire in my heart to live every minute with you, to continue our metaphysical connection, to live your spirits alive by making our world better through education. I will carry on your spirits to brighten up future generations' dreams and hope our spirits and power will shape and live in a peaceful and solidary world for endless time.

Love never dies. Love lights life alive.

All Rivers Run into the Sea:

Ecological Research Cultures Shaping Situated Convergence in International Research Collaborations at Sino-Anglophone Research Centres for Higher Education

Abstract

In the 1990s, the prevalence of information technology and globalisation constructed an emerging multi-polar landscape of the global science system, shifting from the Anglo-American dominated centre-periphery model. With intensifying globalisation, the purpose of research at universities tends to serve the neoliberal research assessment framework with short-term impact as the economisation of research. Individual researchers strive and survive in a research culture of competition rather than collaboration. Against the background of turbulent geopolitical changes, there is an intensifying stalemate between nation-states' neoliberal-conditioned science systems and global collaborative networks rooted in researchers' autonomous agency.

This cross-cultural comparative study explores research cultures in international research collaborations at four research centres for higher education, in the United Kingdom, the United States, Hong Kong, and mainland China. The study uses sequential mixed methods, involving bibliometric network analysis of the four research centres' co-authorship publications and semi-structured in-depth interviews of twenty-one early-career researchers at the four research centres. The study aims to enrich practical strategies and critical conceptualisation of ecological research cultures for international research collaborations following 'all rivers run into the sea' (*hai na bai chuan)* epistemology as situated convergence. Openness, equality, and inclusivity as a level common ground of embracing heterogeneous bodies of knowledges for global common goods are interpreted through two interconnected clues, involving the water-cycle systems thinking of reciprocity in international research collaborations and Taoist philosophy of water's supreme goodness as human nature aligns with ethical-oriented ecological research cultures shaping situated convergence by scholars' autonomous morality. By contrast, hegemonic performative research culture shaping researchers' neoliberal subjectivity hinders sustainable research collaborations.

Finally, the research makes the meaning of constructed situated convergence by exemplifying (1) researchers' ethical agency in collaborations echoing the virtues of water (*shang shan ruo shui* 上善若水), (2) intertwined self-other cultural positionality informed by water's reflection (3) open-ended research assessment countering contingency of the 'rightness of the present this' (*yin shi* 因时) (4) less-performative (*wu wei* 无为) national research governance conciliating researchers' autonomy and (5) ecological research cultures shifting competitive divergences to situated convergence through *yin-yang* transactions towards a reciprocal global science system.

Keywords Research culture, Ecology of knowledges, International research collaboration, Global science system, Research centre

Table of Contents

ACKNOWLEDGEMENTS 2

All Rivers Run into the Sea: 5

Ecological Research Cultures Shaping Situated Convergence in International Research Collaborations at Sino-Anglophone Research Centres for Higher Education 5

ABSTRACT 6

LIST OF FIGURES 11

CHAPTER 1. INTRODUCTION AND LITERATURE REVIEW 12

1.1 Chapter introduction 12

1.2 Multiplolar scientometrics landscape and three leading countries in international research collaboration 12

1.3 The gaps between national and global research systems in international collaboration 13

1.4 Ecological research cultures towards global-just collaborations 14

1.5 Unity in diversity shaping ethical-oriented ecological research cultures 16

1.6 Standpoints for assumed arguments 17

CHAPTER 2. RESEARCH METHODS 19

2.1 Chapter introduction 19

2.2 Research design: multiple-case study 19

2.3 Research process: sequential mixed methods 19

2.4 Sampling strategies 23

2.5 Data collection 24

2.6 Data analysis 25

2.7 Ethical considerations 29

2.8 Challenges and limitations 29

CHAPTER 3. FINDINGS OF BIBLIOMETRIC NETWORK ANALYSIS 32

3.1 Chapter introduction: Bibliometric network analysis of four research centres 32

3.2 Euro-American partnership with emerging multipolar networks 32

3.3 Research visibility 33

3.4 Heated cross-cultural topics for international co-authorships 36

CHAPTER 4. FINDINGS OF SEMI-STRUCTURED IN-DEPTH INTERVIEWS 38

4.1 Chapter introduction: water-cycle systems thinking of international research collaboration 38

4.2 Sequence of ownership: snowcap as prioritised originality 39

4.2.1 Convergence in the non-hierarchical, inclusive, and supportive research cultures for ownerships 39

4.2.2 Sociocultural differences and challenges in ownership decision-making 41

4.3 Motivation: water flows downhill converging at the ocean 42

4.3.1 Cognitive accumulation 42

4.3.2 Preferential attachment 43

4.3.3 Research environment and culture as extrinsic motivations 45

4.3.4 Divergence and convergence 46

4.4 Research Impact and missions of higher education: underground water infiltrating diverse impacts 46

4.4.1 International research collaborations' societal impacts 47

4.4.2 Gaps in global and local societal impacts 48

4.4.3 International research collaborations informing teaching and learning 48

4.4.4 International research collaborations' contributions to knowledge 49

4.4.5 International research collaborations' impacts on HEIs 50

4.4.6 Inclusive research impact and the route to impact accessibility 50

4.5 Cultural positionality: wells at diverse positions 52

4.5.1 Cultural positionality commonly influencing research ethics 53

4.5.2 Multiple shaping factors of cultural positionality 54

4.5.3 Reflexive agency of cultural self-awareness and multi-positionality 54

4.6 Geopolitical tensions: ocean currents 57
4.6.1 Divergences dominates the geopolitical tensions in international research collaborations 59
4.6.2 Negotiations for academic freedom in national-funded international collaborations 59
4.6.3 Researchers' autonomy countering geopolitical tensions 60
4.6.4 Conversion of resources influencing researchers' capability to opportunities 61

4.7 Collaborator selection and decision-makers: various trees' biodiversity as divisions of labour 62
4.7.1 Collaborator selection 63
4.7.2 Power relations in the decision-making of collaborator selection 64

4.8 Research assessment framework: pressure and composition (purity) for evaporation 65
4.8.1 Incentives for ECRs against ECR-exclusive research assessment frameworks 65
4.8.2 Special aims of content-/capacity-focused research assessments empowering ECRs 66
4.8.3 Tensions between localisation and internationalisation 67

4.9 Knowledge dissemination: rain and iceberg 68
4.9.1 Non-hierarchical and supportive research cultures in knowledge dissemination 68
4.9.2 Open-access to knowledge via media and language as mediators 70
4.9.3 Online and offline exchange of explicit and tacit knowledge: visible and hidden iceberg 71
4.9.4 Advantageous opportunities for ECRs in knowledge dissemination 73

4.10 Multilingual translation: temperature catalysing knowledge dissemination 73
4.10.1 Multilingual translation transforming divergence to convergence 74
4.10.2 Strategies empowering quality multilingual-translation 76
4.10.3 Challenges for inadequate-quality and uneven-accessible multilingual translation 77

4.11 Ecological research cultures: Clouds integrating diverse sources of water 78

CHAPTER 5. DISCUSSIONS 80

5.1 Chapter introduction: Taoist cosmology of water embedded in the water-cycle system 80

5.2 Researchers' ethical agency as self-formation: the supreme goodness is like water 80

5.3 Cultural positionality: Sky-pond reflection via interaction with the otherness 81

5.4 Open-ended research assessment: open to change as 'rightness of the present this' (*yin shi*) 83

5.5 Reciprocal harmony of individual-national relations: less-performative research governance (*wu wei*) 83

5.6 Shifting competition to collaboration as situated convergence: y*in-yang* transactional dynamics 84

5.7 Future research 86

CONCLUSIONS 88

REFERENCES 89

APPENDIX I. INTERVIEW PROTOCOL DRAFT FOR PILOT INTERVIEWS 111

APPENDIX II. INTERVIEW PROTOCOL (FINAL VERSION) 113

APPENDIX III. AN OVERVIEW OF THE SELECTED RESEARCH CENTRES 115

APPENDIX IV. INTERVIEWEE DEMOGRAPHICS 117

APPENDIX V. COLLECTED CHINESE-POLICY LIST 120

List of Figures

Figure 1 A cube metaphor for situated convergence as intersections of culture, structure, and agency----------16
Figure 2 Layers of interview questions----------22
Figure 3 An overview of the four selected research centres' locations and institutional contexts----------23
Figure 4 Coding process----------26
Figure 5 Screenshot of code record----------26
Figure 6 The imagined ecological relations among the researched elements of international research collaborations----------28
Figure 7 The UK institution's collaborative-country network----------32
Figure 8 The US institution's collaborative-country network----------33
Figure 9 Co-cited authors' countries in the American research centre's co-authorships----------34
Figure 10 Highly cited resources by co-authorships at Hong Kong's research centre35
Figure 11 Hong Kong sample's concentrated research topics in international co-authorships----------36
Figure 12 Hong Kong sample's research focus related to the topic of collaboration in international co-authorships----------37
Figure 13 International research collaboration conceptualised as water cycle---------39
Figure 14 First author as the source of snowcap----------40
Figure 15 Researchers' motivation as water flows----------42
Figure 16 Research impacts as underground water serving multiple purposes--------47
Figure 17 Multiple cultural positionalities as wells located in different places--------52
Figure 18 Frog's broader horizons of sky refracted by filled water in well after rain53
Figure 19 Geopolitical tensions as ocean currents----------58
Figure 20 Sampling Regions' Geopolitical Tensions----------58
Figure 21 Collaborators like various trees' biodiversity as divisions of labour--------63
Figure 22 Research assessment frameworks shaping pressure and composition (purity) for evaporation----------65
Figure 23 Open and equal knowledge dissemination as rain----------69
Figure 24 Codified knowledge as visible iceberg and tacit knowledge as hidden iceberg----------72
Figure 25 Multilingual translation as temperature catalysing open knowledge dissemination----------74
Figure 26 Inclusive, open, diverse, and equal research cultures as clouds----------79
Figure 27 Word Cloud of the top 20 frequent words describing research cultures----79
Figure 28 Little pond reflecting infinite sky as self and intertwined diverse otherness----------82
Figure 29 Yin-yang philosophy of dynamic transactional thinking leading divergences (competition) to situated convergence (collaboration) for harmony----------85
Figure 30 Present-research informed analytical-rationale framework for future research----------86

Chapter 1. Introduction and Literature Review

1.1 Chapter introduction

The study centres on the research question of exploring ecological research cultures' role in shaping a situated convergence in international research collaborations for open and diverse knowledge as global common goods.

The opening chapter first introduces the global and national political-economic multi-polarisation since the 1990s, and the resulting shifts in the global scientometric landscapes. Then, drawing on theorised discussion, the author justifies the ontology of global opening potent in the cultural-ethical positive-sum logic of internationally just research collaborations. At the end of the chapter, the author illustrates the standpoints of the presumed core arguments about situated convergence in international research collaboration.

1.2 Multiplolar scientometrics landscape and three leading countries in international research collaboration

Multipolarisation of the global political economy shapes a multi-polar global science system (Marginson, 2022a; Wagner 2009, 2018) with semi-periphery and periphery countries' boosting publication volumes and knowledge exchange through internet (Castells, 2002a) in the 1990s communicative globalisation (Held, 1999). Global pluralistic connections (Marginson, 2021) are built on individual-autonomous research collaboration (Chen et al., 2019; Melin, 2000). Therefore, Euro-American hegemony (Gramsci, 1971) dominated as global centre-periphery model (Wallerstein, 1979) treasuring Euro-American neoliberalism (Barnett, 2005; Hall & Gieben, 1992) and Western-paradigmatic modernisation (Giddens & Pierson, 1998) is gradually deconstructed by multi-level agency's democratisation of knowledge (Marginson & Xu, 2021, 2023a; Buchholz, 2018).

For instance, China as a former semi-periphery country (Wallerstein, 1979), now with the UK and the US, ,are highly active in international research collaborations. According to the latest report from the National Science Board (2023), international co-authorship volumes worldwide increased by 19% between 2012 and 2022. In 2022, the

UK, US, and China were outstanding in international co-authorships, with 67%, 40% and 19% respectively of their national total outputs. Earlier from 2006 to 2018, China experienced more than triple growth in international co-authorships (NSB, 2020, Table S5A-32) moving from the semi-periphery to an emerging centre, accompanied by China's total publication volumes having surpassed the global average growth rate since 2000 in national capacity (Olechnicka et al., 2019). Meanwhile, China's cross-border co-authorships' research impact as implied in high citation papers has kept growing in the last two decades, and even equals the scientific impact of the European Union's 27 countries. Notably, Chinese authors' publications show a higher impact in Social Sciences than in Sciences in the year 2020 (NSB, 2023).

In 2016, China became the largest country producer of English research output, surpassing the U.S. (Lee & Haupt, 2020). In 2020, China was the second largest producer of internationally co-authored Scopus publications, only after the US (White, 2021). China aims to become an international education hub to attract cross-border research collaboration and increase research capacity (Knight, 2011). The world's total research and development expenditures are dominated by the U.S. and China, each accounting for about 25% (Lee & Haupt, 2021). Also, in terms of internationally co-authored article volumes, the U.S. and China are the top collaborators with each other (Nature Index, 2019).

Notably, non-English-speaking countries' international co-authorships as measured here refer to English-mediated journals. That database, like the data source for the bibliometrics study in this study, has an English-language bias, which is especially higher in Social Sciences (Mongeon & Paul-Hus, 2016). These data only including articles and conference proceedings with English titles and abstracts (Elsevier, 2020). Arguably, even though the Elsevier publishers have taken proactive measures to include more non-English-speaking regions' researchers, the English boundary still applies in the representative exclusion of researchers who cannot write in English (Amano et al., 2016; NSB, 2023).

1.3 The gaps between national and global research systems in international collaboration

Divergence, overlapping, and convergence exist between the global and national science systems. Firstly, international research collaboration accompanied by the mobilisation of knowledge and personnel on a global scale shows a planetary convergence (Held et al., 1999) based on a global opening ontology (Marginson, 2011;

Conrad, 2016) informed by the material planet (Herod, 2008). Nevertheless, unlike individual-autonomous global science, national science is mainly managed by the physical national governments through laws, funding, policies, and infrastructure (Leydesdorff & Wagner, 2008).

This divergence implies the gaps in the national and global levels' research activities with different motivations but still homogenously incentivised by the national research assessment frameworks, which restricts the academic freedom of scientists to negotiate the long-term global innovative breakthroughs and national research agenda driven by immediately serving national security, reputation, and economy (Adams, 2013).

Furthermore, critically, international research collaborations aimed to win at global league tables (Hazelkorn, 2015) would increase the competitive research culture among local institutions (Marginson, 2021). The local and national performance-based research incentives would increase competitive research cultures rather than inter-institutional collaborations due to the increased global status of their counterpart colleagues and the maximised prestige of surrounding institutions (Melguizo & Strober, 2007).

Consequently, the national and global resources of researchers, interactions, and generated knowledge are still not adequately integrated (Marginson, 2021). There is a lack of research concerning the mechanisms like research assessment frameworks as influencing factors for international collaborative research's impact in certain context, and relations among these factors (Chen et al., 2019, p. 163-165).

Arguably, generating mutual benefits through international research collaboration simultaneously for global and national science systems demands strategies for integrating the cohering interactive elements within and between the two systems for symbiosis (Marginson, 2024; Wagner, 2009, p. ix) as situated convergence, which can be included as an aim in ecological research cultures for international collaborations.

1.4 Ecological research cultures towards global-just collaborations

The mainstream conceptualised internationalisation (Knight, 1994) following Euro-American-centric structural inequality (Marginson, 2023a) reproduces Westernisation (Marginson & Xu, 2021; Marginson, 2023b), hegemonisation, or Americanisation (Appadurai, 1996, p.17). In international research collaborations, these asymmetries impede in the division of labour (Katz & Martin, 1997), funding flows (Stamou et al.,

2022), co-authorship patterns (Melin & Persson, 1996), and bibliometric coloniality (Mills & Inouye, 2021).

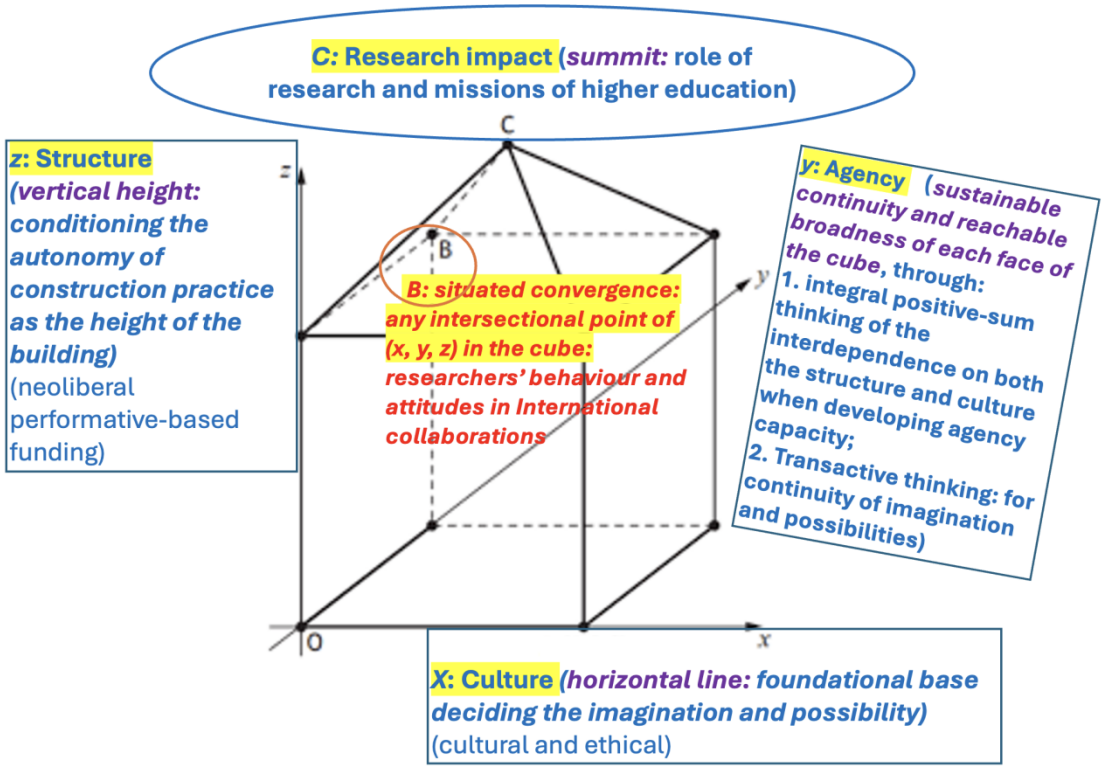
To counter the Euro-American dominated global science system, typified by violent politics of English-mediated publications, epistemological injustice, and Western-paradigmatic theories (Xu, 2023), international research collaborations with inter-cultural comparative perspectives (Cowen, 1990) reshape non-Occidentalist West (Santos, 2009). Ecological research cultures in international research collaborations treasure epistemic diversity with 'learned ignorance' (Cusa, 1985; Santos, 2017a) by perceiving each culture's limitation, which moves beyond the Western monopolised 'legitimate knowledge' (Santos, 2012).

Arguably, the current research cultures dominated by neoliberal cademic capitalism (Nisbet, 1971; Slaughter & Leslie, 2001) is short-sighted economic internationalisation (Knight & de Wit, 1995; de Wit & Altbach, 2021). The global diffusion of Anglo-American hegemonic performative research assessments (Marginson, 2022a) treasure marketisation and commercialisation of knowledge (Slaughter & Leslie, 1997). Global governmentality as instrumental accountability (Watermeyer, 2019) is based on researchers' self-regulation with neoliberal subjectivity (Foucault, 1991). Accordingly, the egoist audit culture (Macfarlane, 2023) decays the 'universalism, communism, disinterestedness, organised skepticism' as the ethos of science (Merton, 1942, p.118).

By contrast, humanitarian internationalisation (Kehm & Teichler, 2007) treasures cultural and ethical-orientated collaboration (van der Wende, 2007), emphasising the individuals' agency in moving beyond the hegemonic structure (Scott, 2015). This informs the role of sustainable, equal, and inclusive research cultures (Network, 2023; REF, 2028) as mediators of global-just international collaborations. Research culture includes researchers' values, attitudes, norms, aspirations, and behaviour (the Royal Society, 2017), which is congruent with the global networks' autonomous self-regulation (Schott, 1998) following certain 'culture, pathways, and norms of communication' (Wagner et al., 2017, p. 1646). This informs a cube metaphor of the situated, intersectional, positive-sum, interconnected, convergence of research culture, structure, and agency (Figure 1).

Figure 1

A cube metaphor for situated convergence as intersections of culture, structure, and agency



Source: the author

1.5 Unity in diversity shaping ethical-oriented ecological research cultures

Inspired by a unity-in-diversity way of thinking and critical realist ontology (Sayer, 2000) contextualised in the complex political economy of globalisation of science and education (Robertson & Dale, 2020), this dissertation recognises divergences in heterogeneous cultural positionalities and multi-level stakeholders' ethical perceptions of the ethos of science (Merton, 1942), and then reconstructs pluralistic ecological research cultures leading to a situated convergence guiding the knowledge co-production by the global academic community as global common goods (Turner, 2007). More critically, the research questions the onto-epistemological existential issue of Western metaphysics dominating the modernisation of the global science system with a colonial global capitalist logic (Shahjahan et al., 2017).

Arguably, this universal Western hegemonic imagination (Mignolo, 2000) through the Anglo-American ordering of value (Santos, 2017a; Shahjahan et al., 2017) limits the possibilities for non-linear decolonial futurity (Stein & de Oliveira Andreotti, 2017). The opening and positive-sum nature of pluralistic knowledge as non-excludable and

non-rivalrous public goods (Samuelson, 1954; Marginson & Yang, 2023a) calls for researchers' agency freedom to voice and aspire (Appadurai, 2007) for moral pluralism and ethical multiculturalism.

Furthermore, informed by the vision of living with differences in the 21st century (Hall, 2007), the study hears the unheard multivocality of the otherness (Gilligan, 1977) who are from the non-Anglophone science systems. Visualising the invisible otherness (Bauman, 2013, p.30) would transform the scientists' neoliberal modern social relations (Taylor, 2002; Rizvi, 2006, 2017) to non-Western-centric and pluralistic imaginaries.

1.6 Standpoints for assumed arguments

Informed by the literature review, the study adopts the following standpoints as clues to the constructive process of reshaping an ecological framework for international research collaboration's research cultures.

Firstly, the study underpins the cultural and ethical lenses aligning with the global opening communitive network and positive-sum global science system differentiated from the competitive economic logics. Meanwhile, the author doesn't ignore the nation-states' political, juridical, and economic influences on autonomy-based global science (Leydesdorff & Wagner, 2008). Hence, the study supports the relations as divisions of labour between national and global science systems (Marginson, 2021) co-existing through diversification of roles like the Durkheimian organic solidarity (Durkheim, 1893). The interactive responses between the overlapping national and global science systems shape 'a hierarchy of partially nested structures' (Wagner et al., 2017, p.1647) similar to the Durkheimian flattened hierarchies cooperating with heterogeneous roles rather than an interlocking horizontally-stratified hierarchy (Durkheim, 1893).

Secondly, since modernity shows disenchantment and fragmentation about the relations and connections among self, others, and the world (Macfarlane, 2000). To awaken the awareness of entangled relationships, water metaphor as shared natural realities and daily experience can commonly evoke aesthetic resonance and reflections.

Thirdly, this cross-cultural study insists on the unity-in-diversity, either unity or diversity (Archer, 1991), as a way of thinking treasuring diverse epistemologies and intellectual pluralism (Yang, 2023). This epistemology contributes to constructing a non-universal or non-totalising convergence narrative as a common ground respecting and negotiating divergences in international research collaborations. Instead of dialectic reasoning visioning dichotomy (Hayhoe & Li, 2008), the study treasures inclusive

transactional thinking like Taoist *yin-yang* wisdom to construct conversional resources towards the situated convergence as a changeably dynamic balance.

Finally, the author is sharply aware of the situated contextual complexities of global science networks with non-Euro-American paradigmatic social and professional norms (Marginson & Xu, 2021), changing agential motivations and behaviours, or structural oscillation between enabling and constraining conditions. Also, the study interprets consistent contingencies and temporalities instead of linear thinking of global colonial-hegemonic histories or Euro-American-centred geospatial imaginaries (Taylor, 2004).

Chapter 2. Research Methods

2.1 Chapter introduction

This comparative multiple-case study adopts sequential mixed methods to explore the divergences and convergences of research practices and research cultures in international research collaborations at four research centres for higher education.

This chapter illustrates the question-informed research design, the sequential research process, sampling strategies for the case research centres and interviewees, data collection and analysis methods, ethical considerations, and reflections on the challenges and limitations.

2.2 Research design: multiple-case study

Yin (2014) conceptualises case study as 'an empirical inquiry that investigates a contemporary phenomenon (the 'case') in depth and within its real-world context' (p. 16). Besides, since international research collaborations are intercultural activities involving diverse contexts (Yin, 2003), the author conducts cross-case comparisons and generates conclusions about the differences and commonalities in the four research centres (Yin, 2009).

Therefore, this multiple-case research boosts the research aims of informing inclusive, diverse, and sustainable research-culture frameworks for situated convergence in international collaborations (Lewis-Beck et al., 2003). Cross-case analysis facilitates a potent and convincing theorisation (Eisenhardt, 1989; Stake, 2013) of divergences and convergences in international collaborations through broad thematic categorisation concerning the core research questions (Hancock et al, 2021).

2.3 Research process: sequential mixed methods

The study has three stages with sequential mixed methods. This aims to generate relatively rigorous findings about the research culture in international research collaborations at the four research centres through the integration and triangulation of multiple data. These mixed methods provide multiple evidence of understanding and interpreting complex-contextualised research questions (Tashakkori & Creswell, 2007).

Stage 1:

The first stage is knowing about the selected case and preparing a valid interview protocol.

In October, the author generated research gaps from literature review to frame research questions, which inform the bibliometric data collection and interview questions.

In November 2023, the author went through the official websites of the research centres in the field of higher education and scoping the four research samples with representative and comparable features in their international collaborations. The findings enlighten the focus in further steps.

In December 2023, the author conducted a preliminary bibliometric network analysis of the international co-authored publications from the case research centres to get an initial large picture of the four research centres' research collaboration networks. This informed the focus and questions in the next-step interviews. Subsequently, in January 2024, the author drafted interview perspectives based on the findings demanding further explanation from bibliometric analysis. Then, the author conducted pilot interviews with two researchers from two sample centres to make interview questions clarified, reasonable, and answerable.

Stage 2:

From February to April 2024, the second and major stage is carrying out semi-structured in-depth interviews online and offline with 20 early career researchers (ECRs) who joined international research collaborations at their research centres and one researcher operating the social media of the American sample centre.

Stage 3:

The final stage is to analyse the interview data and to summarise findings through the integration and triangulation of complex-contextualised responses of and across each case (Tashakkori & Creswell, 2007).

Bibliometric analysis for a large picture

Since international research collaborations are defined as co-authorships between nations (Choi, 2012, p.26), the first-step bibliometric network analysis aims to initially provide a large picture of collaboration networks of the four research centres.

The findings can be demonstrated through visualized diagrams, quantitative-evidenced descriptions and summarized tendencies. The attained preliminary findings would shed light on a large picture involving multiple aspects of the recent trends, which promotes the revision of next-step interview questions and enriches the

integration of findings. Science mapping through bibliometric analysis provides an essential perspective to observe the global knowledge structure, collaboration trends and features through fragmented publications (Gaviria-Marin et al., 2019). The analytical lenses of the collaboration networks can be both geographical and longitudinal through two tools used in this research (Gaviria-Marin et al., 2018).

Semi-structured in-depth interviews

Informed by Chapter 1, the interconnected analytical lenses concerning the researchers' agency, research systems' structure and research culture should be explained by answering 'what they do, how they do it, and why they do it interacting in the research setting' (Charmaz, 2008, p. 408) through interviews.

Thus, semi-structured in-depth interviews complementarily construct nuanced and interpretive themes disclosing the power relations behind the surface of the collaborative connections (De Laat et al., 2007). The interviews are one-on-one, online and face-to-face, lasting for 40 minutes to one hour. Compared to focus groups, this personal interview provides relatively authentic information about the research centre's real conditions with less influence of group effect by agreeing with colleagues or risky open speech against hierarchical institutional power (Barbour & Kitzinger, 1998; Edwards & Holland, 2013).

However, since the interview content is about the interviewees' affiliated research centres, they may show Hawthorne Effect by providing positively polished descriptions of their centres' research cultures due to a sense of belonging or worry of the negative comments being identified by their colleagues (Leonard & Masatu, 2006). To counter this challenge, the author asked follow-up critical questions for nuanced explanation.

Also, the author as a postgraduate student has lower hierarchical power relations with the interviewed ECRs, which is conceptualised as the researcher's vulnerability in the politics of elite interviews (Smith, 2006; Limerick et al., 1996; Råheim et al., 2016). In order to the reduce the influence by the asymmetrical interviewer-interviewee dynamics of power, the author utilised the relaxed environment as a medium to build rapport for credible responses (Kallio et al., 2016). The face-to-face interviews were conducted at private discussion rooms at the library, cafes, and the interviewees' familiar residential colleges. Compared to the departments, classrooms, and offices, the informal interview space reduces the interviewer-interviewee power distance, making the author courageous to ask questions, and the interviewees were more open to shared their authentic ideas.

First draft of interview questions for pilot interviews

Based on the literature review, the preliminary content analysis of the four research centres' official websites, and the bibliometric analysis, the author generates 22 initial questions in a draft interview protocol (APPENDIX I) for the pilot interviews.

Pilot interview and the final interview protocol

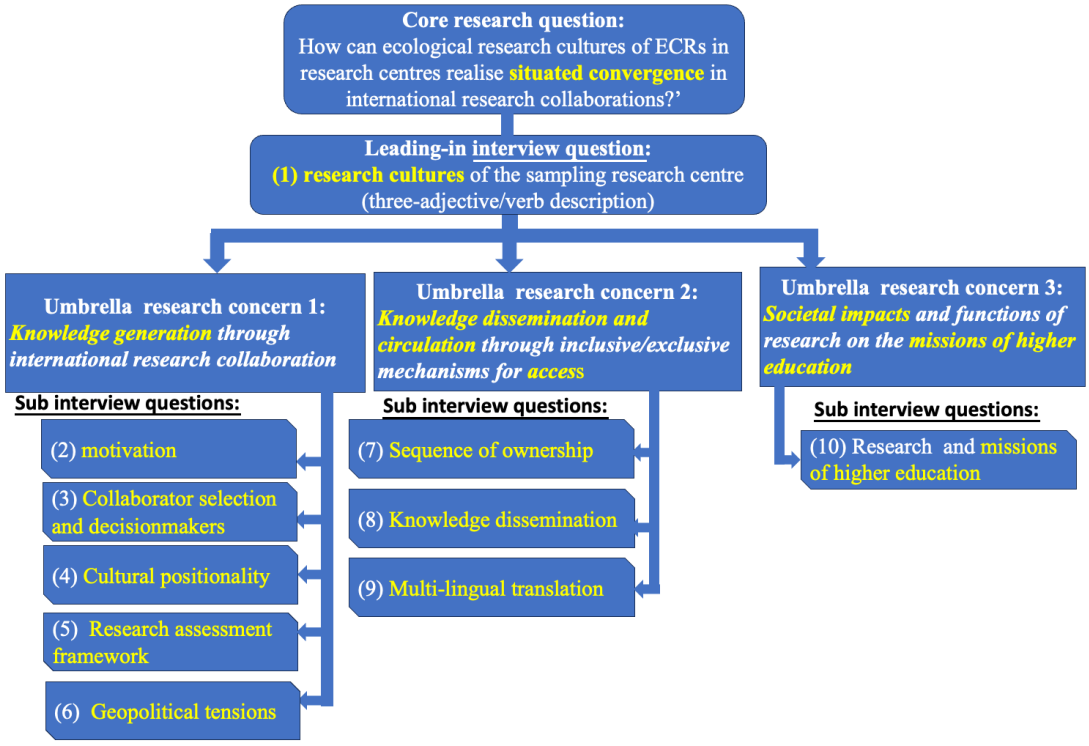
To make the interview questions feasible, and further to gain reliable and credible interview findings, the author conducted small-scale polit interviews by interviewing two early-career researchers from two research centres with the same criteria of targeted interviewees.

The pilot interviewers' feedback assisted in the revision of the drafted interview protocol. The author deleted and compressing 12 questions due to less relevance to the research question, too abstract for the interviewees to understand, and poor answerability with abundant expressions causing distracted fatigue.

The final interview protocol (APPENDIX II) includes 10 interconnected interview questions (Figure 2).

Figure 2

Layers of interview questions



Source: the author

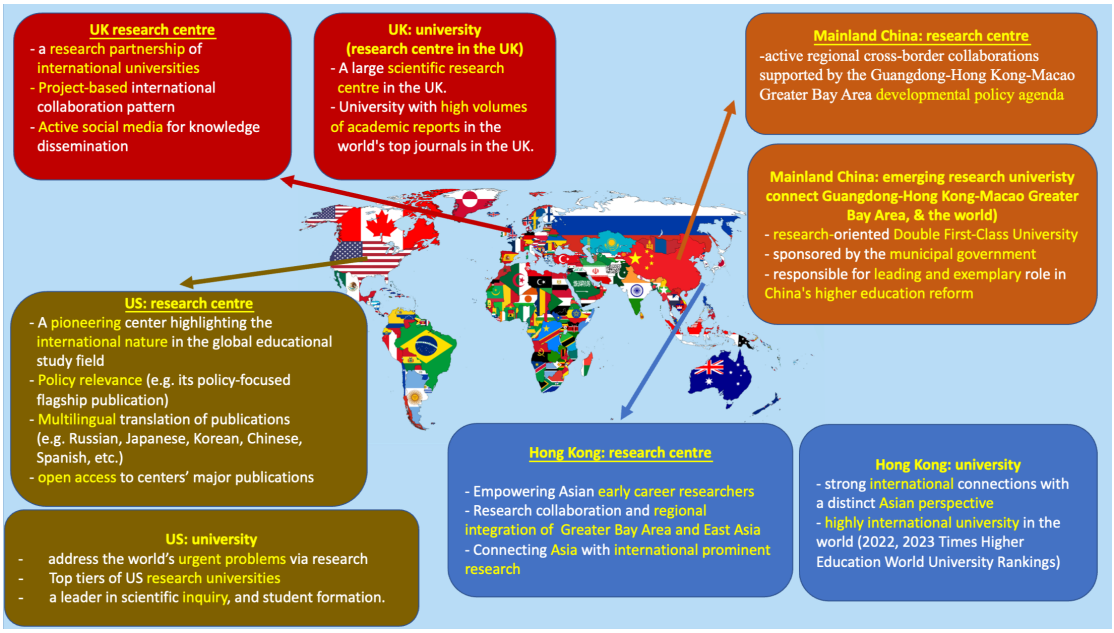
2.4 Sampling strategies

The author utilised purposive sampling effective and efficient for small-scale interviews (Robinson, 2014). The author went through the official websites of relevant research centres and decided four samples (Figure 3) based on the criteria of (1) the research centres for higher education representative in the field (2) in world-reputational univeristies (3) with active international research collaborations, (4) the located city is significant in global communicative networks, and (5) the author's accessibility to the interviewees.

Moreover, the author summarised the four sampling research centres' nature, structure, missions, values, activities, partners, and publications (APPENDIX III).

Figure 3

An overview of the four selected research centres' locations and institutional contexts



Source: the author

The three sampling research centres in the UK, the US, and Hong Kong are from world-leading research universities, having active academic connections both globally and nationally (Marginson, 2021).

The fourth sampling research centre provides insight into a mainland China's municipally-governed research university (albeit one with a world reputation) to network with reputational foreign institutions. It is also a new conglomeration of collaborative research in East Asia, providing implications for emerging research centres' development. These innovative collaboration strategies would be differentiated

from conventional Chinese mainstream highly institutionalised national-founded universities (Li, 2012).

Besides, national research capacity building aligns with the highly stratified Chinese higher education system. The author collected 180 policy documents on the Sino-US Humanities and Social Sciences Collaboration launched by the Ministry of Education of China from the year 2008 to 2023, aggregating to a more than 130,000-word corpus (APPENDIX V). The author found that only four of the 180 policy documents empower the non-Double-First-Class universities' international collaboration. Hence, this also informs author's selection of a sample centre at a non-Double-First-Class Chinese university but proactive in international research collaborations to generate innovative implications for emerging research universities.

Additionally, the selected case of the research centres for higher education situated in Hong Kong SAR as a world-class research university in a global city is a node in global networks through knowledge engagement (Castells, 2002b; McCarney, 2005; Marginson & Van der Wende, 2007, 2009).

Arguably, these research universities with diverse and assimilated features would provide comparable and heterogeneous perceptions of their cross-border collaborations, since most scientific infrastructure is concentrated in research universities (Marginson, 2016). Admittedly, due to the resource and time limitations, and Higher Education disciplinary research as a small field, the four research samples mainly provide implications on the individual and institutional levels as the units of analysis.

2.5 Data collection

Bibliometric data retrieval, loading and converting, and cleaning

The bibliometric data with implications on international research collaborations are the four research centres' co-authorship publications in the years 2018-2023, which is the optimal documentation of research collaboration (Glänzel & Schubert, 2004). After searching for the targeted co-authored publications in Scopus and Web of Science as the two largest trustworthy publication source of Humanities and Social Sciences (Baas et al., 2020; Norris & Oppenheim, 2007), the author decided to retrieve bibliometric data from Scopus for its richer publications from the case centres than Web of Science.

Secondly, the collected data was converted into a comma-separated values (CSV) file for VOSviewer analysis (Van Eck & Waltman, 2010; Herrera-Viedma et al., 2020).

The last preparatory step was data cleaning to guarantee the data quality. The author deleted the overlapping versions of the same article, and distinguished the mutual surnames and initials of different authors in the abbreviations.

Interviewee recruitment

There are 21 ECR interviewees (APPENDIX IV), with 5 ECRs from each research centre and one interviewee as a social media operator at the U.S. research centre sample, involving final-year doctoral candidates, postdoctoral researchers, and early-career research fellows who have experienced or are participating in ongoing international collaborative research projects at their research centres. ECRs are promising to agentially shape research cultures as future leaders in academia (McAlpine et al., 2014; McAlpine & Amundsen, 2016). They are open to reforms, equipped with new skills, and committing more time and energy to intercultural collaboration (Kent et al., 2022).

The author firstly utilised purposive sampling to personally contact 15 familiar interviewees, and sent invitation emails to 3 unfamiliar interviewees with their online contact information. Then the author adopted snowball sampling to contact the other 3 interviewees through other participants' introduction.

2.6 Data analysis

VOSviewer for visualising collaboration network patterns

In the bibliometric network analysis, the software VOSviewer aims at visualising collaboration network maps through clustering, mapping, and colouring (Leydesdorff et al, 2013) for accessible comprehension (Van Eck & Waltman, 2017) of a large picture of the co-authorship in the four research centres.

Interview data coding

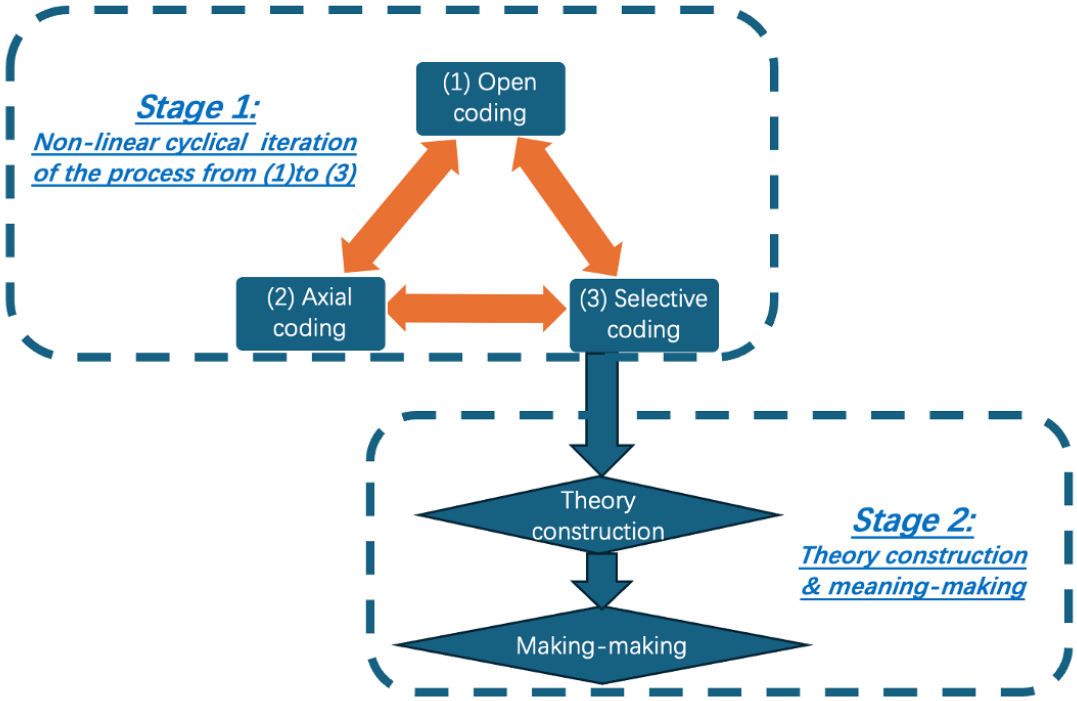
The coding processes can be divided into two stages (Figure 4).

The first stage consists of iterative and reflexive non-linear cycles of systematising the 'segregated, grouped, regrouped and relinked' data (Lincoln, 1985, p.21) through three-level coding (Williams & Moser, 2019), involving (1) open coding for concept identification, (2) axial coding for grouping key categories, and (3) selective coding for more abstract and concentrated theme generalisation. This repetitive process constantly abstracts and integrates codes to generate emerging themes (Williams & Moser, 2019).

Then, the second stage realises the goal of 'the generation of theory' (Glaser, & Strauss, 1967, p. 43), constructing meanings of the proposed argument based on the saturated themes (Miles & Huberman, 1994) resulting from the selective coding.

Figure 4

Coding process



Source: the author

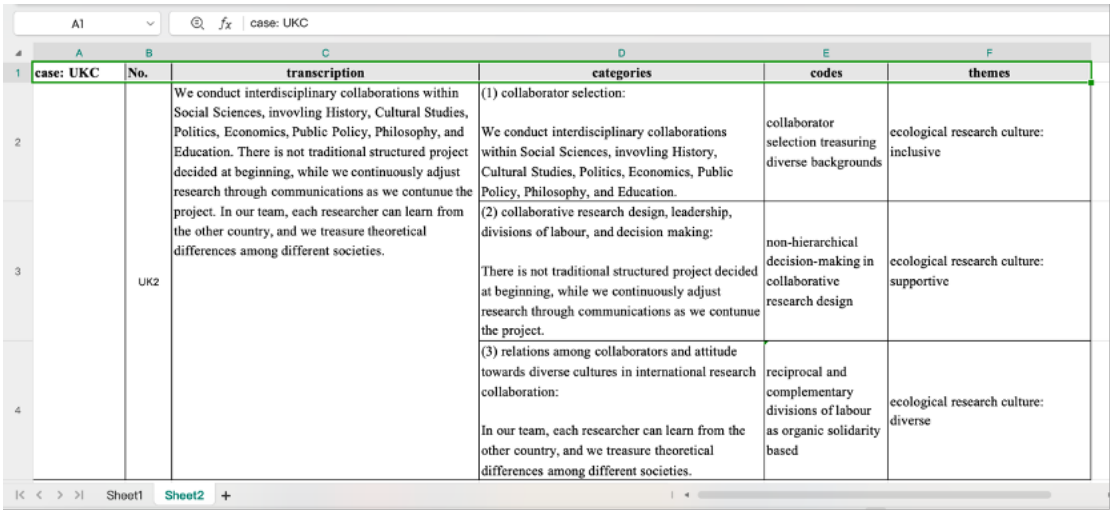
Note. The logic of the chart is informed by Williams & Moser (2019)

Computer-assisted coding process with NVivo 14

The ten-hour transcription's manual coding is computer-assisted by the software NVivo 14 uploaded as one project to track the large volumes of 21 interview responses. The code examples (Figure 5) and detailed coding process are described as follows:

Figure 5

Screenshot of code record



case: UKC	No.	transcription	categories	codes	themes
	UK2	We conduct interdisciplinary collaborations within Social Sciences, invovling History, Cultural Studies, Politics, Economics, Public Policy, Philosophy, and Education. There is not traditional structured project decided at beginning, while we continuously adjust research through communications as we contunue the project. In our team, each researcher can learn from the other country, and we treasure theoretical differences among different societies.	(1) collaborator selection: We conduct interdisciplinary collaborations within Social Sciences, invovling History, Cultural Studies, Politics, Economics, Public Policy, Philosophy, and Education.	collaborator selection treasuring diverse backgrounds	ecological research culture: inclusive
			(2) collaborative research design, leadership, divisions of labour, and decision making: There is not traditional structured project decided at beginning, while we continuously adjust research through communications as we contunue the project.	non-hierarchical decision-making in collaborative research design	ecological research culture: supportive
			(3) relations among collaborators and attitude towards diverse cultures in international research collaboration: In our team, each researcher can learn from the other country, and we treasure theoretical differences among different societies.	reciprocal and complementary divisions of labour as organic solidarity based	ecological research culture: diverse

Source: the author

(1) In the first-level open coding, the author went through all the texts line-by-line, using NVivo's coding stripes as a memoing tool at the margins, marking the assembled responses with differentiated colours (Bingham, 2023).

(2) Subsequently, in the second-level axial coding, the author connected the similar codes in the memos from different interviews as representative concepts and initial themes. Instead of the time-consuming and memory-demanding manually cutting out thematic fragments, NVivo empowers analytical rigorousness through efficient and accurate capturing of certain sets of themes and their sub-codes, which facilitates the interrogation and re-association of thematic data (Welsh, 2002).

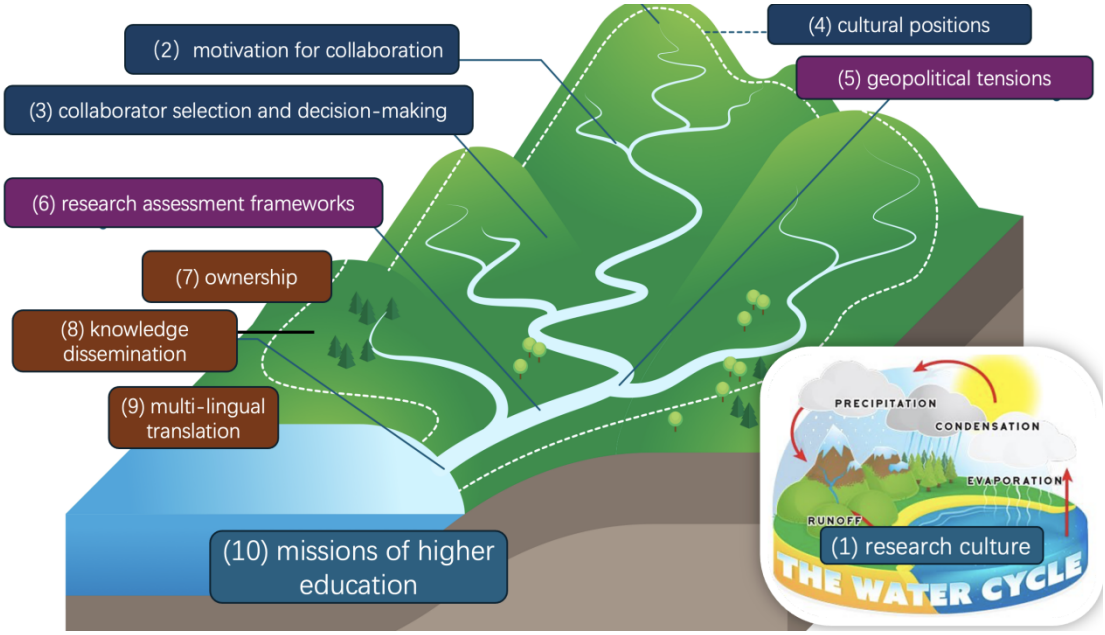
Axial coding categorises connections among open codes to 'develop core codes'(Strauss, 1998, p. 109). The author categorizing the themes both inductively and deductively. The axial metaphor informs the key categories as the hub of a wheel, which connects relevant subcategories centres on the core hub (Glaser & Strauss, 1967). Since the interviews are about heterogeneity and convergences in international research collaborations in four cross-cultural research centres, the author continuously reflected on (Williams & Moser, 2019) the 'causes, contexts, contingencies, consequences, covariance, and conditions' (LaRossa, 2005, p.98) situated in and across each case (Yin, 2003).

(3) The third-level selective coding is a challenging and crucial refinement process to the coding's goal of 'an elaboration or formulation of the story of the case' (Flick, 2009, p. 310) through a further abstraction through re-categorising the representative themes attained from the previous axial coding.

(4) Finally, with the outcomes of the completed selective coding, the author generated theoretical frameworks and constructed the meaning of situated convergence as the proposed argument. For instance, an initial example of constructing a water cycle theory describing the research collaboration system's elements is exemplified (Figure 6), and the interview findings chapter systematically constructs this theoretical framework.

Figure 6

The imagined ecological relations among the researched elements of international research collaborations



Source: the author

Multi-scalar transpositional comparative lenses

The research aims to analyse the balanced conditions for the situated convergence in international research collaboration with multi-scalar transpositional comparative lenses following the multi-geospatial scaled science activities overlapping in the local, national, supra-national regional, and global scales to different degrees (Marginson, 2022b). The situated idea focuses on consistently changing power dynamics and contextualised multiple geospatial scales across cultures. Therefore, the first aim of the trans-positional approach (Sen, 2002, p.467) is to recognise the international collaborative relations' divergences and similarities informed by the four research centres situated in four different political-cultural societies.

Subsequently, following the situated contexts, the study analyses the divergences and similarities as the normative convergence in terms of the interview responses across various geospatial scales and political-culturally different societies' research motivations, languages, cultural positionalities, geopolitical tensions, and research assessment frameworks.

Finally, the study trans-positionally reconstructs a sociological concept of situated convergence through complementarily hybridising, synergising, and integrating similar

themes as ecological research cultures' pluralistic and inclusive connotations, leading international collaborations from incompatible divergences to situated convergence.

2.7 Ethical considerations

The Departmental Research Ethics Committee of the Department of Education at University of Oxford has approved the ethical declaration. The interview recordings began after the interviewees' oral consent or signed consent forms. The transcriptions are kept in the author's personal computer with coded file names and passwords, which is deleted after the project accomplished.

Ethical considerations in the personal connections among the interviewees are taken into account. Since the selected participants are all from research centres for higher education at four eminent universities, they might be familiar with each other. That is to say, even though the interviewees' responses are presented anonymously, the interviewees and readers may still be able to tell and map certain respondents. Therefore, the risks of disclosing personal information and genuine opinions would generate extra pressure for the participants.

One way to counter this impediment is to strictly delete the identifiable information in the dissertation. The description of the samples avoids the distinctive features of outstanding achievement or leading scale of the research centres. Also, researchers transparently inform the participants in advance that their colleagues may also participate in the same study and may tell their identity with the descriptions in the paper even though they are given pseudonyms.

2.8 Challenges and limitations

Reflections and limitations of the bibliometric and network analysis

Bibliometric network analysis interprets global scientific connections (Scott & Carrington, 2011) through describing partnerships across nations as static nodes (Wagner et al., 2017, p.1637). Critically, this is blamed for holding methodological nationalism, arbitrarily imagining fluid science blocked in totalising national territorial boundaries (Shahjahan & Kezar, 2013; Marginson, 2021). It ignores researchers' interconnected exchanging knowledge across overlapping multi-geospatial scales, like academics' global mobility beyond their affiliated institutions (Adams, 2013; Bornmann et al., 2018).

Besides, the scope of the English-mediated publications included in Scopus exclusive to non-English publications makes data partial for bibliographic coloniality (Mills & Inouye, 2021).

Additionally, the quantitative bibliometric analysis is limited in interpreting the stratified power dynamics in asymmetric networks (Chinchilla-Rodríguez et al., 2018a, 2019) with heterogeneous scientific norms (Scott & Carrington, 2011).

Also, the citation data cannot disclose the motivations driven by various factors such as epistemological agreements, cultural positionalities, and self-interests following promotion incentives.

Furthermore, the research aims to seek situated convergence in the current and the future research cultures with ongoing contingency and temporalities, while the scientometric study can only present the historical circumstances of research networks rather than the real-time communicative relationships in progress (Citron & Way, 2018).

Reflections on the researcher's positionality and researcher bias in interviews

On the one hand, the author as a student in higher education familiar with research environment may show an insider perspective in the data collection and interpretation in this research-on-research study. To deal with this challenge, the author reconfirmed the obscure connotations in transcripts together with the participants before data analysis, respecting the contextualised intact responses (Pidgeon & Henwood, 2013; Glaser& Strauss, 1967). The author constructs theories based on diverse realities of the four research centres without personal cultural positionality (Corbin & Strauss, 1990; Tight, 2016; Charmaz, 2006).

Also, the iterative non-linear coding through nuanced immersion in data and mixed methods for data integration and triangulation could relatively balance the bias.

However, the author was born in mainland China, having studied in Hong Kong and the UK, which are the locations of three sampling research centres. This intercultural background partly as an insider helps build trust with interviewees through familiar languages and shared cultural understandings, enriching data collection through detailed communications. Meanwhile, the author has an outsider view to demonstrate objective interpretations of the data, since the author has not participated in the sampling research centers' projects.

Translation of the transcripts from Chinese to English

The author utilised both English and Chinese in interviews. To the Chinese interviewees, using their native language helps the data collection have 'more subtle nuances' (Welch & Piekkari, 2006, p. 428) like contextualised policies, terms, proverbs, and metaphors.

However, when presenting the transcripts, some translation difficulty from Chinese to English may happen in terms and policy. In case of ambiguous interpretation of some key terminologies, the author quoted the original Chinese expression, and added English descriptive explanations.

Chapter 3. Findings of Bibliometric Network Analysis

3.1 Chapter introduction: Bibliometric network analysis of four research centres

This section perceives an initial picture of international co-authorship at each research centre, and informs the drafted interview questions. The unit of analysis on the institutional lens was inadequately researched previously (Frenken et al., 2009).

The network maps interpret the communicative intensity through the differentiated distance of the closeness in the map rather than the real-fixed geographical layout (Leydesdorff et al, 2013).

3.2 Euro-American partnership with emerging multipolar networks

A central concentration of developed Anglophone countries still shows a tendency to entrench their core status (Leydesdorff & Wagner, 2008). For instance, the UK (Figure 7) and the US (Figure 8) actively collaborate with each other and other Western countries as the major partners.

Meanwhile, the four research centres' co-authorships show emerging multi-polar research collaboration networks with disseminated centralities, and numerous partners are semi-periphery and periphery countries. For example, the UK, and the US research centres also collaborate with some emerging national science systems with high research capacity such as China and India.

Figure 7

The UK institution's collaborative-country network

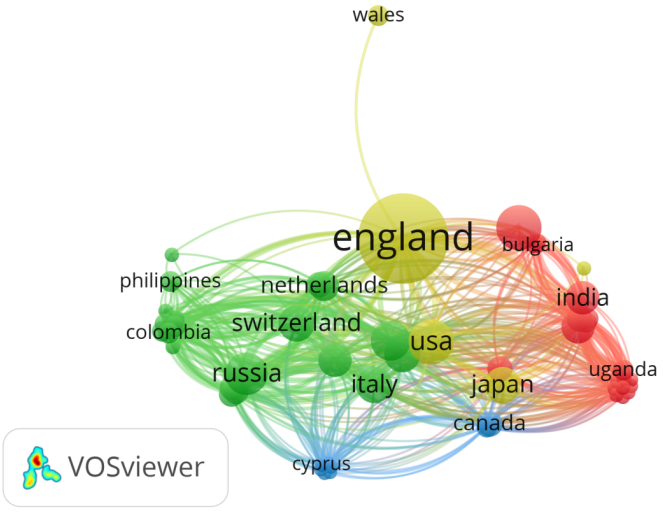
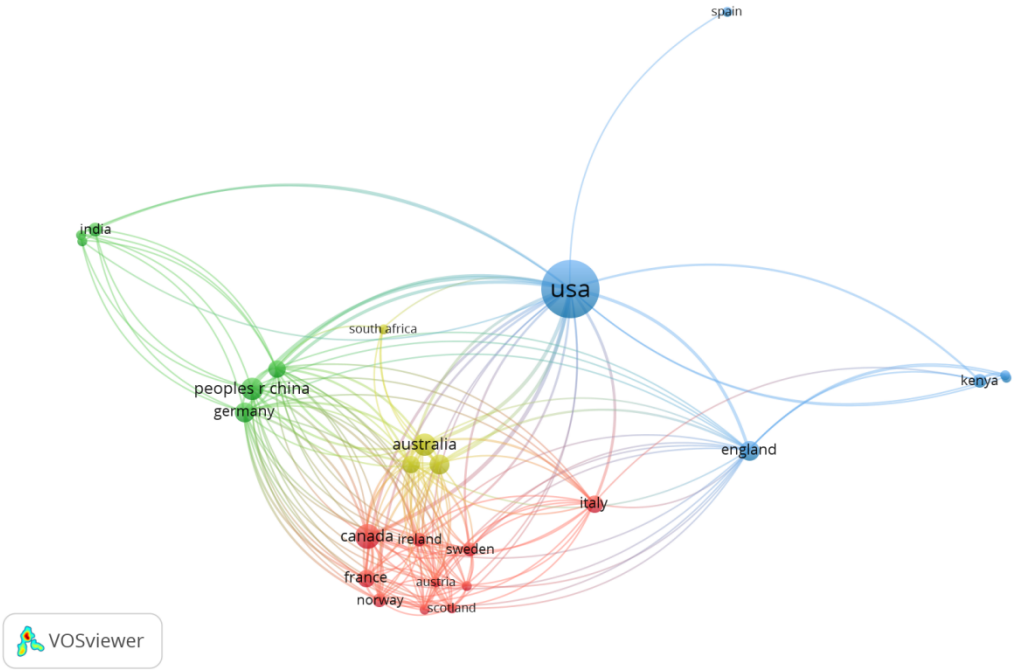


Figure 8

The US institution's collaborative-country network



The continuous Anglo-American concentrated networks and emerging multipolar partnerships inform the interview questions about motivations and intentions for selecting international collaborators.

3.3 Research visibility

Euro-American dominated global research visibility

Though international research co-authorships partly show higher citation impact (Persson et al., 2004; Persson, 2010), the concentrated citation of Anglophone works implies the uneven research visibility is still limited in the English-mediated Western-mainstream journals with Euro-American scholars as major international citation sources.

This informs the interview to explore researchers' attitudes towards multi-lingual translations for globally-just research visibility and their motivation of citation driven by preferential attachment to Euro-American-centred international reputation.

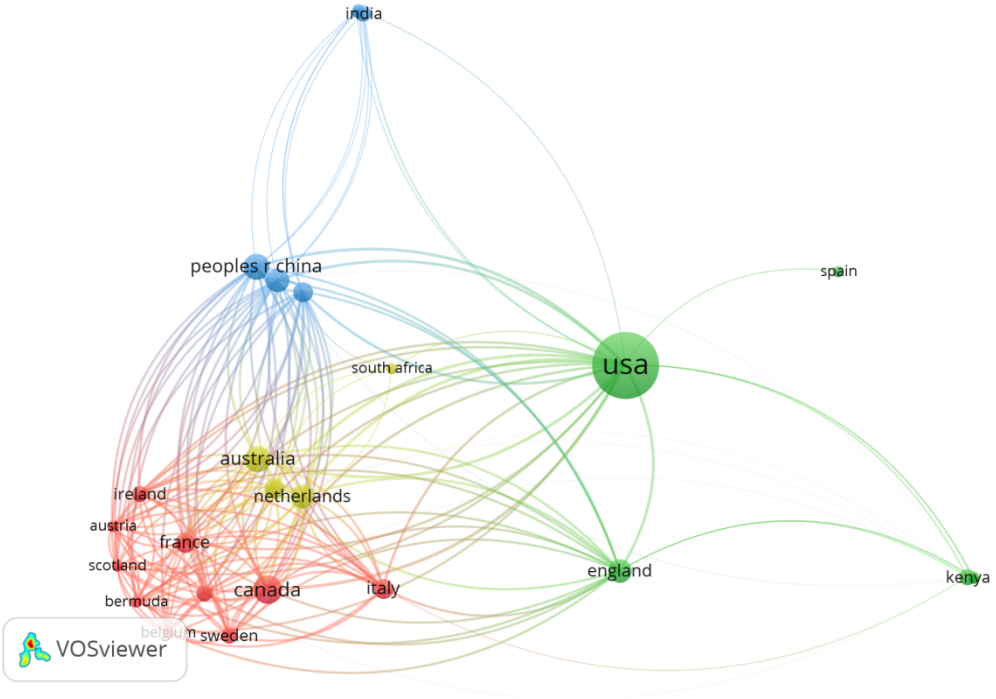
Epistemological diversity, neo-imperialism, and self-colonisation in co-authorships

The American research centre's co-authorships embrace heterogeneous bodies of knowledge with a unity-in-diversity sense in citations (Figure 9), showing highly cited works from Europe and emerging science systems like China, India, South Africa, and Kenya. The disseminated clusters of multipolar knowledge networks instead of the

Euro-American centrality (Wagner et al., 2017) implied in this case study show the co-authorship's role in shaping ecological research cultures with multi-positional epistemic diversity.

Figure 9

Co-cited authors' countries in the American research centre's co-authorships



By contrast, the UK's research centre is mainly self-referential in the high co-authored citations of national or European publications, rather than including diverse epistemologies from non-English speaking countries. This may partly result from a high proportion of the researched topics focusing on the local or regional contexts, while would potentially imply the UK's neo-imperial (Wagner, et al., 2015) cultural exceptionalism. Presumably, the asymmetrical citations for preferential attachment would calibrate the Euro-American hegemony (Marginson, 2021) in the global knowledge system with national soft-power competition embedded in the form of collaborations, which is further explored in the interview.

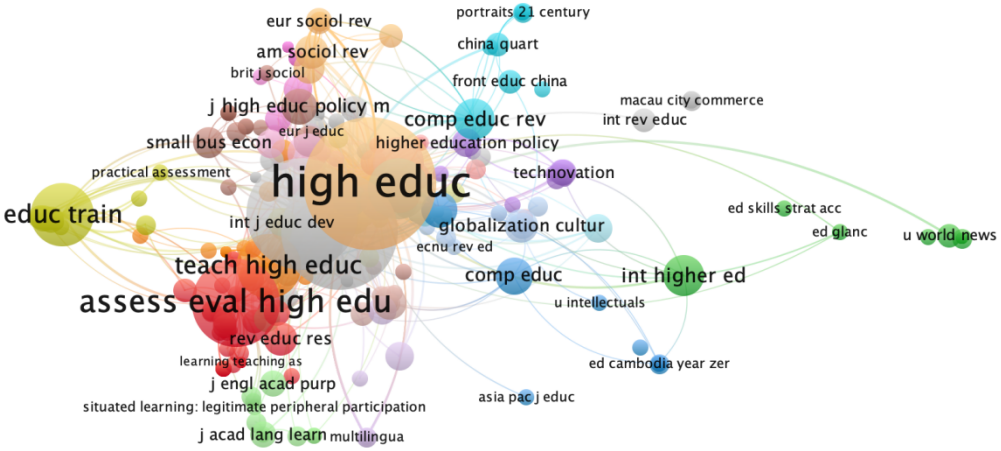
The Hong Kong's research centre's co-cited scholars are based in Anglophone institutions. The citation rate of the work in mainland China and nearby East Asia is inadequate. For example, broad data are co-cited from the Organization for Economic Co-operation and Development and the World Bank. Critically, the high citation of these two neoliberal-ideological organisations' agenda implies Western paradigmatic homogeninsation in knowledge production, instead of contextualising heterogeneous

local demands. Notably, the cited resources are concentrated in Western publications and media like University World News (Figure 10). The top three highly cited journals are English-mediated Western publishers with high Journal Impact Factors: *Higher Education, Studies in Higher Education, Higher Education Research and Development*.

This informs interview questions about researchers' dissemination and circulation of knowledge in international collaborations.

Figure 10

Highly cited resources by co-authorships at Hong Kong's research centre



Besides, in Hong Kong research centre's international co-authorships, the high concentration of citing the authors' works who work in the same Hong Kong's research centre may indicate a silo-working approach rather than including diverse epistemologies. On the local-collegial and local-institutional level, the geographic bias implied in the knowledge-relatedness is apparent (Wuestman et al., 2019). One-third of the top 15 co-cited authors. Meanwhile, apart from citing several world-reputational scholars from the UK, the US, and Canada, there are 12 highly cited scholars among the top 20 authors by the co-authored publications at Hong Kong's research centre. The relations of these highest cited scholars are the senior colleagues or the research centre's leaders of the authors in the same institution, showing the uneven enclosure of preferential attachment rather than an open ecosystem of the power relations in

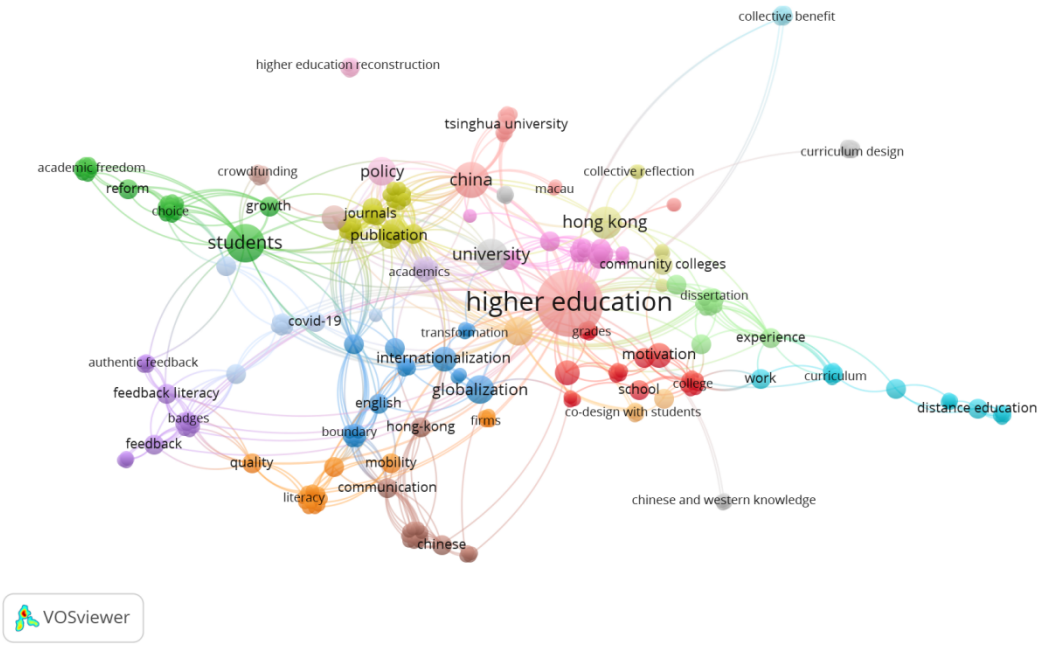
collaborative networks (King, 2011, p.360). Hence, citations can be influenced by complex motivations within and besides science (Bornmann & Daniel, 2008), like aims to attain credits (Merton, 1973) and build validity of the research (Tahamtan & Bornmann, 2019, p.1637), which is explored in the following interviews. Meanwhile, these findings inform interviews to explore the researchers' motivation for international reseach collaboration driven by epistemic diversity, and their willingness of integrating multiple cultural positionalities as intellectual-pluralistic cognitive accumulation.

3.4 Heated cross-cultural topics for international co-authorships

The global and cross-cultural research topics build a common ground attracting worldwide researchers to collaborate on the basis of epistemic diversity and intellectual pluralism. The concentrated collaborated research topics involve internationalisation and globalisation, especially in the multicultural global-city Hong Kong (Figure 11). As a region in-between with historical Anglophone cultures and Sinic-Confucian identity, the Hong Kong research centre's cross-cultural co-authored publications critically compare education and knowledge in mainland China, Macau, Hong Kong, and the West, with multi-positionality.

Figure 11

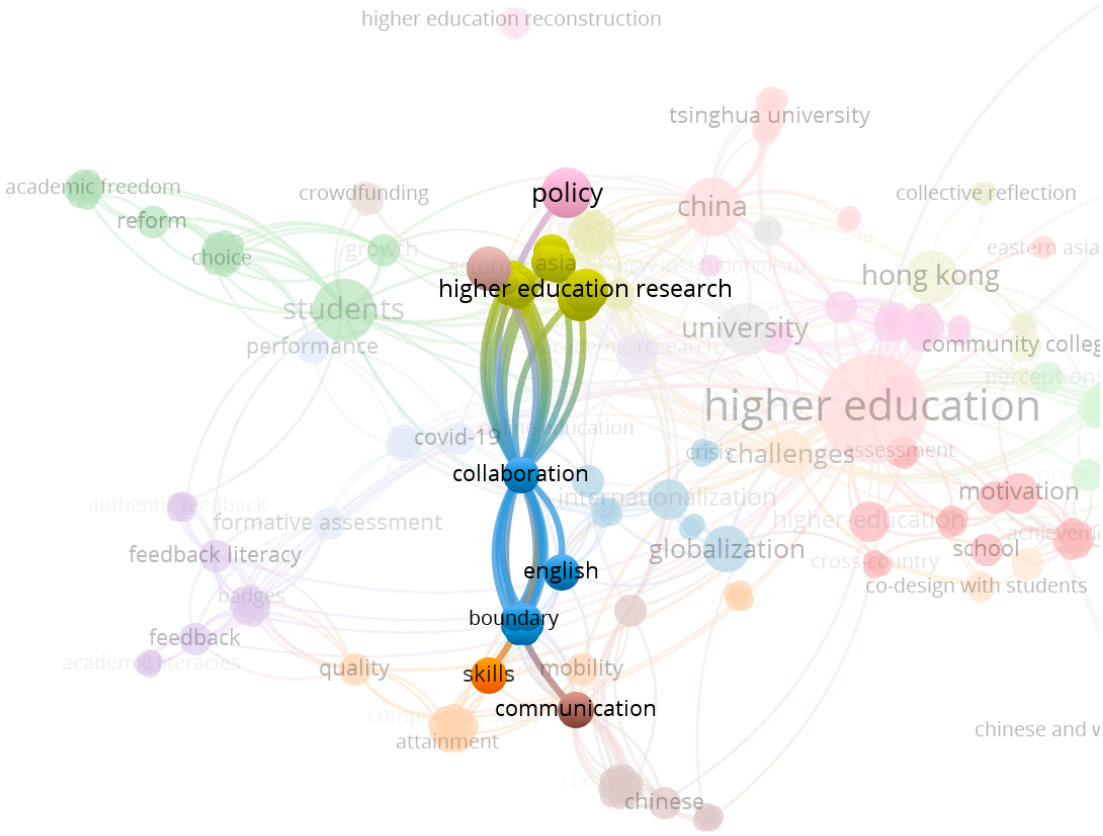
Hong Kong sample's concentrated research topics in international co-authorships



Notably, the topic of collaboration (Figure 12) is a concentrated focus, which closely connects with the empirical and theoretical debates on higher education research, policy, English, boundaries, skills, and communication.

Figure 12

Hong Kong sample's research focus related to the topic of collaboration in international co-authorships



The concentrated topics inform interview questions on curiosity-driven collaboration motivation related to ethos of science like criticality, linked with academic freedom in geopolitical tensions. The findings also shape the interview questions about research impacts related to the missions of higher education, and the questions about national research assessment frameworks as agenda guiding the research topics.

Chapter 4. Findings of Semi-Structured In-Depth Interviews

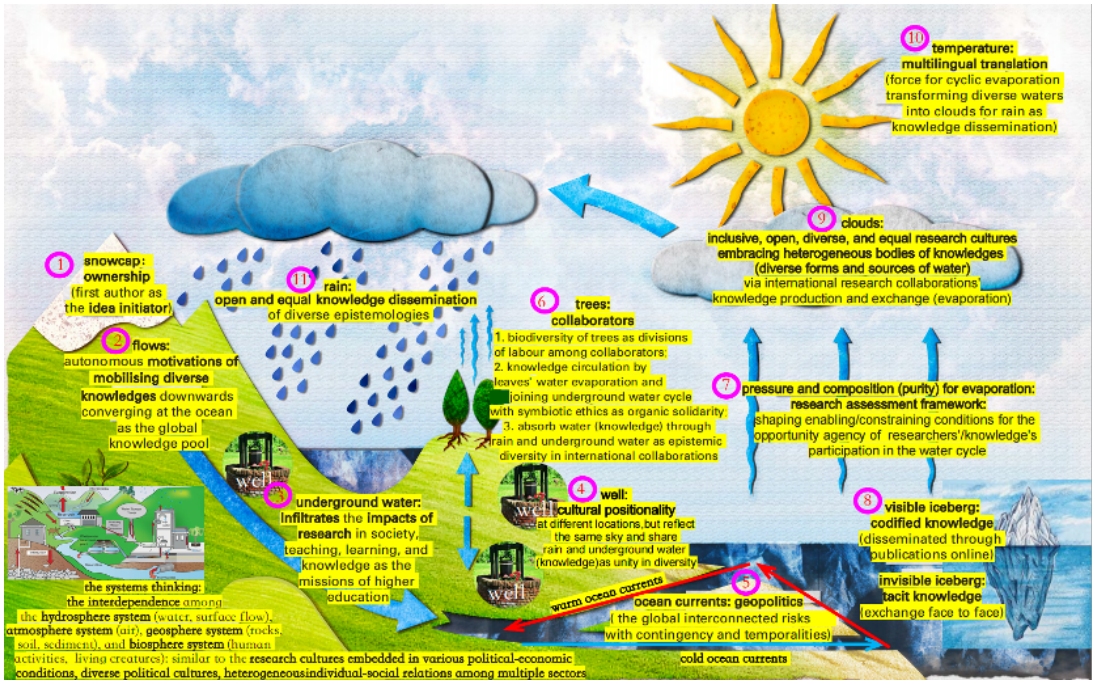
4.1 Chapter introduction: water-cycle systems thinking of international research collaboration

Quality case study (Saldaña & Omasta, 2016) 'is not about good methods as much as it is about good thinking' (Stake, 1995, p. 19). Systems thinking originating in Geography analyses the whole problem or a functioning entity like the water cycle and energy transfer (Evagorou et al., 2009) from multiple interdependent constituents with consistent interactions (Forrester, 2007). Exploring inter-relationships of diverse elements in a complex research system (Hmelo-Silver & Pfeffer, 2004) as a whole can be higher-order thinking (Frank, 2000) implying unity-in-diversity harmony.

Interviewees' perception of international research collaboration can be imagined as a water cycle system (Figure 13) with multi-causal interrelationships (Lee et al., 2019) showing balance among (1) modes of each research element; (2) dynamically changing causality among multi-level research actors; (3) scale and intensity of certain research actors or process; (4) role of a research element in a whole system; (5) hidden transformative force like knowledge flows, cycles, (6) the international collaborative research system' s mechanisms for stability and transformation, and (7) structure and functions of the international research collaboration system.

Figure 13

International research collaboration conceptualised as water cycle



Source: the author

4.2 Sequence of ownership: snowcap as prioritised originality

4.2.1 Convergence in the non-hierarchical, inclusive, and supportive research cultures for ownerships

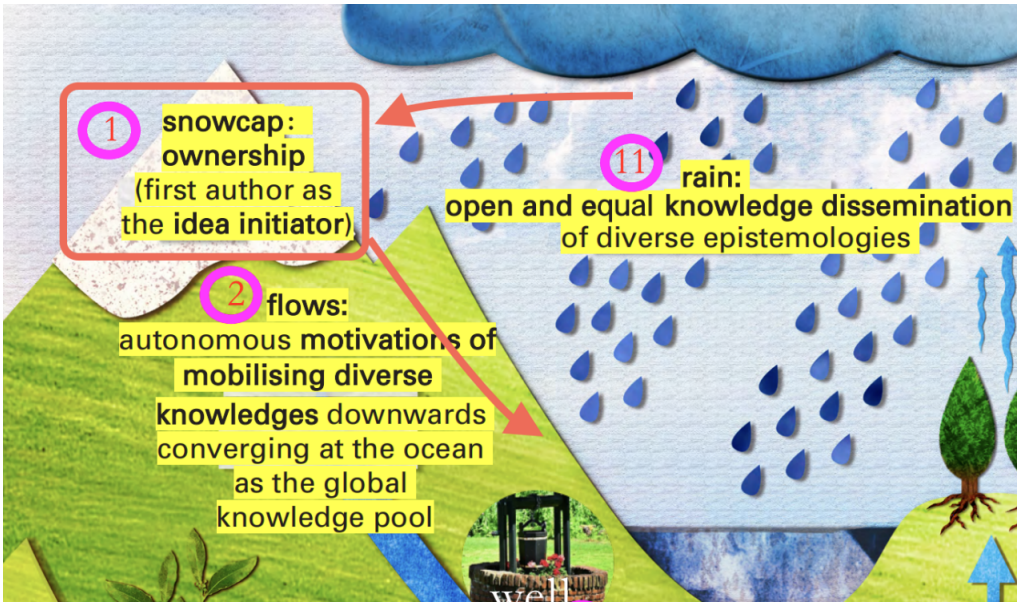
In general, the similarities in the convergence of the arrangement of ownership are based on the divisions of labour and real contributions (UK1, UK2, UK3, UK4, CN1, CN2, CN3, CN5, HK3, HK4, US1, US2, US3, US5). Praiseworthily, there are no findings that echo the 'intellectual imperialism, academic dependency or academic extractivism' implied in divisions of labour (Alatas, 2022, p.14) purely depending on nationality, age, race, or gender, with inferior or prestigious violence. This shapes democratic and equal research culture, like 'the authorship is a group decision based on divisions of labour.' (CN2), and non-hierarchical research culture which 'the Principal Investigators are not always the centre's directors (US3)', and 'authorships are inclusive and respectful regardless of the hierarchies of junior or senior scholars (UK5)'. The supportive research culture is exemplified in 'Some senior researchers with secure

positions generously offer the first author's ownership to ECRs since they think the first authorship benefits the ECRs most (US4).'

Arguably, ownership links with research integrity (Mills & Inouye, 2024) as a convergent response, the first author can be imagined as a snowcap (Figure 14) initiates the sources of ideas for melting water and flows to bigger lakes as collaborative convergence. This is driven by the recognition of originality as a core of knowledge production, and guided by the divisions of labour in research collaboration. For instance, 'The most important are the first and corresponding authors, who have leading roles and get the most credits (US3)', 'the idea initiator is the first author due to originality of research (US5)', 'We have mutual comprehension that idea proposers are important, and the author writing over half of the paper are appropriate to become the first author (HK1)'.

Figure 14

First author as the source of snowcap



Moreover, the requirements for supervisors to become corresponding authors is commonly standardised with real contribution, who must 'join writing (HK3, HK4)', and an interviewee expressed, 'I do not unreasonably add researchers with a professor title to authorship just for their reputation (HK4)'. Besides, supervisors as corresponding authors should provide detailed suggestions as real contributions (UK3, US2), like 'revision suggestions as real contributions (HK3)'. Also, 'supervisors encourage the independent authorship of the students' works. Only when the supervisors make real contribution, can they be included in the authorship (US2)'.

4.2.2 Sociocultural differences and challenges in ownership decision-making

Ownerships have sociocultural differences (CN2, US5). For instance**,** 'In mainland China, the Sciences disciplines' corresponding author must be the supervisor since they run the laboratory and attract funding resources (CN2)'. By contrast, **'**In the US, the Humanities and Social Sciences professors decide the authorship based on contributions, which breaks the norms of the Sciences discipline regarding supervisors as the first author (US5)'.

Additionally, there are critiques that the hierarchical research cultures decreasing ECRs' autonomous agency in authorship decision-making. This is relevantly prevalent in Asian Confucian traditions keeping a high social-class power distance, as illustrated, 'I listen to my supervisor and follow the collaborators' views since I am just in my early career (HK4)**.'** There is also research-cultural divergence in supervisors' authorship of top-indexed-journal publications. For example, 'In China, developing an academic career requires publications in the top journals, but there is no pursuit for top indexed journals in the US, and it has no influence on the ECRs' publications without their reputational supervisor's names as co-authorship (US2)'.

In addition, aligning with the previous findings of international co-authorship (Marginson, 2021; Chinchilla-Rodríguez et al., 2018b), differences exist in the ambiguous conceptualisation of the contributions of the second and the corresponding authors. For example, principal investigators (PIs) as corresponding authors are considered key players in China (CN4, CN5), since PIs 'put together resources and connect financial resources together (CN4)'. In Hong Kong, by contrast, 'The idea proposer is the most important first author (HK2)', while 'the corresponding author can be regarded as the second largest contributor (HK1)'.

Practically, there are implications of effective strategies in negotiating co-authored ownership. Firstly, communication matters, as indicated by, 'Communication is important, like clarifying the authorship related to the divisions of labour before the start of the collaboration (CN2)'.

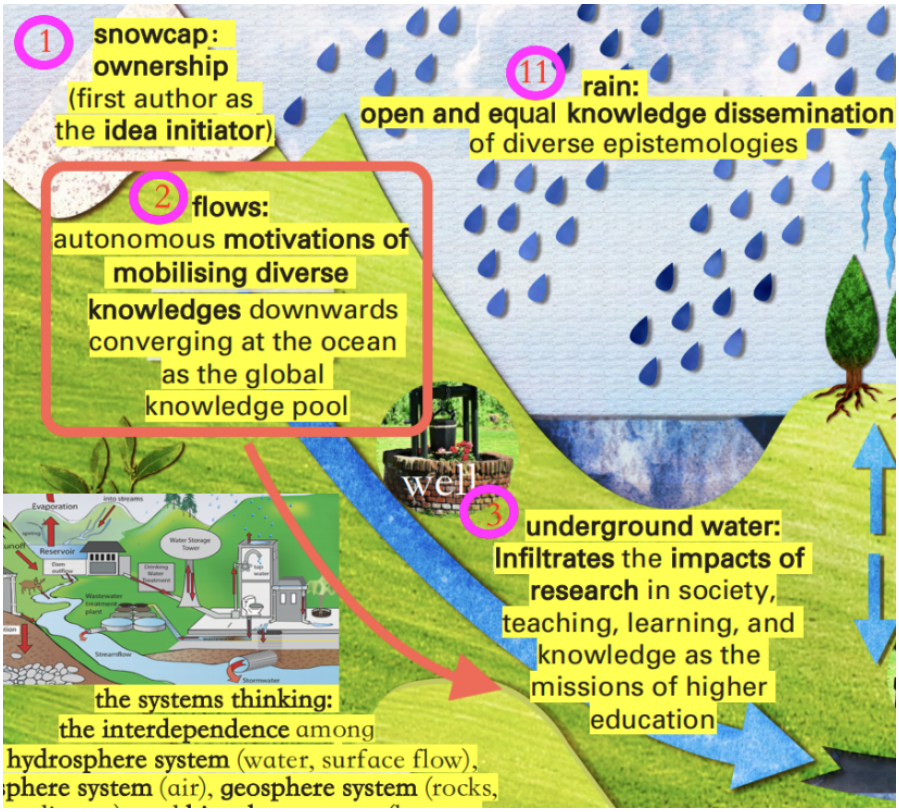
Also, alphabetically sequenced authorship is utilised in large author groups involving 'six or seven authors (US1)'. Nevertheless, non-competitive but ambiguous alphabetically sequenced authorship is critiqued for 'hard to show who did what work, which does not mean anything and does not clarify the alphabetically sequence to the audience (US4)'.

4.3 Motivation: water flows downhill converging at the ocean

Researchers' autonomous motivations for international research collaboration rooted in cognitive accumulation and preferential attachment (Marginson, 2021) international research collaboration are like water flows (Figure 15). The flows ceaselessly mobilise diverse knowledges downhill, naturally attracted by gravity, converging at the ocean as the global knowledge pool.

Figure 15

Researchers' motivation as water flows



4.3.1 Cognitive accumulation

Most interviewees recognise cognitive accumulation for individual and collective knowledge building (Melin, 2000) aligning with self-interest (Archer, 1995) as the initial motivation driven by the ethos of scientists' longing to enrich the knowledge pool as global common goods. This provides a basis for epistemic agreement and is stimulated by the complementary differentiated research capacity (UK1,2,3,5; HK2,4,5; CN1,3,4; US1,2,4). The motivation for international research collaboration is basically driven by individual researchers' willingness to cultivate their research capacity through international academic working experiences, involving co-authorships (UK3),

large-scale research project proposals and grant applications (UK4), which enhances intercultural competence (CN1), and is complementary to the ECR's own doctorate research training (CN2).

As a premise, scholar's bottom-up agency for collaborations is based on epistemic agreement, for instance, 'I choose collaborators sharing similar research-interest alignments in internationalisation of higher education, comparative international education, and international research dialogue (HK1)'. Meanwhile, scholars' reflexive agency (Archer, 2007) can be empowered through getting frequent feedback in time in time-intense collaboration project, as shared, 'Academic research always demands a long process before seeing the feedback, while research dissemination through international research collaboration generates chances of listening and reading research, critiquing my research and communicating about my research regardless of the positive or negative feedback (CN1)'. Similarly, collaborative research culture treasuring diversity generates humility through finding one's limitations by knowing about various cultures and differences, as reflected in this quote: 'The centre's researchers and scholars have various expertise for collaboration, so that we could realise our limitations (US1)'.

Moreover, international research collaborations enrich intellectual pluralism (HK4, US2) through 'learning other contextual research topics with leading or different focus (HK4)'. Meanwhile, international comparative collaboration is a golden chance to 'know about another context (US3)'. Additionally, scholars pursue quality research with multi-positionality on the meta-research level. For example, 'The internationally co-authored outcomes are richer and deeper due to heterogenous knowledges rather than only one side.' (UK3)**,** and 'I am attracted by the nature of international research collaboration, which is methodologically international, involving cross-border researchers (US4)'. Hence, the unity-in-diversity ways of thinking is strengthened (HK2, HK4, US3) through 'exchanging experiences about different continents while related to similar research themes (US3)'.

4.3.2 Preferential attachment

Preferential attachment driven by self-interest and self-actualisation through competitive reputation, as recognised by neoliberal economisation of science (Birnholtz, 2006) is another convergent motivation by the ECRs (UK1,3,4; HK4,5; CN2,3,4; US2,3,5), aiming at enhancing their employment and global reputation through

collaborating with senior scholars in world-leading universities as a 'cumulative advantage' (Katz & Ronda-Pupo, 2019, p.1047).

However, this motivation is problematic in shaping a non-hierarchical and less competitive ecology of research cultures. Arguably, the Matthew effect of 'the rich richer, the poor poorer' goes for communication in science (Merton, 1968). Preferential attachment, causes international collaborators concentrated in reputational researchers to mainly happen among well-known institutions, while the periphery-institutions researchers increasingly lack collaborative opportunities to cultivate research capacity.

Critically, driven by preferential attachment treasuring merits and credits from Euro-American hegemony, Asian scholars strive for global visibility and international reputation (CN3, HK1, HK3, HK4), like 'increasing publication and international visibility (CN 3)', and 'Teachers at the research centre do not hope their research is only limited in Hong Kong, mainland China, or East Asia. They hope to establish their own international 'name card', like 'promoting' themselves to their international collaborators (HK3)'. Meanwhile, this also aligns with the Anglo-American scholars' willing to 'build networks for worldwide knowledge production and dissemination (US1)'. Non-English-speaking scholars' English-mediated outputs show 'high efficiency in figuring out the techniques for international publications (HK1)', nonetheless, this may reproduce self-colonisation (Xu, 2018) when pursuing the Western-paradigmatic international standards.

Besides, preferential attachment driven by neoliberal marketisation of research equals or even exceeds the attractiveness of the cognitive accumulation, energising the neoliberal performative research culture. For instance, the highly competitive academic labour market with precarious professional jobs (HK3, HK4, HK5) catalyses ECRs' international research collaborations for 'increasing personal research fame and building profile through international collaboration (HK4)'.

Hence, different from the argument that motives for collaboration proritise curiosity-driven cognitive accumulation out of altruistic internal psychological intentions for the intrinsic value of knowledge (Klavans & Boyack, 2017), the findings of the present study show an emerging weight of the pursuit for efficiency of productivity, demonstrating the research culture of academic capitalism.

Arguably, the contributions to science are shared between cognitive accumulation for enriching the knowledge pool and preferential attachment driven by self-creation and self-realisation (Ryan, 2014) with status and reputation through knowledge productivity. Also, the combination of these two motivations is resilient in academic research, which

predates twentieth-century neoliberalism (Hayek & Stelzer, 1960) or the 1980s neoliberal reform in higher education initiated in the UK. This dates back to the academy in the Western Zhou (1046–771 BCE) of ancient China, where the status is demonstrated through the significance of knowledge as an early foundation of the status-driven economy through higher education (Marginson & Yang, 2023b).

4.3.3 Research environment and culture as extrinsic motivations

The dynamic teamworking environment empowers the researcher to feel that 'The project keeps me going. Knowledge exchange activities involving workshops, reading groups, and group meetings for theory discussion facilitate the outputs (CN2)'. Particularly, charismatic leadership shapes supportive research culture, which 'stimulates a sense of fulfillment and excitement (CN4)'. Additionally, an open and inclusive sociocultural context of research centres is crucial. America as a cultural melting pot is especially attractive to international collaborations, as commented 'Since the research centre is situated in the multicultural US, the studies on international higher education tends to be creative (US3)', and 'People sitting in America are working with the rest of the world through collaborations (US5)'.

Notably, different from national research institutionally organised and managed by national research agenda and funding schemes, international research collaboration environments are mainly naturally and autonomously formed (Georghiou, 1998; Marginson, 2024). International research collaborations are driven by academic inspirations through knowledge exchange and dialogues, as illustrated by 'I autonomously wait for fitted chances rather than intentionally seek international collaborations (HK2)'.

Also, researchers have reflexive agency in integrating internal motives and the external environment when deciding their academic trajectories and personal career aspirations (Yang, 2024)**.** For instance, Chinese researchers join international research collaborations harbouring double identities both locally and globally, as explained, **'**I plan to pursue a more international academic degree in the future, so join a team that is conducive to accumulating experience in international research collaboration (CN5)'. Arguably, the researcher's double identity (CN5) is influenced by the external policy of the dual strategy for Chinese internationalisation. China holds the autonomy of the national research system and builds the national research capacity and infrastructure by opening international collaborations (Chinchilla-Rodriguez et al. 2019, p.5), meanwhile, contributing to the global knowledge pool. This echoes China's double-phased

historical contexts, involving the ancient imperial evolution, civilisation, and national language, combined with modernisation synergising Western impacts (Marginson & Yang, 2023b), hybridising plural knowledges (Lo & Yang, 2023).

4.3.4 Divergence and convergence

Critically, rather than convergent thinking, some respondents demonstrate a totalising imaginary of methodological nationalism driven by institutional and national promotion incentives. Methodological globalism is also implied, in the inadequate reflexivity about research quality and research impact which are taken for granted as the outcomes of international collaborations (Marginson, 2021).

Arguably, the intrinsic and extrinsic motivations are complementary. The extrinsic factors like the research environment and culture modulate the intrinsic motives like cognitive accumulation. However, diverse intrinsic motives can also reshape extrinsic factors including the vicious circle of strengthening the hegemonic and neoliberal hierarchies through non-Anglophone scholars' self-colonial preferential attachment. Hopefully, an ethical-oriented situated convergence contributing to the global knowledge pool and gaining research visibility without academic dependency could cement these two heterogeneous motivations.

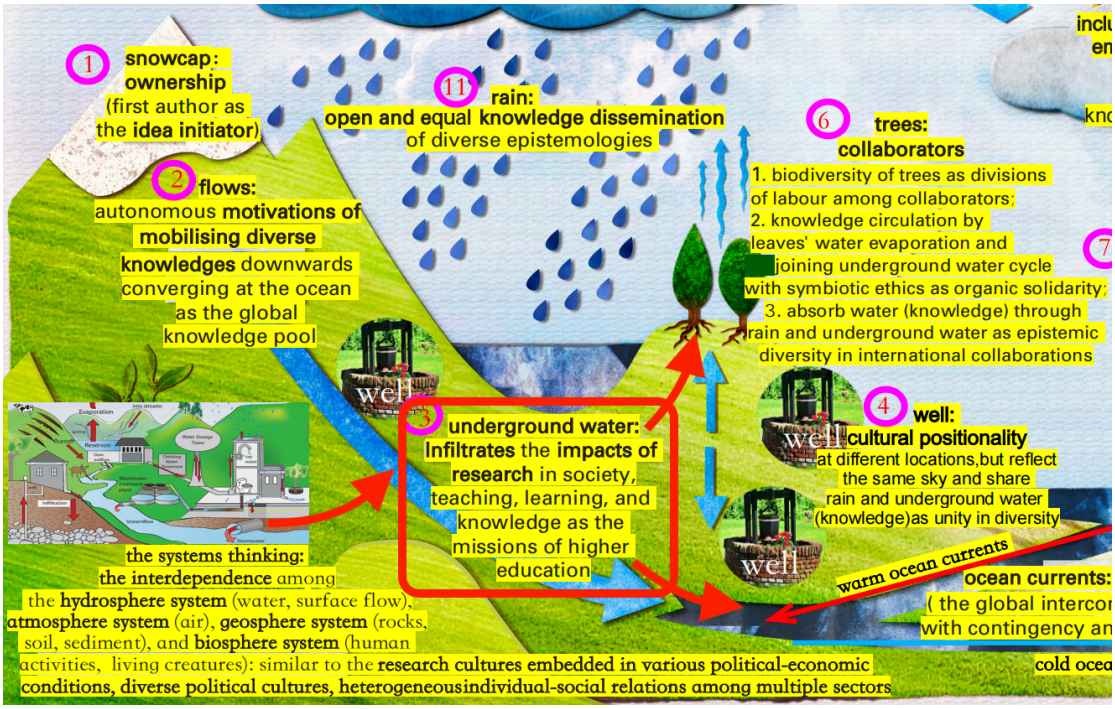
This implies that the root of situated convergence among international researchers lies in the widely shared normative motivations of cognitive accumulation and preferential attachment. The mutual research cultures that are conventional norms guiding scholars' decision-making (Schott, 1998).

4.4 Research Impact and missions of higher education: underground water infiltrating diverse impacts

Research Impacts generated by international research collaboration are like underground water (Figure 16), which infiltrates the impacts to multiple purposes of nourishing trees, filling the well, providing living water for human and animals, and flowing to the ocean. This is like the role of research in generating societal impacts, and informing teaching and learning as the multiple missions of higher education, apart from knowledge itself converging at global knowledge pool.

Figure 16

Research impacts as underground water serving multiple purposes



4.4.1 International research collaborations' societal impacts

Firstly, international research collaborations generate social impacts by shaping unity-in-diversity mindset, as illustrated, 'International research collaborations tolerating cultural-diversity transform the zero-sum thinking of knowledge as geopolitical games (HK2)'. Also, research is widely imagined as 'public goods (UK2, UK3, UK4)' with 'non-economic oriented social values (UK2)', for instance, 'Universities are structured, governed, and ruled, so universities have exposed societal impacts to society (UK1)'.

Furthermore, perceiving research's role strengthens the understanding of the function of higher education as public goods (UK2, HK1, US4), especially to university-community engagement. As expressed, 'Our research forms a three-country peace-building community (UK2)', and 'Research generating positive societal impact on society is significant. Young learners acquire knowledge in university and become critical thinkers through civic education, which is relevant to their roles at local and global, at schools, and being citizens. (UK4)'. Besides, evidence-based research empowers social policies and practice (US3, UK5), which 'enhances the policy reforms by analysing the existing problems in the field, and disclosing the risks to the policymakers (US3)', and 'provides evidence-based feedback to society (UK5)'.

4.4.2 Gaps in global and local societal impacts

Nevertheless, challenges exist in informing local policymakers through English-mediated publications by international collaborators. Language barriers are apparent impediments, while some local publishers proactively make publications accessible to policymakers, for instance,

> 'Compared to English-mediated international journals, Chinese journals for knowledge dissemination are more visible to the local policymakers for policy reforms. There are some solutions. For instance, in China, the Renmin University of China copy newspaper information centre (*中国人民大学复印报刊资料中心*) selects 20 papers from the around 200 SSCI publications per month. It translates these 20 selected papers into Chinese as representative academic publications to inform Chinese policymakers. Another solution is providing a bottom-up channel for researchers to reach specific policymakers (HK3)'.

This response shows a gap between national-funded international research collaborations (Bornmann et al., 2018, p.931) and inaccessible research impacts to local and national policymakers. Praiseworthily, the above English-to-Chinese translated publications and local consultancy channel could be a strategy to break the local blockage of impact accessibility.

4.4.3 International research collaborations informing teaching and learning

Secondly, research informs teaching and learning (UK2, UK3, CN4). As expressed, 'Our published research articles are included in the courses' reading lists (UK2)', 'Teaching preparation is a self-growth process accompanied with enhanced research skills. Teaching and learning at this university taught by the principal investigator touches upon our research (CN4)'.

However, compatible teaching-research tensions emerge in scarcity model of time and energy (Hattie & Marsh, 1996; Brew, 2010), as shared, 'There are time limits between teaching and research (UK3)'. By contrast, some scholar regards a reciprocal teaching-research nexus, as 'More time in research makes more contributions to classes (CN4)'. Arguably, this informs a positive-sum integration of reciprocal teaching and research assessment frameworks.

Moreover, academics' mobility through cross-border collaboration informs intercultural teaching and learning with 'international visions' (CN2, CN3), which

‘provides examples in classes with comprehensive standpoints in different countries to broaden students’ diverse horizons (HK2)’. Accordingly, international research equips teaching is with a global imaginary (HK3, US1, US4), which ‘generates an international-perspective curriculum (US1)’, and ‘bridges dialogues across geographies and disciplines (US4)’.

4.4.4 International research collaborations’ contributions to knowledge

Thirdly, research has impacts on knowledge for its own sake. Basically, research enhances the critical improvement of previous knowledge, as described, ‘Research is like a jigsaw seeking for and filling up gaps. Research can revise the methods and data interpretation of previously problematic research (HK4)’.

Notably, international collaborative research enriches intellectual pluralism (Yang, 2023) empowering the ecology of knowledges. For instance,

> ‘The research helps the academia to reflect on how we can get here and whose knowledge is excluded and why and by whom. My research reflects on the historical injustice of why and how one epistemology happens. Diverse epistemologies and different languages generate multiple ways of knowing. Small research contextualised in a specific community enriches epistemic diversity. This contribution should be notable in a currently commercialised higher education system when the higher education itself mainly produces practical and material knowledge (UK5)’.

Besides, international research collaboration compares diverse contexts constructs epistemic-pluralistic analytical frameworks (CN4, CN5), as expressed, ‘My research focusing on Confucian ways of knowing both inside and outside China, aims to propose a transpositional analytical framework (CN4)’. Also, interdisciplinary cross-cultural comparative study facilitates mutual learning (UK2, HK1), for instance, ‘International research collaboration forms interdisciplinary and intercultural understandings (HK1)’, and ‘create an academic community in the world scale (HK2)’.

Particularly, the contexualisation of discourse can be realised through global comparative research as an effective way of countering hegemonic internationalisation (Marginson, 2023a). For example, ‘My research on public goods interprets the concepts of internationalisation in the US differently from other countries. Comparative research collaborations show how decontextualisation influences higher education practice at different places, which contributes to teaching and learning (US5)’.

4.4.5 International research collaborations' impacts on HEIs

International research collaborations have impacts on the development of higher education institutions through intercultural knowledge exchange (Oancea, 2024). As illustrated, 'My research introduces the frameworks of Chinese higher education, bridging cultural exchanges among higher education institutions in different cultures (CN5)'. Meanwhile, 'Global sciences build critical higher education institutions (US1)'.

Also, researchers enhance their research capacity through proactive international co-authorships for internationalisation at an emerging research university. As exemplified, 'Research at my university aims at internationalisation through researcher's research capacity building and research outputs. Therefore, we proactively expand our opportunities in international research collaborations (CN3)'.

Besides, institutional integration of resources between research, teaching and learning can be achieved through international research collaboration, which 'informs teaching with cultural perspectives from other countries, and forms networks by inviting international guest speakers to teaching. Therefore, resources from international research collaborations can be integrated to other functions of higher education (HK1)'.

4.4.6 Inclusive research impact and the route to impact accessibility

Inclusive international research collaboration involving multiple authors generates broader impacts, which 'maximises the three missions of higher education through inclusive collaboration networks' (US4), and these impacts are further facilitated by external factors like citation (Oancea, 2024), as shared, 'positive impacts are strengthened through being cited by stakeholders like policy, community, university leaders, and students (UK2)' or through 'open assess (UK5)'. Thus, accessibility to research impacts should be inclusive and diversified , involving broad contributors like technicians, specialists, practitioners, and academic researchers, which matters to the different criteria for impact evaluation of who is doing what, for what, and to whom (Tellmann & Muhonen, 2024).

Furthermore, evaluating long-term societal impact demands transformative measures involving both ex-post and ex-ante considerations (Tellmann & Muhonen, 2024). As expressed, 'Research on Sustainable Development Goals (SDGs) can't be measured in one or two years, but may show impacts even throughout one century.

Therefore, there should be research measures that could evaluate long-term impacts since changing people's minds is significant while which demands a long run (US2)'.

Meanwhile, strategies like altmetrics can include broader research contributions like leading public debates and theoretical implications for policy (Oancea, 2024), as exemplified, 'Our research triggers reflections on if the rankings and indicators are positive to social mobility and scholarship, which have implications to teachers, policymakers, and institutions (UK2)'. Problematically, the impact evaluation on research about 'the global grand challenges like SDGs (US2)' currently shows a reductionist logic of research policies, which linearly presumes a causal relation as a panacea between research outputs and research impact.

Also, as a respondent shared, 'Impact evaluation should include the influence on multiple stakeholders (HK5)', which should reach multi-level stakeholders beyond academia (Tellmann & Muhonen, 2024) rather than partially considering published research output as research performance (McLellan et al., 2007). Therefore, informed by the theory of change (Weiss, 1972), the logic, presumptions, impacts, causality, and expected outcomes of research (Funnell, & Rogers, 2011) should be interrogated at multiple levels like the research field, relevant institutions, research funders' support, and beneficiaries. (Jackson, 2013).

Notably, there is negative resistance against the Euro-American dominated neoliberal performative research evaluation, as disclosed by an Asia scholar,

> 'There are increasing research like sausage slicing aiming at performative outputs through repetitive and redundant homogenous publications without essential values in improving knowledge. Early career researchers should not conduct research with functionalist aims for employment, while they should conduct research for research's own sake in a meticulous and professional atmosphere respecting research integrity (HK4)'.

Hence, the current competitive research assessment for global collaborations is a questionable medium for inspiring novelty. Competitive performance-based funding demands short-term research design with immediate impacts, which is blamed for preferring conventional and less adventurous ideas. This threatens the research novelty through risk-taking and long-term waiting time to witness breakthroughs' impacts (Marginson, 2021).

Above all, research policymakers' reflexive agency should revisit their causal standpoint of presuming international collaboration as enabling conditions for research

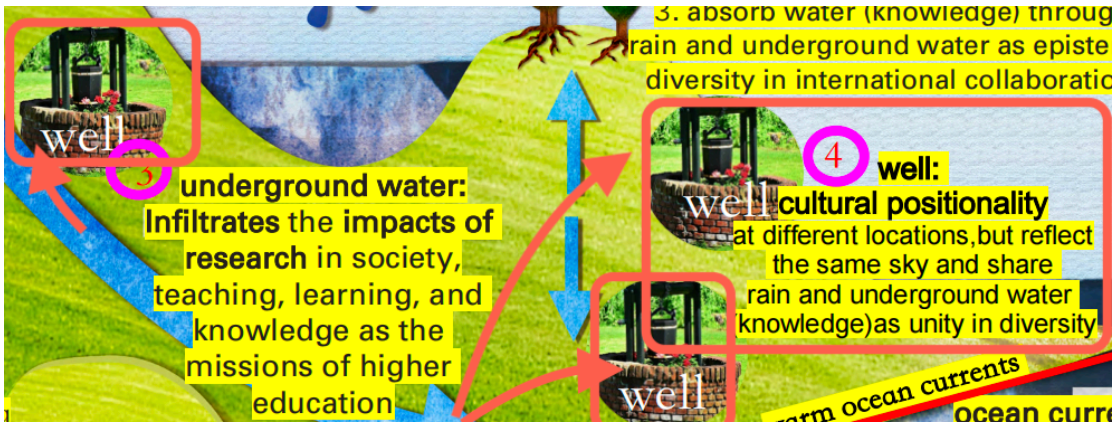
productivity, quality, visibility, and impacts (Marginson, 2021). For instance, previous research mainly found positive effects on research productivity through collaborations on the institutional and national levels while ignores the negative impacts (Abramo et al., 2017). Moreover, research outcome assessments should include broader impacts exceeding the quantitatively calculable comparisons (Graf & Kalthaus, 2018) .

4.5 Cultural positionality: wells at diverse positions

Multiple cultural positionalities are like wells (Figure 17), situated separately at different locations, but reflecting a common sky, sharing the regional rain and connected underground water as unity in diversity.

Figure 17

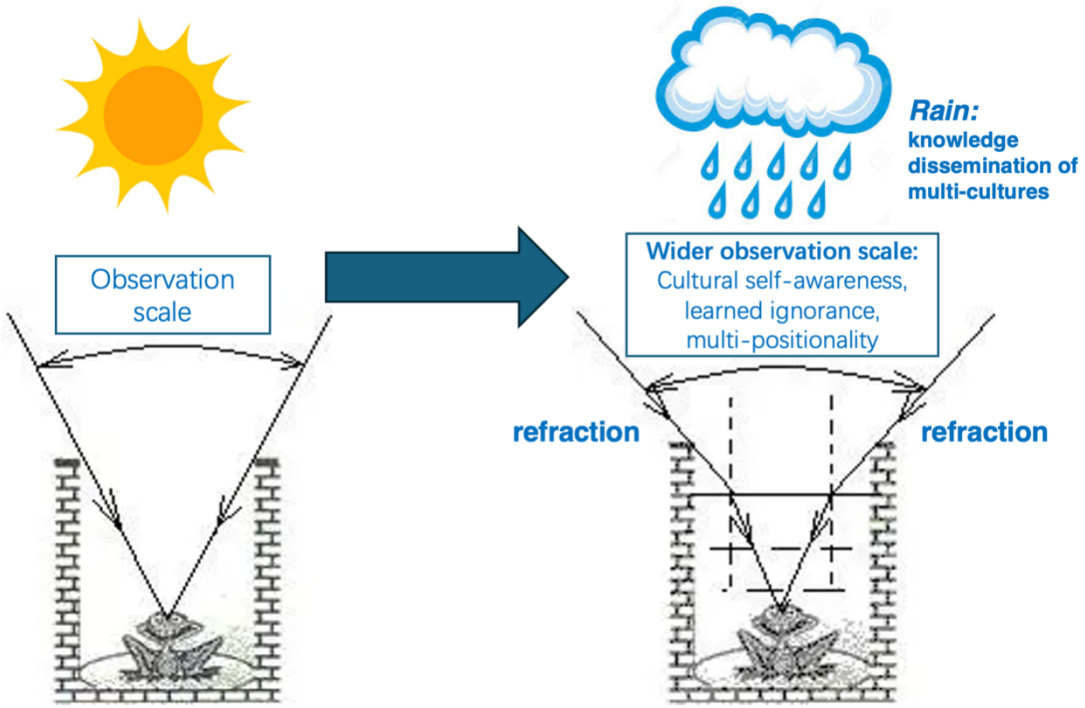
Multiple cultural positionalities as wells located in different places



Critically, a well as an independent cultural positionality reminds researchers to have ‘learned ignorance’ (Santos, 2017a) of realising the existence of other cultural positionalities. A frog sitting in its well can only see the bigger sky with more water (knowledge) in the well as the refraction after the rain (knowledge dissemination) (Figure 18). Only when seeing a bigger sky beyond the boundary of a well, can a frog cultivates cultural self-awareness with learned ignorance. Here the rain can be conceptualised as knowledge dissemination from the cloud, since all sources of water, no matter from which river, or evaporating from which leaf, can converge as clouds as a unity in diversity, and then float and rain to anywhere to raise diverse creatures, raising intellectual pluralism (Yang, 2023).

Figure 18

Frog's broader horizons of sky refracted by filled water in well after rain



Source: the author

4.5.1 Cultural positionality commonly influencing research ethics

The most common influence of cultural positionality is implied in the scholars' perceptions of research integrity and moral ethics. As shared, 'I found research ethics at the centre of cultural positionality (US3)', 'My cultural positions of collectivity form my ethical considerations of working with the groups. Such as holding a workshop to explain the research in detail to get everybody on the same topic and pace (UK1)', 'I have become humanistic in my research ethics and hold this attitude towards communication and understanding with people throughout my research (US2)'.

Also, Asian scholars show professional identity like Confucian self-formation legacy (Marginson, 2018b), as expressed, 'I treasure the intrinsic value of my contribution strictly following the academic integrity and ethics as my obligation (CN3)', guiding him to 'have authentic conversation with the existing theories, and to form new opinions interpreting the social reality (CN3)'.

Moreover, Confucian morality becomes researchers' virtuous nature to conduct ethical research. As shared, 'My cultural position reminds me of the Chinese moral ethics of obeying conscience rather than being a 'base person (*xiaoren*, in contrast to

junzi as a man with noble character)'. I follow the Chinese thought of '*When looking up, he has no occasion for shame before Heaven, and, below, he has no occasion to blush* before men.' (仰不愧于天，俯不怍于地，*Mencius) (CN4).'* Researchers' innate ethics echoes Taoist metaphor of water as supreme goodness discussed in the final chapter.

4.5.2 Multiple shaping factors of cultural positionality

Meanwhile, cultural positionality can be shaped and comprehended through nationality (HK1), Anglophone and non-Anglophone divergent sociocultural contexts (US1), multiple personal cultural and linguistic experiences (UK2, US3), research identity as academic scholars or practitioners like 'The practitioners treasure more contextual relevance (US1)', supervisors' positionality (HK4), institutional research culture (CN5, HK5), disciplinary research culture (CN5, HK2), and researchers' personalities (UK5).

Arguably, the institutional and disciplinary cultural positionality implied in the ethos of leadership is crucial in shaping supportive research cultures for collaborations, as exemplified, 'I found my university emphasises organised research collaborations and collective outputs, which is similar to the mode of sciences research at Peking University (CN5)'. Additionally, the ECR training mode is shaped by institutional research culture. Supervisor's positionality strongly influences the ECRs' academic positionality of prioritizing the research integrity and ethics, which might be stronger than the cultural influence. As illustrated, 'The surrounding people like my supervisor's influence as a role model on cultivating a sense of values and research integrity is very important (HK4)'. In contrast, there can be a questionable influence by the supervisors due to the sociocultural hierarchies treasuring the authority uncritically. For instance, 'My doctoral training is mainly Chinese style, 'nearly 99%' follow the supervisors' suggestions and guidance, and the students usually do not reject any suggestions from their supervisors (HK5)'.

4.5.3 Reflexive agency of cultural self-awareness and multi-positionality

Notably, researchers' cultural self-awareness (Fei, 2015) generates reflexive agency in critiquing the mainstream discourse. As critically exemplified, 'My public-good themed collaborative research engages with concrete issues, like the economic arguments about education as a private good, and my cultural positionality makes me disagree with this view. I can't entirely agree with America, OECD, and the World Bank's mainstream quantitative assessment of educational impact. By contrast, my

previous long-term residence contextualised in the Indonesian culture makes me critical of the impacts of education (UK2)'.

Meanwhile, cultural positionality is not wholly scaled by the territorial border like nation-states. Agential scholars have internal beliefs and imaginaries beyond nation-states, becoming their personal-convinced cultural positionalities. As expressed, 'My personal belief of pro-European Union is stronger than my identity as a French, which influences my research identity. I regard myself as a European citizen, supporting an ecological political-social culture of the European Union (UK3)'. This supra-national regional cultural identity caters for the collaborative motivations driven by geographical proximity due to political, cultural, and lingual similarities (Kato & Ando, 2017).

By contrast, an interviewee argues that the research integrity as systemic scientific inquiry is independent from researchers' biased cultural positionality. As explained, 'I regard research as an objective inquiry following systemic scientific process, so I am less or merely influenced by my cultural positionality or consider my cultural positionality throughout my research (CN1)'.

Admittedly, there are divergence of Anglophone and non-Anglophone scholars' cultural positionalities in the role of science and higher education, like 'Non-Anglophone contextualised scholarship and literature show different experiences and critiques of policies compared to the Anglophone scholars, like cultural or philosophical positionality of regarding higher education as a public good serving society (US1)'. Arguably, scholars have agency in holding unity in diversity through multi-cultural informed selections of references. As illustrated, 'Our positionality influences whose research we cite in the list of references that we consider as key writers when publishing articles. For instance, 'My research project chooses literature that critiques the mainstream neoliberal Anglophone discourses, and intentionally selects UNESCO's and China's *tianxiaweigong*-idea (translated as 'the whole world as one community') literature treasuring global common goods (UK2)', 'I prefer solid research rather than pursuing rushing findings or processes (CN4)', and 'My positionality considers academic integrity its own sake a kind of ethics, which may not completely align with the Western view on academic professions (CN3)'.

By contrast, American scholars express the perceived 'superiority of English-lingual cultural positionality (US4)' and 'the advantageous Anglophone nationality as the centre of international research (US5)'. Also, national identity privilege shapes hierarchical research culture, as expressed, 'scholars holding a US passport are

considered colleagues with privilege (US5)'. Praiseworthily, some American scholars are also critical of their biased Anglophone cultural superiority and English-lingual advantages, as described, 'Being an English speaker benefits me a lot. I do not need to focus on translation, and I only need to focus on interpreting. Therefore, my Anglophone cultural positionality shows a lot of advantages (US4)', and 'My cultural positionality reminds my moral philosophy to acknowledge my advantages in the workplace. Therefore, I am aware of being open, collaborative, and fair to others (US5)'. Arguably, this 'learned ignorance' showing critical awareness of Anglophone cultural exceptionalism (Santos, 2017a) facilitates an open, collaborative, and fair moral ethics in East-West research collaborations.

Therefore, the divergence in cultural positionalities which seems a burden for collaborations can be transformed into a gift through scholars' cultural self-awareness (Fei, 2015) of recognising one's cultural positionality and multi-positionality of embracing heterogeneous bodies of knowledges without cultural exceptionalism (Sen, 2002). This can be implied in the double identity of Chinese scholars, 'involving local, national, and global multiple cultural positionalities (CN1)'. As illustrated,

> 'My academic location is situated in variant contexts, involving the Chinese scholars' location, and the international academia's location. I have my cultural standpoint by bringing the Chinese culture to my cultural positionality to form the dialogue between China and the West, and I found there are natural connections between them rather than deliberate East-West comparisons. For instance, the Chinese cultural and social phenomena and thinkers' ideas show similarities to the West. Therefore, the interpretation of cultures should be resourceful (HK3)'.

This aligns with the ecology of knowledges treasuring the connections rather than an abyssal line between cultures in the East and the West (Santos, 2007, 2017b).

Also, another Chinese scholar emphasises a sense of responsibility for interpreting their cultural positionality to the world, as shared,

> 'Fei Xiaotong writes Chinese intellectual thoughts and promotes them to the global academia. Therefore, he hopes to 'have control' of traditional Chinese cultural capitals and hope the world knows the Chinese stories and cultural values. This

shows Chinese scholars' moral ethics and a sense of responsibility for their cultural positionality. I found many Chinese scholars showing these values. (HK2)'.

Meanwhile, double identities contribute to the Chinese scholars' insider and outsider dual-positionality advantage in conducting international research relevant to local contexts. As one Chinese scholar working in the UK's research centre shared, 'My linguistic background in Cantonese makes me an insider of our culture of Hong Kong as one field study of this international collaborative research project. My insider cultural background generates valuable insights into the field, and the interviewees like to share more information contextualised in the local contexts (UK1)'.

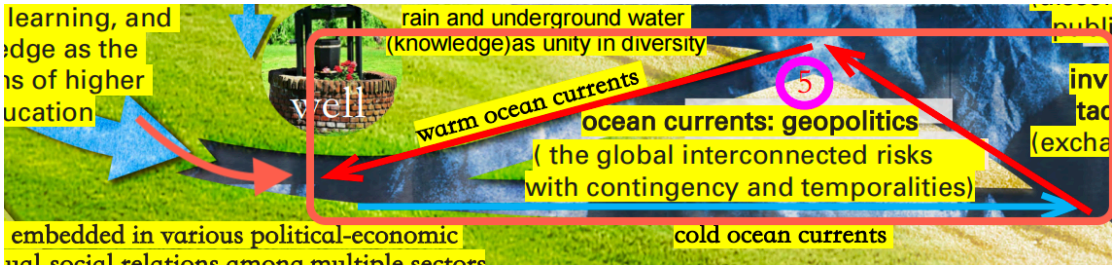
This finding also echoes the successful trajectories of Humanities and Social Science Chinese scholars working internationally who ambitiously integrated Chinese theories into the Anglo-American-dominated disciplinary theories (Yang, 2024). This strategy deconstructs the hegemonic internationalisation (Marginson, 2023a) by revisiting and disclosing the histories and contexts with neither methodological nationalism of cultural superiority without entanglements with other cultures nor methodological globalism which ignores one's cultural legacies (Marginson, 2022c).

4.6 Geopolitical tensions: ocean currents

Geopolitical tensions are like warm-and-cold, or up-and-down ocean currents in contingent and temporal flux (Figure 19). A question deserves reflection on 'Is the ocean the same ocean?' This implicates a global imaginary with intercontinental ecological awareness in a constant state of being in flux. The ocean currents shape transpacific and planetary connections of the local and global knowledge mobilisation, which shows turbulent impacts like the ocean currents causing weather disaster or mediating ocean biodiversity.

Figure 19

Geopolitical tensions as ocean currents

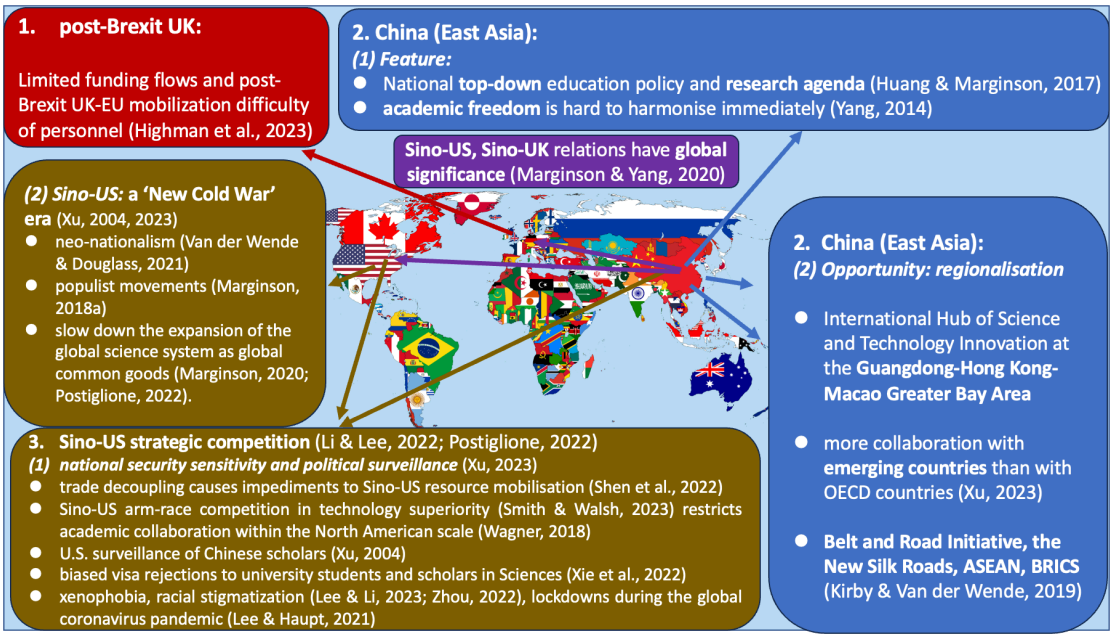


Arguably, geopolitical tensions as global risks coercively link researchers (Beck, 2011, p.1353) to create pluralistic (Marginson, 2018a) imagined communities across all kinds of boundaries as deterritorial connection.

Also, against the geopolitical tensions in the four researched societies (Figure 20), individual researchers' agency shows situated dynamics interacting with changing social relations.

Figure 20

Sampling Regions' Geopolitical Tensions



Source: the author

4.6.1 Divergences dominates the geopolitical tensions in international research collaborations

In general, geopolitical tensions mainly cause divergences in international research collaboration. Stigmatisation and bias to certain nation states disturb academic integrity, like 'American scholars may use a pair of political glasses to conduct Chinese studies with variant interpretations of the same topic due to different political perspectives (HK1)'. Also, geopolitical tensions lead to suspension and personnel exiting from collaborative projects with the affected countries, as illustrated, 'American professors left the collaborative projects with Russia after the Russian invasion of Ukraine (US2)', and 'Geopolitical tensions may influence international collaborators, like American professors' collaborations against the Sino-US relations (HK5).'

Meanwhile, visa diplomacy is manipulated through visa restrictions and academic mobilisation. For instance, British visa policies affect European citizens' travel to the UK (UK4, UK5), 'Due to wars, for Israel and Palestine, mobility is affected. Ukrainian academics and students became less globally (UK4)', and 'Geopolitical tensions influence whether researchers can get visas in the short term for cross-border conferences (US5).' Nevertheless, measures encountering geopolitical tensions like online mode even generate further inequality with mutual limits for all. As exemplified, 'The ongoing wars reduced shelters. Although online education isn't beneficial for students, teachers and students in different regions including non-affected areas all joined online teaching since 3,700 educational institutions were damaged in Ukraine (UK4)'.

4.6.2 Negotiations for academic freedom in national-funded international collaborations

In the samples' contexts, research is mainly publicly funded and imagined as public goods, causing outcomes like, 'Geopolitical tensions affect international research grants with formal agreements (US1)', 'Geopolitical tensions decide whom you can work with. Geopolitical tensions hugely affect formal and legal projects with financing endorsement (US4)'. Nevertheless, the nationally provided resources become simultaneously (1) enabling conditions for effective freedom, and (2) constraining factors to control freedom limiting scientists' imagination as agency freedom in international collaborations (Sen, 1985, 1995). Confucian ideas also underpins a balance between individuals' positive and control freedom, as exemplified, 'The lord

is the boat. The common people are the water. The water can support the boat. The water can also overturn the boat. (水能载舟，亦能覆舟)' (*Xunzi* 9.4)

Furthermore, scholars express their worries about the restriction of academic freedom in knowledge exchange when measures to maintain national security are implemented during geopolitical tensions. For example, 'The US-China knowledge security implies in national research policy. At my institution, there are checking points in international research. Particularly, there are new forms and special checkboxes in STEM disciplines (US2)', and 'academic freedom influences research topics (US4)'. There is also disciplinary heterogeneity in political sensitivity, 'The geopolitical tensions have less influence on Humanities and Social Sciences, compared to Sino-US's geopolitical tensions' influence on Sciences and Technology disciplines (CN3)'.

4.6.3 Researchers' autonomy countering geopolitical tensions

By contrast, autonomous researchers can counter political sensitivity by following their research integrity on the basis of the scientific ethos that treasures apolitical knowledge. Especially in a highly institutionalised Chinese higher education system, researchers still have relative independence by disclosing the truth from a mainstream political-economic standpoint, as exemplified, 'To take the 'double-reduction' policy in China as an example, the researchers should not show bias to politically sensitive Chinese policies but should keep objective and respect objective facts. Therefore, critical research is important, based on a deep examination of the environment and the topic. Only when researchers remain objective and critical, the research embedded in the contexts of geopolitical tensions make sense (CN4)'.

To some extent, researchers' autonomous motivation for research collaboration could exceed the limitations of geopolitical tensions, even though this autonomy cannot be overstated (Marginson, 2024). As expressed, **'**The geopolitical tensions' impacts are limited, since the international research collaborations are based on researchers' personal relationships and networks, but the international research grant with the formal agreement would be affected. (US1)'. The local-level institutional and individual researchers' autonomy can move through geopolitical tensions, like **'**Researchers' personal autonomous collaborations are less affected. (US3, US4)**'**, and 'Geopolitical tensions merely influence the interpersonal-connected research team (CN5)'.

4.6.4 Conversion of resources influencing researchers' capability to opportunities

Notably, informed by the capability approach (Sen, 1985, 1999), when researchers' agency is situated **(**Zimmermann, 2006**)** in geopolitical tensions, the conversion factors like policies and programs **(**Hobson & Zimmermann, 2022**)** shape the conversion of resources for the researchers' agency to access opportunities (Hobson, 2013, 2018**).** Class suspension, cross-border mobility, and stigmatisation caused by geopolitical tensions reduce the researchers' international research collaboration opportunities and agency freedom. For example,

> 'Three of my total four years of PhD study is influenced by geopolitical tensions. In 2019, the 'black violence' suspended my classes in Hong Kong. In February 2019, the COVID-19 prevention and control policy of border closure and quarantine at home was tightened. Also, foreign countries did not welcome Chinese due to stigmatization, so foreign visiting chances were reduced for PhD students. Only until my last term, the normal conditions recovered, so my international research collaboration opportunities severely reduced (HK2).'

Also, the conflicted areas cause academic exclusion and reduce opportunity agency, like 'Conference holders think about the nationality of participants and connect the research networks with geopolitical tensions (US5)'.

Meanwhile, scholars' situated agency accompanied by temporalities and contingency could be shaped by contextualised policy frameworks and changing geopolitical dynamics. For instance, 'The relationship between Hong Kong and mainland China is based on catering for and aligning with the geopolitical changes. The entry permission to Hong Kong and Macao affects data collection (CN2)'.

Notably, nationalist publication incentives as geopolitical strategies are crucial conversion factors influencing knowledge production and dissemination. China's nationalist movement treasuring local Chinese journals decreases international research collaborations. For instance,

> 'China's emphasis on strengthening the local Chinese journals, following the policy agenda of 'clean up five-only' *(po wu wei 破五唯),* which denies the atmosphere or the research culture pursuing English-mediated SSCI (Social Sciences Citation Index) journals in the promotion incentives. Notably, the currently pursued Chinese journals are difficult to be publications of international

research collaborations. The reasons include the huge divergence in Chinese and English writing style and the differences in article structures of the translation between English and Chinese (CN4)'.

Arguably, as the above case shows, the Chinese Ministry of Education (2018) issued the breaking of 'five-only' involving clearing up of '*only valuing papers', 'only valuing titles', 'only valuing Diplomas', 'only valuing prizes'*, and talent-program *'hats-only'* in research evaluation. This action plan facilitates the conversion of resources for the Chinese researchers to reduce international publications with less demands for international collaborations, symbolising Chinese research orientations transforming from quantity to quality, and from international to endogenous (Xu, 2024).

Another Chinese scholar demonstrates a transformative imagination of knowledge, from an arms race in global competition to national capacity building. As shared,

'By contrast, dating back to 2000. China emphasises international-journal SSCI publications as an arms race, and at that time China treasures quantity more than quality and ranks top 1 and top 2 in the global publication volumes. However, nowadays, China emphasises technological transfer which generates authentic contributions to the motherland (CN2).'

This response aligns with the Chinese policy of abandoning the 'supremacy of SCI' when calculating the metrics of English-mediated-publication dominated SCI (Science Citation Index) and SSCI, and performative metrics of CSSCI (Chinese Social Sciences Citation Index) to guide research assessment, along with avoiding the money-driven publication incentives (Ministry of Education, 2020; Ministry of Science and Technology, 2020). These policies imply a shift towards high-quality Chinese domestic publications, and the research impacts serving Chinese socio-economic development and national security (Xu, 2024).

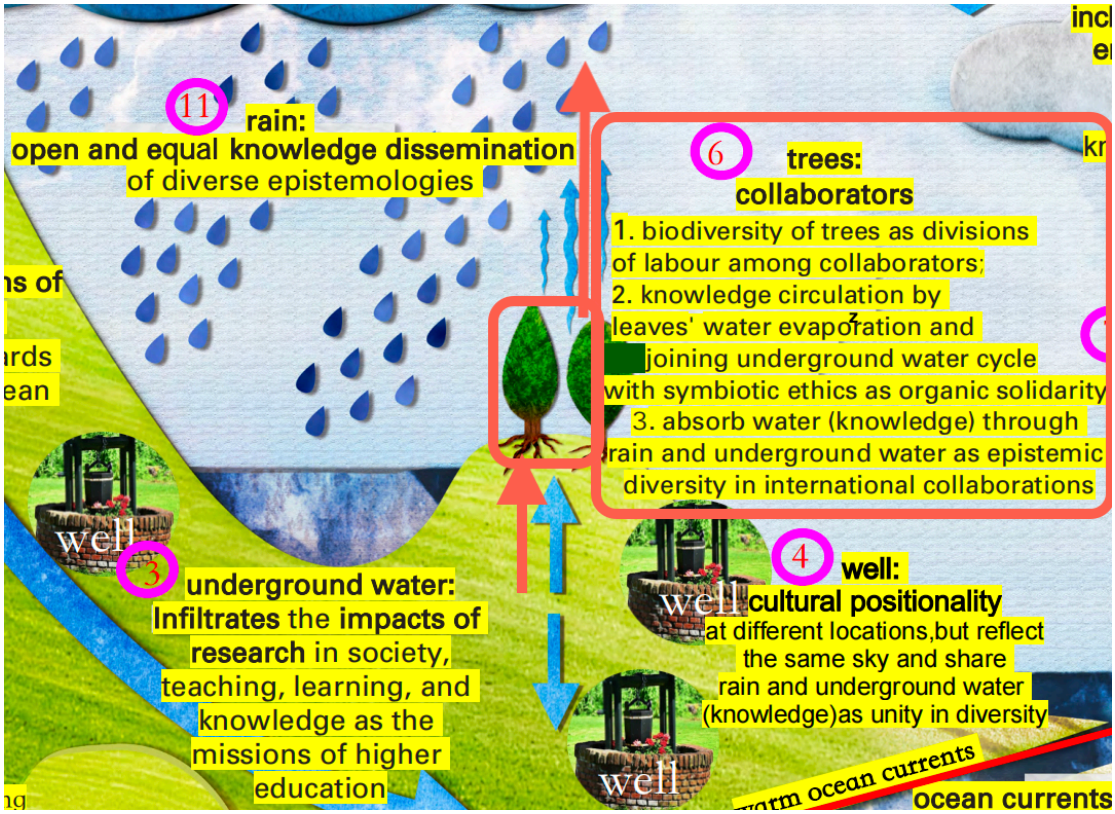
4.7 Collaborator selection and decision-makers: various trees' biodiversity as divisions of labour

Biodiversity of various trees are like international collaborators' divisions of labour as organic solidarity (Figure 21). Meanwhile, all the threes join knowledge circulation by leaves' water evaporation and underground water cycle with symbiotic ethics in the ecosystem, just like collaborators' responsibility in sustaining the research ecosystem. Also, trees absorb water (knowledge) through rain (knowledge dissemination) and

underground water in different sources as epistemic diversity in international collaborations.

Figure 21

Collaborators like various trees' biodiversity as divisions of labour



4.7.1 Collaborator selection

The selection of collaborators can be nested in an enabling structure with international research collaboration policies, which attracts international collaborators (UK3, UK4). For instance, 'The 2019 European Commission's European Higher Education Initiation' (UK3) forms regional integration of cross-border research collaboration policies to attract international collaborators. Also, as expressed, 'Non-EU member countries' collaborations with the UK and the EU member countries are supported by policies like the Horizon Europe, the Erasmus program, the British Council's incentives, and the partner universities' international offices (UK4)'.

Attracting international high-competent diasporic scholars (Barrios et al., 2019) is a notable strategy for emerging research institutions. Resource integration is achieved through conducting local studies with international diasporic collaborators holding shared historical-cultural identity, mutual epistemic positionalities, and international-publication familiarity. For instance, as illustrated by a diasporic Chinese doctoral

scholar working in the UK who collaborates with the Chinese-sample research centre in an emerging research university, 'This Chinese research centre has no doctoral degree issuing authority but they provide high-salary positions like research assistant and visiting students targeting at the diasporic scholars from world-leading universities who have both Chinese and international contextual understanding, and has a good command of English and Chinese communication (CN3)'.

4.7.2 Power relations in the decision-making of collaborator selection

Arguably, the relationship among collaborators implies a non-hierarchical research culture, which is maintained by open and flexible negotiations of the authorship's sequence. There are mutual agreements facilitated by the leadership of the centre directors, or the Principal Investigator, and shared ownership is realised through multi-level democratic decisions (UK1, UK2, UK5, CN1, CN2, CN4, CN5, US3, US4, HK1, HK2, HK5). For instance, 'Each researcher leading and working on the project shares an authorship in the publication, which asks people to support the research project together with flexibility and openness (UK3)', and 'The Principal Investigator professor designs an overall framework and then the sub-level team leader would organise a meeting to communicate together. Every team member has their own responsible section suitable to their diverse background for the division of labour. The specific outputs' timeline and word limitations are regulated. (CN5)'. Meanwhile, the ECRs' personal research interest and their research capacity development are actively considered in collaborative projects, forming a supportive research culture, as shared, 'The group leaders (like an assistant professor) assign the research project, so the decision-making is based on the group leader's interest combined with the team members', especially the ECRs' personal research interest (CN2)'.

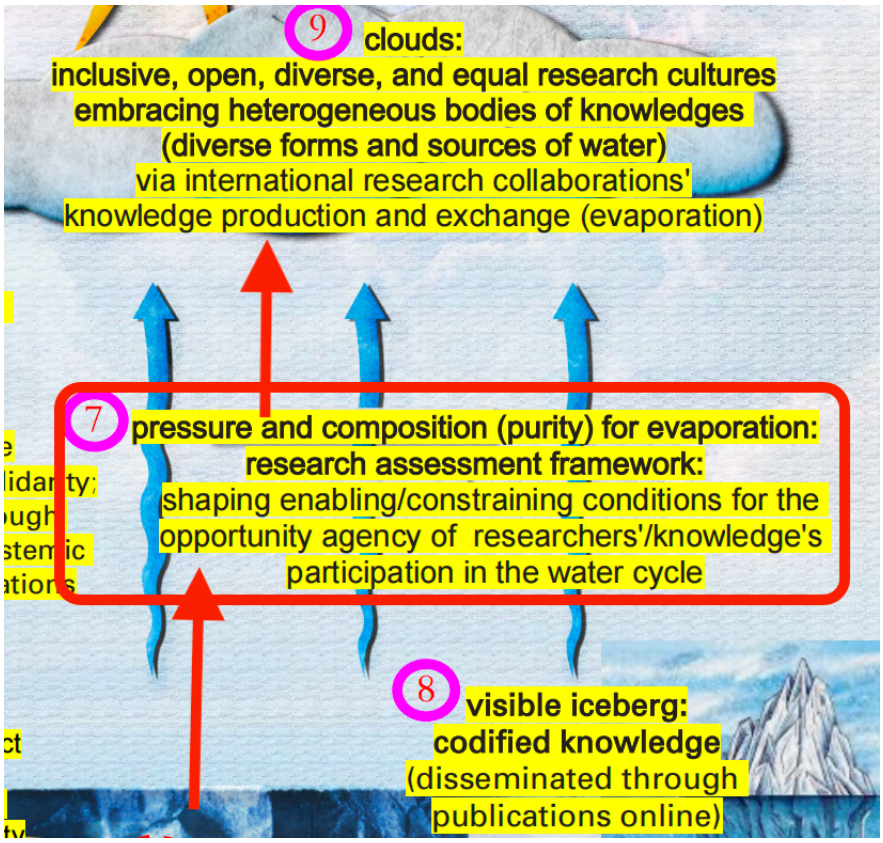
Nevertheless, due to various political cultures such as long-term traditions, the over-dependence research culture of mainland China's doctoral training is perceived. Some ECRs especially the doctoral students lack independent decision-making agency and over-rely on their supervisors when they seek for and participate in research collaborations (CN3, HK3). As described, 'The collaborators are decided by the supervisor without my own chances of seeking for collaboration opportunities (CN3)', and 'My supervisor is the main decision-maker of the research project, who has an initial idea about the collaborators. The doctoral students passively accept the divisions of responsibility (HK3)'.

4.8 Research assessment framework: pressure and composition (purity) for evaporation

Research assessment frameworks serving performance-based funding and promotion incentives act like air pressure modulating water's transformative evaporation (Figure 22) from leaves, rivers and seas to converge as clouds in the sky. Moreover, diverse assessment frameworks shape enabling or constraining conditions for collaboration from different forms of water.

Figure 22

Research assessment frameworks shaping pressure and composition (purity) for evaporation



4.8.1 Incentives for ECRs against ECR-exclusive research assessment frameworks

Except the US, the research systems in the UK, mainland China and Hong Kong all have formal national research assessment schemes serving public funding allocations. Since the formal research assessment schemes exclude the ECRs' contributions, almost

all the ECRs feel no pressure. Notably, both the ECRs in the systems with and without research assessment schemes express their perceptions of the merits and demerits concerning the researchers' autonomous agency and the research assessment as constraining or enabling structural factors.

In the UK, the Research Excellence Framework (REF) places no pressure on ECRs since REF excludes the research output by ECRs in assessment, as illustrated, 'REF Excluding ECRs like doctoral students' (UK5). However, the REF transforms the whole research projects' research outputs and research productivity, like 'The REF doesn't really influence me nor the international partners, but influence the research outputs, which increasingly treasures journals (since journal articles are more globally referenced as bibliometric work) rather than books. Therefore, there is more support for scholars' workload accounted as their research productivity' (UK2).

In mainland China, ECRs have no pressure from research assessment schemes yet, like 'The research assessment scheme has no pressure on ECRs, while Principal Investigators have more pressure due to funding and deadlines. Since the outputs are linked with the contracts, the Principal Investigators as first authors have the pressure of publication' (CN2). In contrast, ECRs driven by autonomous agency**,** 'ECRs have autonomous publication needs to be driven by the employment demands after their graduation rather than the research assessment's regulation. The ECRs' publications are research-oriented rather than performance-oriented' (CN3). Meanwhile, ECRs also have distributed pressures on the research assessment framework from their collaborative professors, like 'There is a demand for applying for the research projects' funding, so we as ECRs have to make narrative records of research progress for the regular assessment by the university, and the team leaders have to report' (CN5).

In Hong Kong, the Research Assessment Exercise (RAE) also excludes ECRs (HK1, HK2, HK4, HK5). Nonetheless, the RAE borrowed from the former UK's REF may cause self-colonisation by the local scholars through preferential attachment with Anglophone collaborators. For example, ECRs are driven by 'Excellent Research Award for doctoral students who published in the top journals. This award provides the students reputation and scholarship' (HK5).

4.8.2 Special aims of content-/capacity-focused research assessments empowering ECRs

Notably, ECRs demands processive research training rather than being driven by quantitative and performative research assessment. As shared, 'ECRs mainly train their

research capacity, so they need not to quantitatively accumulate publications. To me, I only do the research having rewarding academic value, and do not restrict my publications to the SSCI journals.' (HK4)

As an exceptional case, the US has no national research assessment schemes, which is displaced by diverse funding sources. The merits are mentioned, like 'The US has no research assessment framework, so there is no influence relevant to funding. There are benefits of having no national-level assessment. My university as a private institution, is different from relying on national funding. The researchers are funded by the department by admitting two doctoral students each year. Thus, it is freer to conduct curiosity-driven research with collaborators (US2)'.

Arguably, the research assessment for ECRs should be especially content-oriented and capacity-empowering rather than performance-based. In this way, ECRs tend to follow their research pursuits, and sustainably develop their research skills and expertise. The US case shows that a university as a funder generates greater academic freedom and autonomous researchers, like 'There is no precarious faculty, so the faculty could choose what they consider important for their research, rather than competing for funding (US5).'

4.8.3 Tensions between localisation and internationalisation

Additionally, there are gaps in the Chinese and Western publications' academic paradigms, while under the English-mediated journals included in the RAE, ECRs' training and publications follow the 'international-standard' frameworks and methodology to get the 'international academia's recognition' (HK2), and 'Western writing paradigm makes the assessment system less diverse. Centred in the Western system, international collaborations demand me to cater to the standards of my international peers. Doctoral academic training also demands 'international standards' of writing essays with theoretical frameworks and clear definitions' (HK2).

Critically, these findings reflect the signalling theory in hierarchical science (Connelly et al., 2011) recognising the Euro-American-centred ordering of knowledge value (Santos, 2017b) as the Western-benchmarked national status ranking in the global science system (Birnholtz, 2007). The RAE in Hong Kong shows post-colonial academic dependence (Alatas, 2003; Connell, 2014), like recruiting 'four-star' researchers meeting Western-guided 'international' standards (Tan, 2023).

Critically, RAE as a transplant from the UK's REF implies methodological globalism. The local decontextualisation includes (1) generally, the first page of the

RAE 2020 document informs the audience to read the UK's 2014 REF as a referential equivalece; (2) the version that RAE 2020 referred to is the 2014 REF established in 2012 rather than the latest 2021 REF, showing a left-behind time progress; (3) the policy borrowing from the UK's REF is implied in the latest RAE 2026, involving the same REF 2014 definition of 'impact beyond academia', and the weight rationales of 'research outputs (65%), impact (20%), and environment (15%)'; (4) The RAE 2020 panel consists of 252 non-local academic members of 361, accounting for 70% (RAE 2020 Facts website).

Furthermore, differentiated research cultures in diverse countries cause gaps among international collaborators. For instance, a gap happens between Asian scholars' targeted English-mediated publications in journals with high-impact factors accounted for promotion incentives and their international collaborators who have less pressure in counting journals' impact factors. In detail, as expressed,

> 'Hong Kong SAR underpins the performative metrics index in terms of the journal impact factor, and mainland China benchmarks 'distribution of the impact zone (*fenqu* 分区)'. By contrast, European and South American collaborators do not have a concept of SSCI journals or the necessity of only summitting publications to SSCI journals. Since they do not consider the impact factor of the accepted journals, mainland China and Hong Kong scholars have to explain that performative outcomes matter to their promotion incentives and funding in their collaborations' (HK3**)**

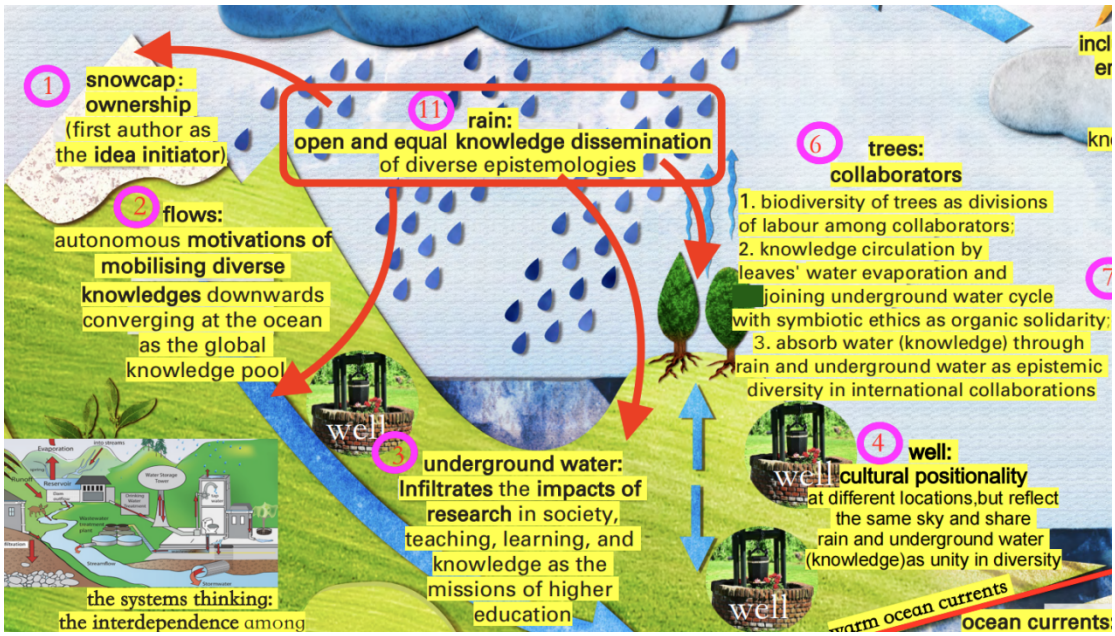
4.9 Knowledge dissemination: rain and iceberg

4.9.1 Non-hierarchical and supportive research cultures in knowledge dissemination

Open and equal knowledge dissemination of diverse epistemologies is like rain (Figure 23) reaching the land and creatures without bias, which symbolises globally-just open access to knowledge.

Figure 23

Open and equal knowledge dissemination as rain



Practically, inclusive and equal research cultures empower knowledge dissemination through joint non-hierarchical presentation of research output by all the authors with open, encouraging, supportive, and inclusive attitudes (HK4, US1, US2, US4), as illustrated, 'The first author mainly shoulders the responsibility of knowledge dissemination, while all the authors are also encouraged to share the research (HK4)', 'All participants join the knowledge dissemination. Like everyone joining a book launch for their collective monograph (UK4)', 'Equal and collaborative presentation by all the members (CN2)', and 'When foreign professors visit the research centre, both the group member and the group leader make presentations (UK5)'.

Also, the copyright is shared as equal rights for knowledge dissemination, like 'The first authors report on the conferences for Higher Education, but every group member also holds the right to present this paper.'(CN3) Besides, the supportive research culture is implied when the ECRs get support from senior researchers and postdoctoral researchers for knowledge dissemination, as emphasised, 'I disseminate knowledge through workshops, which is helped a lot by the senior academics and postdoctoral researchers' organisation' (UK5).

Arguably, to reach a situated convergence as an assumed common ground with temporalities and contingencies, the multi-level conversion resources and situated agency are demanded as enabling conditions for scientists' autonomous self-regulated collaborations (Barrios et al., 2019). Firstly, the funders' empowerment in knowledge

dissemination is a premise, as emphasised, ‘Our UK research centre gets funding from the National Research Council facilitating administration and communication, helping organise conferences and arranging flights and visas (UK2).’ Additionally, open strategies for broadening knowledge dissemination and impacts could occur across fields and borders, like multidisciplinary knowledge dissemination, as exemplified, ‘I joined a research project about public good in EU, which was reported in the conferences for public policy political science, and European studies (UK3)’.

Besides, there are multiple channels for knowledge dissemination. For instance, ‘Seminars, webinars, book launches, and conferences are important for knowledge dissemination (UK4)’. Meanwhile, the geospatial scale with adjacent supranational regions empowers knowledge dissemination with advantageous epistemic agreement historically and culturally. For instance, ‘The UK’s research centre’s researchers are proactive in going to conferences in Europe (UK3)’. This could be a promising way for offline knowledge exchange.

4.9.2 Open-access to knowledge via media and language as mediators

Divergences in knowledge dissemination as challenges in reaching the non-hierarchical convergence are mainly implied in the asymmetric priority of knowledge dissemination due to English as a lingua franca and the Anglo-American-centred global science system. For instance, scholars tend to disseminate their research outputs in Anglophone countries as ‘spatial biases’ (Frenken et al., 2009, p. 226), ‘English as the lingua franca makes writings spread worldwide. Conferences in the UK, the US, and Australia are large-scale and attract many world-leading scholars (HK2)’. Even though translation between English and other languages for knowledge dissemination can be taken into consideration, impediments like ‘the translation to academic language is challenging (US5)’ still exist.

By contrast, a convergence of knowledge dissemination is concentrated in the shared common ground in the digital space. Although the first and the corresponding authors mainly shoulder the responsibility of knowledge dissemination (HK2, HK3), the digital space provides a shared chance for knowledge dissemination equally for all the authors (HK3, US1, US2, US4). For instance, ‘all share the research on their ResearchGate and their social media (HK3)’, and ‘All the researchers share the possibility of publishing publications and posting them on LinkedIn (US4)’. Critically, even the digital space is not a level ground, given asymmetrical access to the Internet like the Chinese surveillance of the Internet for national security causing inaccessibility

to Google search engine involving LinkedIn, ResearchGate, and Google Scholar. Also, the digital space like the research centres' websites and social media provides a shared chance of knowledge dissemination equally for all the authors (HK3, US1, US2, US4). As the interviewee running the social media of the U.S. research centre shared, 'Building an inclusive social media through widely accessible technology and multiple languages to facilitate the knowledge dissemination and international network building is also a means and goal hoped by our centre director (US6)'.

Notably, empirical implications of reaching the common ground support the convergence of open, equal, diverse, and inclusive knowledge dissemination. For example, multi-lingual dissemination is promising, like 'The papers are written in English and published in the research centre's quarterly journal, while a summary about each paper is in multiple languages, including Vietnamese, Spanish, and Arabic, French. to reach many people using different languages (US2)'. Additionally, open and inclusive knowledge dissemination can be considered as an aspect of research ethics, as expressed, 'This multi-lingual translation for knowledge dissemination initiated by the research centre's first director shapes my research ethics (US2).' Multilingual literature review is especially feasible for the research centres' practices, like 'The centre adopts multilingual literature review including Chinese, Russia, Spanish, and another language in a collaborative research project. The research centre's publications are translated into different languages' (US5).

Also, both the internal and external ecosystem of knowledge dissemination matter. The internal knowledge exchange for institutional and individual researchers' research capacity building through collegial supportive research culture involves strategies like 'weekly meetings' (UK1), and 'research group meetings' (UK3). Meanwhile, the external knowledge dissemination towards peers and the public worldwide involves 'updating monthly newsletter' (UK4) and 'global webinars' (US6).

4.9.3 Online and offline exchange of explicit and tacit knowledge: visible and hidden iceberg

Broader knowledge dissemination reaching regions worldwide can be realised through a research centre's knowledge dissemination in global communicative knowledge-exchange networks both online with long-term digital data archives and offline with humanistic communications. For instance, 'The research has been reported in mainland China, India, Hong Kong, the UK, and the US both online and offline. The online

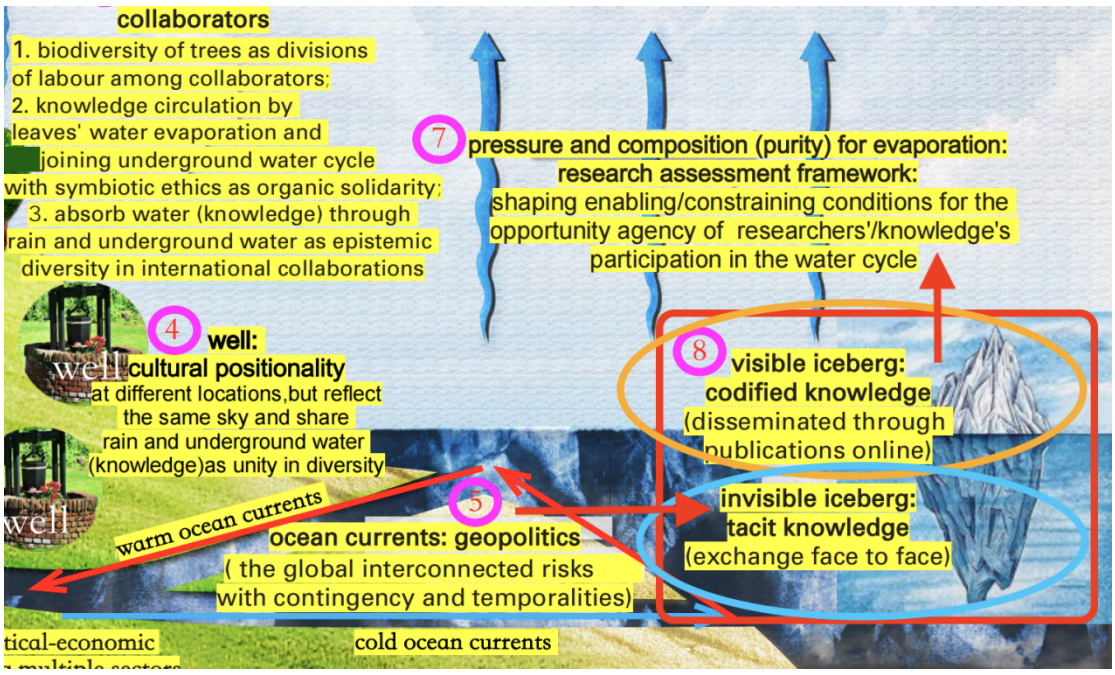
presentations are convenient at recording and put on the recording on YouTube, which helps researchers to make progress in presentations' time management, and tempo. Meanwhile, the offline pattern is good at on-site experiences, which is face to face and is more treasured, which deepens the research (HK1)'.

Aligning with the respondents' distinguishment between online and onsite knowledge exchange, information and communications technologies favor datafication and the codified knowledge in formal forms (Roberts, 2000). In contrast, the informal face-to-face knowledge exchange plays a crucial role in freely transmitting the tacit knowledge for broader creativity involving practitioners' experiences, explicit values, norms, and pre-judgements (Polanyi, 1958), which especially inspires local collaborative innovations by virtue of spatial proximity (Katz & Martin, 1997). However, the role of tacit knowledge in knowledge novelty is inadequately recognised compared to the conventionally praised codification of knowledge as a quality science (Zuckerman & Merton, 1972).

Therefore, visible iceberg is like codified knowledge disseminated through publications in global online communicative network, while tacit knowledge is like invisible iceberg, which is mainly informally exchanged face-to-face (Figure 24).

Figure 24

Codified knowledge as visible iceberg and tacit knowledge as hidden iceberg



Nevertheless, the tacit knowledge like 'unknowable ultimate rules' are the constituents of 'traditions of social life' (Gray, 2013, p. 25), which enlightens social sciences' explanation on society. Besides, tacit knowledge as the hidden iceberg is the crucial foundation for theoretical construction as the tip, even though much of tacit

knowledge is entirely beyond our powers of articulation' (Hayek, 1967, p.15). Therefore, academia partially recognising codified knowledge like formal publications and reasoning theories as scientific authority limits the possibility of knowledge reflexivity and novelty.

4.9.4 Advantageous opportunities for ECRs in knowledge dissemination

The convergence of researchers' self-interest and the knowledge as global common goods can be found when ECRs disseminate knowledge through seminars and webinars at the research centre to build professional connections, as expressed, 'I am willing to shoulder the responsibility of facilitating knowledge dissemination like helping organise webinars because forming connections through these events are significant in job hunting (HK5)'.

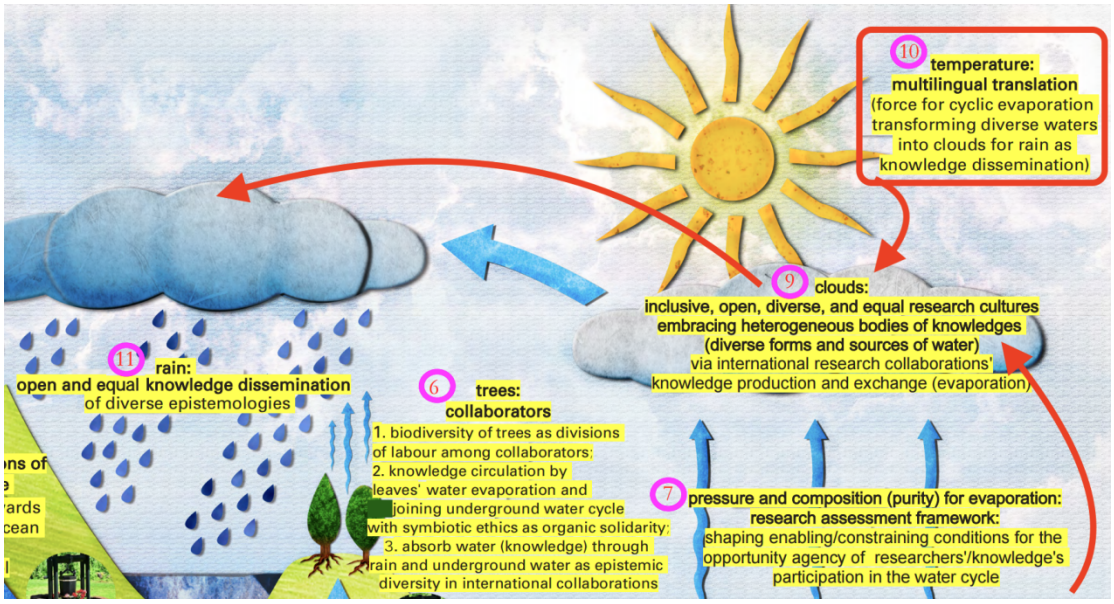
Also, different career-stage researchers show complementary strength in collaborative knowledge dissemination (US3, US4, US5). For instance, 'While some elder principal investigators do not travel, other ECR members travel to disseminate knowledge (US3)'. ECRs' advantageous role in geographical travelling for knowledge dissemination, is further confirmed by 'The department's public seminars worldwide are more responsible and beneficial to younger researchers since the elder researchers are difficult to travel (US4)'. Hence, to travelling for knowledge transmission as a research capacity (Kato & Ando, 2017), divisions of labour among different career-stage researchers are complementary in global mobility with age stratification (Zuckerman & Merton, 1972).

4.10 Multilingual translation: temperature catalysing knowledge dissemination

Multilingual translation is like the force for cyclic evaporation (Figure 25), transforming diverse water sources to concentrate as clouds, and further turn water vapour into liquid rain as knowledge dissemination, which is like a catalyser accelerating open knowledge production and dissemination beyond Euro-American monopoly.

Figure 25

Multilingual translation as temperature catalysing open knowledge dissemination



Overall, majority of researchers are supportive to multilingual translation of their publications by virtue of including richer references in writing especially the researched non-English lingual context (UK5), increasing research visibility (UK3) and scholars' global status (CN1, HK4, HK5), understating socio-culturally contextualised questions (CN3), to broaden knowledge dissemination throughout the knowledge production, dissemination, and circulation. However, there are also scholars who express worries due to the inaccuracy and difficulty of academic translation (UK2, CN2), conflicts in the copyright possessed by the research centres and authors or the publishers republishing the translated work (HK3, HK4), divergent gaps in thinking mode implied in linguistic expressions in different languages (CN1). Some of them propose potential solutions to move from divergence to convergence, including avoiding mistranslation through authors' explanation, censorship, and confirmation (CN1,4; US2, 3; HK2,3, 5; UK1,2,4).

4.10.1 Multilingual translation transforming divergence to convergence

Arguably, multi-lingual translation generates multi-positionality by embracing multiple bodies of languages and cultures, decolonising the production of knowledge (Sen, 2002). As underpinned, 'Multilingual translation enables scholars from the global North to look beyond the North, since the publications in the global South's languages

especially look at local contexts. For instance, ‘in my own research involving China, I conduct a literature review in terms of publications both in English and Chinese’ (US1) . Moreover, multilingual translation leads the divergence in cross-border collaborations to convergence, like breaking the barriers of ‘where the paper was published’, ‘who has access to reading a paper’, and ‘different systems (US5)’.

The convergence among the interviewees is implied in the supportive attitudes to multilingual translation. Arguably, multi-lingual translation aligns with the self-interest of the researchers (Archer, 1991) and the orientation for knowledge as common ground, and both generates scholars’ agency. The enhanced research visibility and scholars’ reputation through translation is commonly mentioned (UK3, HK2, HK3,HK5, CN1, CN2,CN4), especially for the scholars in non-English speaking contexts. For instance, ‘I surely support multilingual translation since every scholar hopes to be famous for their publications. For example, the top journals are more famous since more people can read their publications, which is similar to the benefits of multi-lingual translation (HK5)’.

Arguably, translation is effective in broadening research visibility for the rest of the world to know about China through translated English publications, forming a virtuous circle for decolonising and democratizing the Western perspectives towards Chinese contextualised contexts. For example, ‘I support Chinese scholars’ international co-authorships published in English, since more people worldwide can know about the researched topics in China (CN3)’.

Multilingual translation shows diverse effects. For knowledge production, translation includes richer references in writing especially the researched non-English lingual context (UK5), like ‘Multi-lingual translation is fantastic, so that I can enrich my literature review by reading publications in Korean as my researched context (UK5)’, and ‘Multi-lingual translation could facilitate knowledge production in different lingual cultural contexts (CN1)’.

Besides, multi-lingual translation boosts internationalisation and national reputation by enhancing the understanding of diverse cultures, like ‘A problem is that Chinese papers tell fantastic Chinese stories, while these stories are ambiguously told on the world platform. Therefore, some good Chinese stories like policies and histories worth being known worldwide (CN3)’.

Arguably, the convergence can benefit from divergence. There is a complementary reciprocity of cross-cultural intellectual inspirations between different languages in knowledge production. Firstly, multi-lingual resources are significant to conduct cross-

cultural research generating progressive perspectives, for example, 'I draw on the resources about Confucian traditions in English publications. The multi-lingual resources provide a cross-cultural evaluation of literature, which is highly valued in my future career's recruitment. China generates new perspectives to Confucian perspectives. Anglophone literature is unique and valuable for people to join our discussion (CN4)'. Additionally, multi-lingual translation provides diverse lenses for educational researchers in the intersectional field combining 'the internationalisation of higher education and comparative international education (HK1)'.

4.10.2 Strategies empowering quality multilingual-translation

There is a need to bridge the gaps between limited linguistic capacity and research capacity for demanding output. The limited linguistic capacity of non-English researchers causes reliance on translation, while scholars whose mother tongue is not English can know about the international conditions through translation. For example, 'Chinese scholars heavily rely on translations since only a small number of people can directly read in English. Translator should communicate with the author early about unclear meanings to make the translated expressions accurate (HK1)'.

Arguably, an inclusive research culture can be formed through multilingual translation. Firstly, multi-lingual translation can inspire broader interest through engaging joint discussions, as expressed, 'I support the multi-lingual translation since it inspires more people's interest to focus on significant questions that are valuable to focus on. Also, multi-lingual translation provides opportunities for discussion together (HK2)'. Besides, multi-lingual translation breaks the silos of communication of the domestic publications that are limitedly read by the domestic scholars, as illustrated, 'I support multi-lingual translation since my English publications are seldomly read by mainland China, which is hard to make waves (HK3)'. Moreover, multi-lingual translation enhances equality of opportunities, like 'Open access and multilingual translation can broaden access to knowledge and enhance the equality of opportunities (US4)'.

Practically, there are feasible multilingual strategies in knowledge dissemination. Multi-lingual translated abstracts can be used in cross-border co-authorships. For example, 'Finland translates its publications' abstracts into English. The journal *Compare* is published in English, while the section called 'policy brief' includes multi-lingual translations in Finnish and Swedish as the two official languages, and the abstract should be translated into all the languages covered in the study (UK2)'.

Meanwhile, the centre's practice in multi-lingual publications shapes the scholars' positions and attitudes, as illustrated, 'The research centre's quarterly journal is published in four languages, including Vietnamese, Spanish, Japanese, and Russian, which makes me support the rewarding multi-lingual translation' (US3). More crucially, translation techniques and standards should be improved. For instance, 'It is important to avoid missing information and guarantee the correctness and preciseness in case of misunderstanding. The translation should be flexible and tolerant (UK4)'.

Other potential solutions include active communications between translators and authors to confirm that the meaning matching the translation, as exemplified, 'Translators should communicate with the authors early about unclear meanings to make the translated expressions accurate (HK1)'. Additionally, review and proofreading play a role when authors are engaged as auditors or reviewers of their publications multi-lingually translated by others, as illustrated, 'I hope to realise the multi-lingual translation of my publications and I can review the translations (UK5)'. Notably, AI makes multi-lingual translation effective and efficient (US2, US4).

4.10.3 Challenges for inadequate-quality and uneven-accessible multilingual translation

Admittedly, linguistic divergences become challenges in multi-lingual transition with poor outcomes (UK1, UK2). For example, 'There is a caveat that different languages write in different language format (UK1)', and there are worries that 'English translation of Chinese policy paper is not a good idea since different languages have different beauty (CN2)'.

Notably, multi-lingual translated journals may still cause asymmetric access when the multi-lingual abstracts are published in an English journal mainly with access to Anglophone scholars whose institutions can afford subscription, and many higher education institutions (HEIs) in the global South have no open access agreement to access free of charge to the publications. As criticised, 'the abstracts are translated into English, Polish, Spanish, and Mandarin. However, it is tricky that these multi-lingual translated abstracts are published in an English journal. Meanwhile, partner HEIs have no open access agreement to access free of charge to the publications. Also, the ResearchGate and LinkedIn used for knowledge dissemination are unequal, since they are not multi-lingual (UK2)'.

Additionally, copyrights show conflicts in translation. As expressed, 'This journal can only publish the abstracts rather than the whole papers due to the copyright, and the

journal editors are forbidden to publish any translations privately without the permission of the original authors (HK3)'. More importantly, the conflicts between translation and copyrights (HK3, HK4) still demand legal clarification, as illustrated, 'The multi-lingual translation of the publications at the research centre faces the problems of copyright. Some publishers may hope to possess the copyright of the translated publications; however, the original copyrights belong to the research centre since they are originally published by the research centre (HK4)'. Furthermore, there are gaps in impact and the route to impact (Oancea, 2024) due to the complicated power dynamics in the dissemination of the translated publications with variant recognition of value. For instance, 'The question is where can I put the translation? On my personal website? or to be disseminated by a publisher?' (US2)

Arguably, the implications for meeting the gaps of the above divergence involves providing contextualised ways of knowledge dissemination, like 'The scholars in mainland China usually cite publications in Chinese, and the universities in mainland China subscribe hard-copy journals. Therefore, scholars in mainland China hope to read the hard-copy publications translated from English to Chinese, and translated abstracts are also longing, like some Chinese social media is also showing this translation (HK2)'.

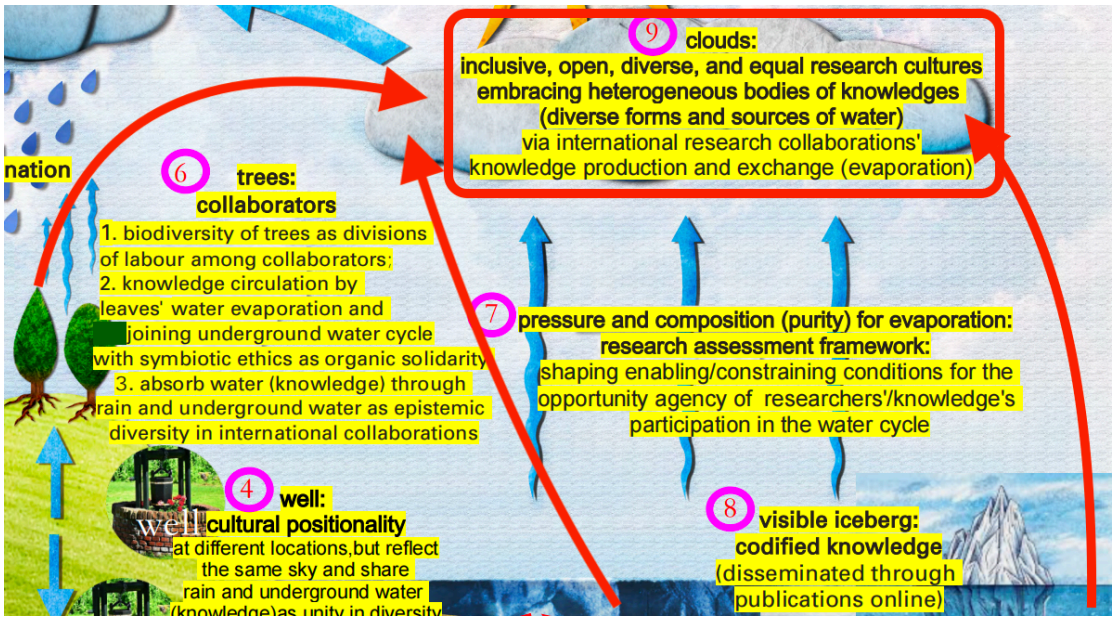
Also, some journals can submit bi-lingual publications. Meanwhile, institutions can provide support for multi-lingual translated resources, as shared, 'At the University of Hong Kong, there is an educational journal collaborated with a company to contact the authors and confirm the copyright, and then translate the foreign-lingual papers to Chinese papers.' (HK3)

4.11 Ecological research cultures: Clouds integrating diverse sources of water

Inclusive, open, diverse, and equal research cultures are like clouds (Figure 26) embracing heterogeneous bodies of knowledges. The cloud consists of diverse sources of water from international research collaborations' knowledge production, mobilisation, and exchange as evaporation.

Figure 26

Inclusive, open, diverse, and equal research cultures as clouds



Overall, the top 20 frequently as shown in the world cloud (Figure 27) described research cultures at the four research centres. The perceived research cultures at the four research centres reach convergence at three aspects: 'diverse', 'open', and 'collaborative' , mentioned 6, 5, and 4 times respectively. This is congruent with the interviewees' generally ecological research practices as shared in the former responses.

Arguably, the water-cycle-system interpretation of international research collaboration conceptualises 'all rivers run into the sea' (*hai na bai chuan)* epistemology as situated convergence, treasuring openness, equality, and inclusivity, as a shared common ground of embracing heterogeneous bodies of knowledges as global common goods.

The diverse ethical connotations of ecological research cultures are further discussed in the next chapter.

Figure 27

Word Cloud of the top 20 frequent words describing research cultures



Source: the author

Chapter 5. Discussions

All rivers run into the sea.

- *(hai na bai chuan* 海纳百川), a Chinese proverb

5.1 Chapter introduction: Taoist cosmology of water embedded in the water-cycle system

The water-cycle-system symbolised international research collaborations treasuring 'all rivers run into the sea' (*hai na bai chuan*) epistemology echoes Chinese Taoist reciprocity and harmony through unity in diversity as transactional balance towards forward-looking sustainability (Qi, 2022).

To realise the situated convergence following *hai na bai chuan* epistemology, this chapter revisits ancient China's philosophy of water to propose practical and theoretical implications, involving (1) researchers' ethical agency in collaborations' motivation and knowledge dissemination showing the virtues of water (*shang shan ruo shui* 上善若水), (2) intertwined self-other cultural positionality informed by water's reflection (3) open-ended research assessment imagined as water flows open to change following 'rightness of the present this' (*yin shi* 因时) (4) national research governance conciliating researchers' autonomy through balanced non-neoliberal inaction (*wu wei* 无为) informed by the naturalness of water flows, and (5) ecological research cultures shift competitive divergences to situated convergence through *yin-yang* transactions towards a reciprocal global science system.

5.2 Researchers' ethical agency as self-formation: the supreme goodness is like water

Arguably, interviewees' convergent motivations of contributing knowledge to the global knowledge pool treasure global opening ontology without incompatible loss or gain (Wei et al., 2022). This can be justified as the human nature for goodness in Taoist philosophy about virtuous attributes of water congruent with innate morality of human nature, as quoted, 'The supreme goodness is like water, it nourishes everything but contends for nothing (上善若水, 水善利万物而不争, *Dao De Jing*, Chapter 8)'.

Similarly, Confucius describes the sage through altruistic virtues of water, which 'flows downhills to converge at lower places, and in doing so, it nourishes all creatures and brings life to the world' (*The Analects* 14.8). Also, Confucian humanism aligns natural order with self-cultivation through moral rectitude and aspirations for knowledge as a core (Tu, 1985).

Arguably, interviewees' cultural positionality following self-formation centred on ethical research implies the ethos of scientists (Merton, 1942), like water flowing towards convergence without intentional choice of east or west, as quoted,

'Water certainly does not distinguish between East and West,

but does it fail to distinguish between up and down?

The goodness of human nature is like the downhill movement of water—

there is no person who is not good,

just as there is no water that does not flow downward.'

(*Mencius* 6A.2. Translation Slingerland 2011, p. 21)

Echoing the downhill water converging at open oceans, interviewees show the convergence in supporting multi-lingual translation, open science, and open access to knowledge dissemination.

5.3 Cultural positionality: Sky-pond reflection via interaction with the otherness

Mencius (7A) proposes that 'To observe water, one must observe its waves（观水有术,必观其澜）'. Seeing the reflected lights and moving reflections in waves and ripples, we could realise the existence of water (Vermander, 2022). Therefore, reflection through cross-cultural interaction with others facilitates researchers to gauge their own intellectual state and depth. This is like multiple cultural positionalities reflecting other cultures through research collaboration and realising their own cultural positionality through cultural self-awareness (Fei, 2015).

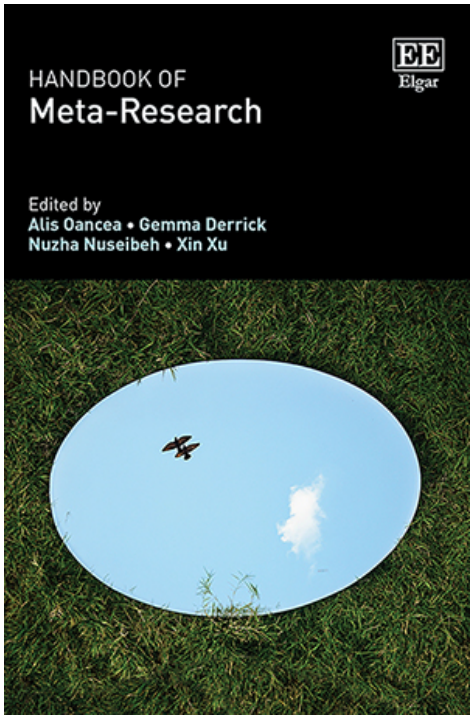
This reflection metaphor legitimises both intertwined self-other relations and independent self, implying the embedded and collective relations among researchers' cultural positionality. Interviewees embrace others' heterogeneous bodies of knowledges with multi-positionality (Sen, 2002) shaping diverse, inclusive, and open research cultures.

Accordingly, through reflection, even one's limited-scale cultural positionality as a small little pond can reflect an infinite sky with all the moving things under heaven (Figure 28). Hence, multi-positionality conciliating self and otherness breaking the

boundaries of imagination and possibilities through unity in diversity in international research collaborations rather than alienated and dogmatic cultural positionality.

Figure 28

Little pond reflecting infinite sky as self and intertwined diverse otherness



Source: the book cover by Oancea et al., (2024)

However, like Taoist view of rightness of the present 'this' (*yin shi* 因时), the clear and foggy days show divergent reflections in situated conditions with contingency and temporalities. For instance, interviewees' cultural positionality of self-concept (Mead, 1934) mirroring the thick frame of social life (Appadurai, 2007) is implied in the Sino-Anglophone respondents' different perceptions of their cultural positionality like Chinese double identities and Anglophone critical awareness of supremacy following multipolarisation of global political economy and scientometrics. The centre-periphery status shapes researchers' cultural self-awareness decisions of integrating their national cultures into the global mainstream theories or self-colonising Western paradigms (Xu, 2018).

This implies that realising the co-existence of self and others could be influenced by constraining situations, like geopolitical tensions or post-truth information as turbulent storms. Politicising knowledge in geopolitical tensions also creates thick fog, making other heterogenous knowledges' existence invisible (Wane et al., 2004). Therefore, researchers should reflexively tell the contingent situation and be clear about the existence of intellectual diversity.

5.4 Open-ended research assessment: open to change as 'rightness of the present this' (*yin shi*)

Interviewees critiqued prescribed ex-ante research assessment frameworks like REF limiting possibilities of unexpected research impacts. By contrast, Chinese Taoist philosophy treasuring practical knowledge, non-linear causality, and non-dichotomous Aristotelian dialectical reasoning informs conceptual openness of research impact evaluation (Marginson & Yang, 2023b; Hall & Ames, 1987).

Taoist transactional philosophy of 'rightness of the present this' (*yin shi* 因时) denies the fixed, static and binary judgement of right or wrong (Helsing, 2019), but emphasises the transactional decision-making relying on the temporarily situated contexts with uncompromising perceptions of right or wrong (Chong, 2006).

Therefore, as Zhuangzi underpins that knowledge is contingent and uncertain (Tan, 2024a), open-ended research impact evaluation broadens research impacts towards unknowable research questions in emerging realities (Ng et al., 2020) and tacit knowledge exchanged as daily practical achievements This implies transitions 'from learning how to better manage, control or save the world to learning how to become with the world', informed by the UNESCO Futures of Education initiative (2020, p. 10).

5.5 Reciprocal harmony of individual-national relations: less-performative research governance (*wu wei*)

The interviewees' ethical cultural-positionality as moral self-formation justifies their legitimate positive freedom reciprocal with national research governance.

On the one hand, research management system should empower positive freedom of scientists' critical, collaborative, and autonomous ethos, like Taosim following human nature as the way (*Tao* 道) sustained by their virtue (*Te* 德) (Allan, 1997; Wei et al., 2022). Arguably, knowledge shows traits similar to water, open, reciprocal, non-compatible, and non-reducible as global common goods. Ecological research cultures should be supported by the less-performative research governance that respects, follows, and prioritises the open nature of knowledge and then practised through autonomous knowledge-driven cognitive accumulation following the ethos of ethical researchers.

This echoes the core doctrine of Taoism's 'Governance through doing nothing that goes against nature and letting things take their way flowing their nature（无为而治，

道法自然）' recognising inaction of changing nature as action (Wei et al., 2022). Rather than the performative accountability and audit culture's negative freedom or freedom of control overwhelmingly constraining researchers' autonomy (Hayek, 1973, 1976; Sen, 1985), effective research assessment and incentives should root in the agential individuals' positive freedom by aligning with the authentic motivations of scientists and their networked norms as the nature of science.

On the other hand, researchers' competitive self-interest should also be conciliated as part of human nature. This is implied in Confucianism that Xunzi underpins the humans' bad nature ambivalent to be public-good-united governance (Tan, 2024b). Consequently, the ideal balance empowered by research management is the harmony between private and public goods.

Just like geopolitical tensions limiting academic freedom and global mobility, English-language bias causing bibliographic violence, and research assessment forcing researchers' academic dependence and self-colonisation of Euro-American epistemologies, these impediments that the interviewees encountering should be modulated by control freedom through research regulations, incentives, rules, and assessment to censor supportive research cultures.

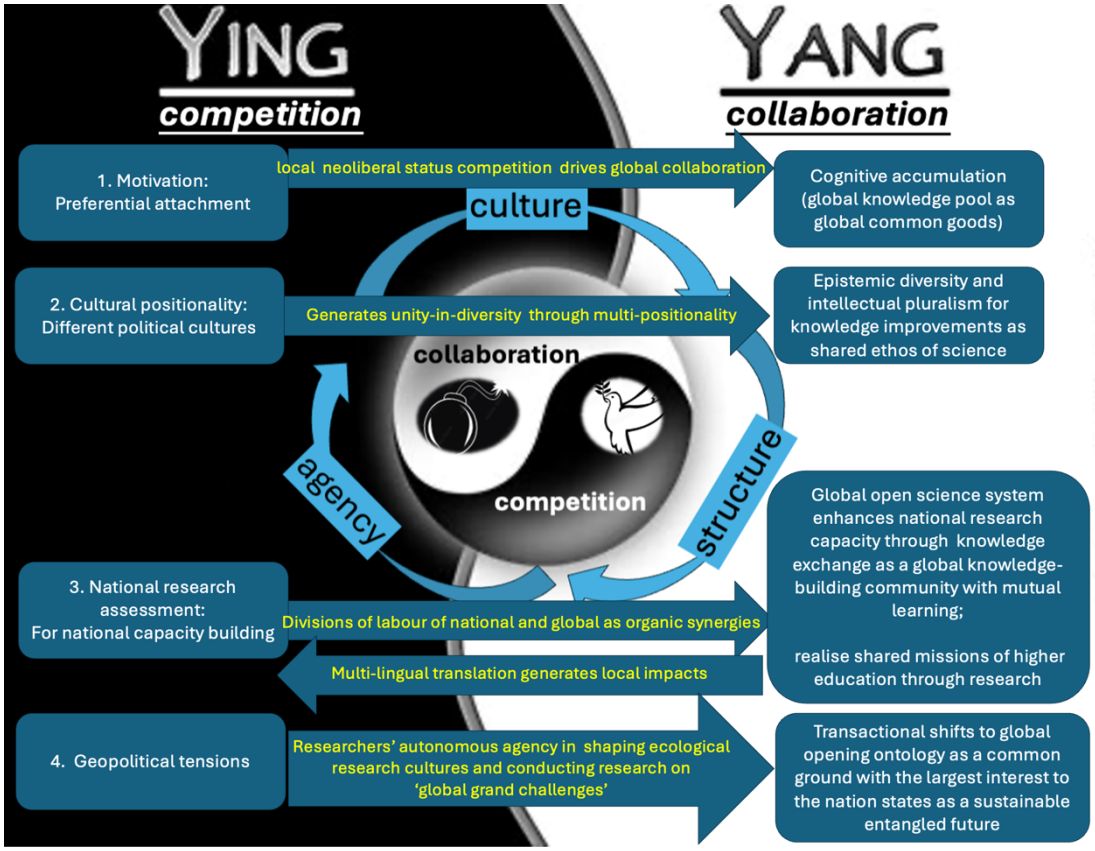
5.6 Shifting competition to collaboration as situated convergence: y*in-yang* transactional dynamics

International collaboration networks are not wholly individual-autonomous, but partly embedded in the larger social relations (Marginson, 2021). Global open communicative science system shows pluralistic social imaginaries (Taylor, 1994, 2004) rather than unitary Western-hegemonic modernisation (Archer, 1991). However, interviewees still show neoliberal subjectivity (Foucault, 1991) like competitive performance-based research funding with short-term research impacts, or Chinese scholars' gaps in local-policy impacts for English-mediated co-authorship. Agency freedom-oriented modernity in science (Hegel, 1977; Appadurai, 1996) should be ethically reframed through researchers' cultural capabilities (Sen, 1985; 1999) treasuring global opening ontology, equality, and plurality.

Arguably, Taoist two *yin-yang* photons as a continuously transactional quantum entanglement abandon dichotomous thinking, while negotiating divergent tensions in international research collaborations towards situated common goods (Figure 29).

Figure 29

Yin-yang philosophy of dynamic transactional thinking leading divergences (competition) to situated convergence (collaboration) for harmony



Source: the author

'Nothing in the world is as soft and yielding as water (*Tao Te Ching* , verse 78)', but 'The softest power of the world can penetrate through the hardest objects.'(verse 43)' like a stone eroded by a constant drip. This transactional thinking conciliates weak and strong, abandoning zero-sum imaginary of knowledge as hegemonic national soft power as an arms race to win global competition diachatonomously through cultural persuation, attraction, and compliance (Nye, 1990). Instead, sharing knowledge in open and level global knowledge pool generates larger win-win common goods benefits national capacity and societal impacts enlightened by intellectual pluralism.

Furthermore, Chinese sociologist Fei Xiaotong (1997) said, 'We cherish our own culture but also others. When every culture can be cherished by all, the Great Harmony will be achieved (p.22)'. The inclusive, equal and open research cultures with transactional thinking towards situated convergence at unity-in-diversity harmony echoing Chinese *tianxia* (all under the heaven) reciprocal worldview (Zhao, 2019).

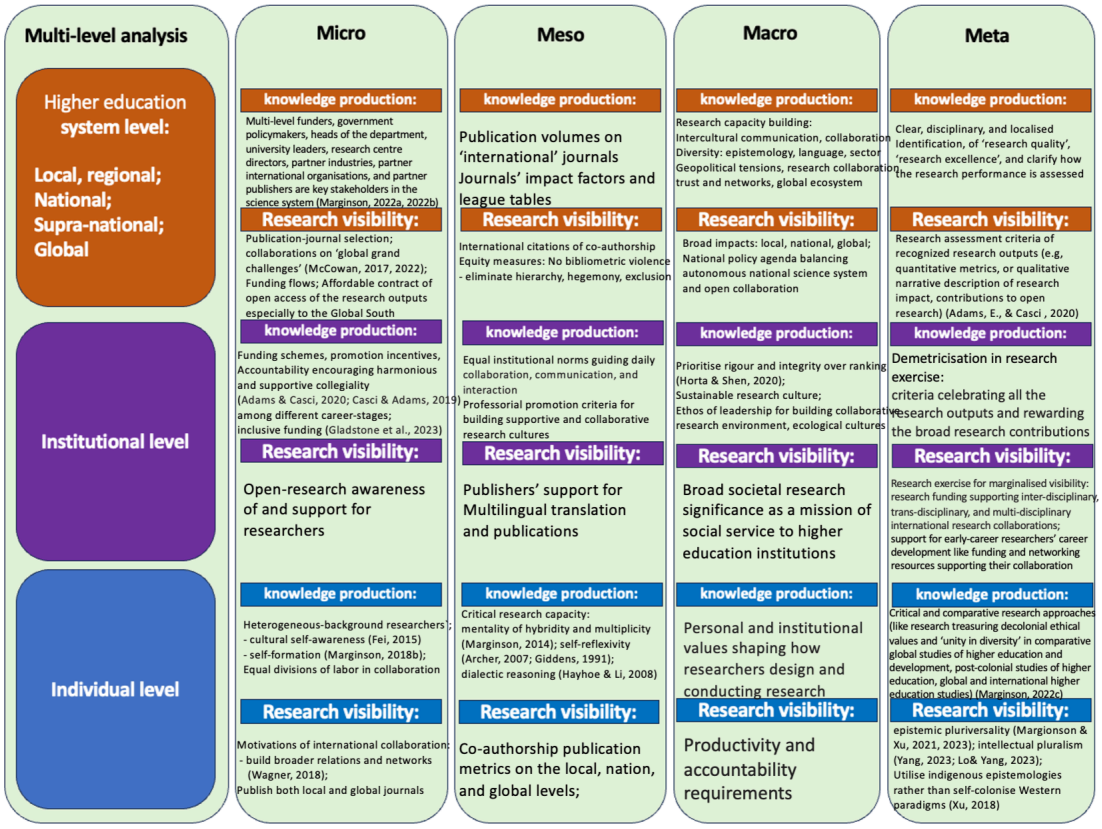
5.7 Future research

The differentiated divisions of labour as organic solidarity shaping inclusive research cultures. Additionally, there are other internal and external factors shaping research cultures, and different career stages have various motivations (Dusdal & Powell, 2021). Future research can interview key stakeholders like senior researchers, funders, partner publishers, research centre directors, departmental and university leaders, research policymakers, and research-impact communities.

Informed by the interviews and literature, future research can be designed as a multi-level analysis, concerning knowledge production and research visibility for globally-just research collaboration ecosystem (Figure 30). This aims at exploring contextualised heterogeneous (Marginson, 2014) situated convergence of global common goods vary among multi-level stakeholders in multi-geospatial scales.

Figure 30

Present-research informed analytical-rationale framework for future research



Note. informed by the research-performance vocabulary (Oancea, 2019)

Source: the author

Finally, future study can explore international collaborations on global mutual challenges as complex wicked problems (Van Berkel & Manickam, 2020; Stein, 2021), focusing on ex-post open-ended impact evaluation and international interdisciplinary partnerships tackling global grand challenges (Holm et al., 2013; Stein, 2024).

For instance, exploring policy-makers' and practitioners' access to long-term sustainable research impacts like global climate-change in international research collaborations. This be informed by a whole-of-university approach (Reimers, 2024; McKeown & Hopkins, 2017), integrating research, higher education, outreach, and university management as an interconnected ecosystem. Hence, a participatory research method can be used for building a knowledge community through non-hierarchical mutual learning.

Conclusions

The study utilises water-cycle systems thinking and ancient China's Taoist water metaphor to interpret the ethical and cultural-oriented ecological research cultures as alternatives to unitary neoliberal values. Water exists on the planet in various forms involving snow, rain, rivers, lakes, and seas, just like the diversity of knowledge and interconnected elements of international research collaboration, which might be visible like the well-known Amazon River or the Thames River flowing endlessly, or like invisible steam circulating through evaporation; like the clouds floating in the sky, or the embedded underground to breed forests and mountains; some of them silently flows under the billion-year-old iceberg, while some may burst ceaselessly to the Pacific Ocean. All rivers run into the sea. All forms of water join the symbiotic metabolism, shaping an ecosystem as a unity-in-diversity situated convergence maintaining their own distinctive shapes. This situated convergence shaped by inclusive, equal, healthy, sustainable research cultures enlightens globally just research management policy, researchers' agency in practising global opening ontology, and institutional decision-making for sustainable research collaborations. Only after all rivers merge into the sea, can the global knowledge pool expand with majestic and endless waves.

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APPENDIX I. Interview protocol draft for pilot interviews

Section1: Research culture at the research center for higher education

1. Please use three adjectives to describe your research centers' research culture for international research collaboration.
2. Please use three emotional words to describe your feelings about this kins of research culture for international research collaboration at your research center.
3. Please use three words to describe your ideal type of research culture for international research collaboration at research centers.
4. How do you think about your role in shaping or influencing the research culture at you research center throughout your process of conducting international collaborative research?

Section2: Knowledge generation through the research process

5. In your research collaboration activities, how do you choose your research partners? Did you find any scholars are more likely to be included/excluded in collaboration networks?
6. How do you divide responsibilities in collaborative research? Who initiates the research agenda? who dominates the research design?
7. Do you pay special attention to utilize or integrate the ontology or epistemology of your cultural background in your research?
8. Did you find any scholars are more likely to be included/excluded in collaboration networks? Do you have any preferred ways of citations?
9. Did you find any philosophical values or moral ethics in your cultural background have influenced your decision-making on academic integrity, autonomy, communication in collaboration, etc.?
10. How do you find research assessment frameworks of research performance evaluation, resources, and funding flows influencing your international research collaborations? What levels (local, institutional, national, regional, international) are these pressures/opportunities mainly from? What's your motivation in participating in international research collaboration networks?
11. How did you encounter any geopolitical tensions influencing your international research collaborations?

Section 3: Knowledge dissemination through inclusive/exclusive mechanisms for access

12. How do you arrange the sequence like corresponding, first and second author in co-authorship publications?
13. Who shoulder the main responsibility in spreading the collaborative research outputs, like delivering public lectures, seminars, webinars, and attending conferences? What's your preferred types of countries and institutions to spread your research outputs?

14. Did you find any type of exclusion or preference in the publications of your collaborative research outputs?
15. Do you translate your research outputs into multiple languages for publications? How do you think the multi-lingual publications could facilitate inclusive access to knowledge?

Section 4: Knowledge circulation, multi-scalar roles, and functions of research to HEIs, government, and industry

16. How do you consider the role and values of research and research collaboration in relation to the function of higher education institutions?
17. Do your research collaboration build relations with industry, government or benefit wider stakeholders?
18. How do you think your international collaborative research ’s function in facilitating social service?
19. How do you think your research outputs benefits the local, national, supra-national, and international levels?

Section 5: Final open questions

20. How do you show your agency, motivations, and determination in winning equal discourse' during the process of designing, participating in, and maintaining international research collaboration networks?
21. Did you experience any impressive negotiations among multi-scalar/multiple-stakeholder power dynamics in your research collaborations’ knowledge production, dissemination, and circulation?
22. Do you want to further share any other notable experiences or opinions about international research collaborations?

APPENDIX II. Interview Protocol (Final version)

Interview Protocol

Section1: Research culture at the research centre for higher education

1. Please use **three adjectives** to describe your research centres' **research culture** for international research collaboration.

Section2: Knowledge generation through international research collaboration 2. What's your **motivation** for participating in international research collaborations?

3. In your international research collaborations, **who makes decisions** on choosing your research partners and your responsibility division?
4. How do you think your **cultural positionality** (like philosophical values or moral ethics on academic integrity) influences your research?
5. How do you find **research assessment frameworks** of performance evaluation influence your international research collaborations?
6. Did any **geopolitical tensions** (like Sino-US strategic competition, Brexit, nationalist movement) influence your international research collaborations?

Section 3: Knowledge dissemination and circulation through inclusive/exclusive mechanisms for access

7. How do you arrange the **sequence** of the corresponding, first and second authors in co-authorship publications?
8. **Who shoulders** the main responsibility for **dissemination** of the collaborative research outputs, like delivering public lectures, seminars, webinars, and attending conferences, and why?
9. Would you like to get your paper **translated** by anyone else into **multiple languages** for inclusive access to knowledge? and why?

Section 4: Societal impacts and functions of research to HEIs

10. How do you consider the **role and values** of your research collaborations in relation to the **function** of higher education institutions (like teaching, learning, and positive societal impacts`)?

One Social Media Themed Interview Protocol for interviewee US6

Section1: Research culture spread through the social media of the research centre

1. Please use **three adjectives/verbs** to describe your research centres' **research culture** that is implied in the **images/texts spread by the centre's social media**.

Section2: Knowledge generation through the research centre's social media

2. **How** does the centre's **social media** call for the expanding **involvement of international research researchers/collaborators**?
3. How are certain **cultural positionality/values** (national/linguistic background and philosophical ideas) embedded in **the research centre's dissemination of knowledge in social media**?
4. Does the **American local context like a melting pot of cultures** involving inclusive international students, researchers, and immigrants **influence** the research centre's social media content of calling for international research collaboration?
5. Did you find any **geopolitical tensions** (like Sino-US strategic competition, Brexit, nationalist movement) may influence **the contents created and shown in the centre's social media**?

Section 3: Knowledge dissemination and circulation through inclusive social media

6. How do you feel about the necessity of **multi-language translation** for more inclusive access to knowledge in the research centre's **social media**?
7. What **challenges** have you faced in running the research centre's social media?
8. Have you ever found **a gap in the social media engagement** by the younger early-career researchers as **'digital natives'** and the elder researchers as **'digital immigrants'**?
9. What are the research centre directors' **hope and goals** for developing the centre's social media?
10. How do you feel about **the role and importance of the social media** of the research centre?

APPENDIX III. An overview of the selected research centres

	Location	Reputation/ position	International level	Research focus	Funding/ support	Structure/ nature	Institutional publication
1	**the UK**	world-level large research centre for higher education and its future development	an international research centre with research partnership from around 15 national and international universities	Higher education and its future development; Focus on both policy and practice	Economic and Social Research Council, Office for Students and Research England, various Foundations	international research centre	working papers published officially by the research centre
2	**Hong Kong SAR**	a consortium connecting mainly Asian researchers to explore Asian-relevant global issues of higher education	mainly consists of Asian researchers for regional-integral collaboration network	Global higher educational issues related to Hong Kong SAR, mainland China, and its surrounding regions; Three major fields: the science of learning, educational policy, equity and social justice	diverse resources from project-initiative organisations, participant consortium members and their institutions	a consortium connecting multiple Asian HEIs' researchers for collaboration instead of an institutional-independent research centre	publications are submitted to the researchers' selected journals; has no institutional internal journal

	Location	Reputation/ position	International level	Research focus	Funding/ support	Structure/ nature	Institutional publication
3	**mainland China**	a research centre of higher education studies at an emerging world-class, small-scale research university situated in the Guangdong-Hong Kong-Macao Greater Bay Area (GBA)	mainly regional integration of research collaboration within the GBA and East Asia	Innovation of its HEI's relations with multiple stakeholders; The municipal pilot demonstration area and GBA's construction; Chinese and global higher education reform	considerable inverstment from the municipal government and private sectors	the president's council system at the HEI; tenure promotion system of researchers	the research centre has own journal for publication
4	**the U.S.**	an initiator of building a research network focusing on international nature of higher education early in the end of the 20th century	a centre with a broad and inclusive international focus in the field of higher education	policy-oriented debates on international higher education	diverse resources from the affiliated HEI as a research university treasuring research centre development	an early established pioneering research centre for higher education centred on an international perspective	the research centre has its own quarterly journal

APPENDIX IV. INTERVIEWEE DEMOGRAPHICS

1. The United Kingdom's case:

The center's code: UKC

	ID code	form	length	position	role
1	**UK1**	face to face	40 min	4th year doctoral candidate	research assistant
2	**UK2**	face to face	60 min	research associate	full-time project member
3	**UK3**	face to face	40 min	teaching fellow; research assistant (past 4 year: casual contract) postdoctoral researcher (9 months)	past 3-year research assistant: one-year current full-time postdoctoral researcher
4	**UK4**	face to face	40 min	visiting research fellow	visiting research fellow
5	**UK5**	online	30 min	4th year doctoral candidate	research assistant

2. Mainland China's case:

The center's code: CNC

	ID code	form	length	position	role
1	**CN1**	face to face	15 min	4th year doctoral candidate	project leader
2	**CN2**	online	25 min	2nd year doctoral candidate	project leader
3	**CN3**	online	30 min	4th year joint (mainland China and Hong Kong) doctoral candidate	research centre member
4	**CN4**	face to face	30 min	3rd year doctoral candidate	project leader
5	**CN5**	online	20 min	full-time research assistant	project research assistant, interview data collector and data analyst

3. Hong Kong's case:

The center's code: HKC

	ID code	form	length	position	role
1	**HK1**	online	45 min	postdoctoral researcher	the centre's member
2	**HK2**	online	60 min	former doctoral graduate from the centre; postdoctoral researcher (current)	the centre's member
3	**HK3**	online	40 min	4th year doctoral candidate	student assistant for running the centre's events
4	**HK4**	online	40 min	3rd year doctoral candidate	the centre's member

5	**HK5**	online	20 min	2nd year doctoral candidate	student assistant for running the centre's events

4. The American case:

The center's code: USC

	ID code	form	length	position	role
1	**US1**	online	30 min	2nd year doctoral candidate	research assistant of the centre in two ongoing projects
2	**US2**	online	30 min	doctoral graduate from the centre, postdoctoral researcher (current)	the centre's former doctoral student, research assistant and research project participant
3	**US3**	online	30 min	3rd year doctoral candidate	the centre's research assistant
4	**US4**	online	20 min	doctoral degree, teaching and research fellow in Europe (current at another institution)	the centre's former international visiting scholar
5	**US5**	online	30 min	4th year doctoral candidate	the centre's project research assistant, the centre's open access publication editor

One special interviewee as the American research centre's social media operator:

	ID code	form	length	position	role
6	**US6**	online	20 min	graduate student at the centre	graduate assistant for the centre's social media operation

APPENDIX V. COLLECTED CHINESE-POLICY LIST

Note: All are retrieved 10 June 2024 from the official website of Ministry of Education of China http://www.moe.gov.cn

Version 1: Original Chinese Titles

(i) International research collaboration policies for Double First-Class universities

复旦大学坚持“五优”并进 着力加强基础学科拔尖人才培养
http://www.moe.gov.cn/jyb_sjzl/s3165/202309/t20230911_1079653.html
北京交通大学积极发挥专业优势 服务“一带一路”建设
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s142/201901/t20190123_367883.html
47 所中外大学成立“一带一路”高校联盟
http://www.moe.gov.cn/jyb_xwfb/s5147/201510/t20151019_214089.html
清华大学扎根中国大地、瞄准世界一流努力提升国际化办学水平
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s136/202104/t20210422_527674.html
发挥高水平大学优势 服务教育科学决策：教育部与清华大学共建教育战略决策与国家规划研究中心
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201109/t20110902_123898.html
教育部与南开大学共建研究中心研究方向为教育与产业及区域发展
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201104/t20110416_117492.html
武汉大学“六大计划”领航哲学社会科学提速发展
http://www.moe.gov.cn/jyb_sjzl/s3165/201202/t20120223_130886.html
牢记国家使命 扎实建设一流大学
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jyzt_2015nztzl/2015_zt15/15zt15_mtpl/201511/t20151112_218763.html
武汉大学多措并举力促哲学社会科学大繁荣
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s196/201112/t20111202_127439.html
天津大学博士研究生教育综合改革试点工作经验做法
http://www.moe.gov.cn/s78/A22/A22_ztzl/ztzl_bsyjsjyzhgg/201901/t20190124_367962.html
复旦大学博士研究生教育综合改革试点工作经验做法

http://www.moe.gov.cn/s78/A22/A22_ztzl/ztzl_bsyjsjyzhgg/201901/t20190124_367956.html

上海交通大学以“四项服务”支持自主创新

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s166/201105/t20110527_120240.html

中国人民大学八大举措力促哲学社会科学十年腾飞

http://www.moe.gov.cn/jyb_sjzl/s3165/201202/t20120222_130818.html

武汉大学着力推进人文社科青年学者群体成长

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s196/201008/t20100806_93836.html

世纪清华 风华正茂——写在清华大学建校一百一十周年之际

http://www.moe.gov.cn/jyb_xwfb/s5147/202104/t20210425_528055.html

复旦大学打好“组合拳”服务“一带一路”建设

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s164/201901/t20190117_367204.html

中山大学全面提升研究生培养质量

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s206/201709/t20170906_313486.html

内蒙古大学积极推进高水平师资队伍建设

http://www.moe.gov.cn/jyb_xwfb/s6192/s222/moe_1736/202107/t20210714_544671.html

吉林大学服务国家战略深度推进学校开放合作

http://www.moe.gov.cn/jyb_sjzl/s3165/201109/t20110916_124237.html

华北电力大学发挥学科专业特色助力“一带一路”建设

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s158/201807/t20180712_342829.html

中央财经大学积极实施五大战略 加快推进“双一流”建设

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s150/201907/t20190716_390750.html

浙江大学积极推动哲学社会科学繁荣发展

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s192/201811/t20181119_355128.html

山东大学扎实推进创新创业教育

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s194/201904/t20190423_379166.html

北京语言大学以“五个国际化”提升对外开放办学能力

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s140/202112/t20211231_591630.html

中国海洋大学积极推进共建“一带一路”教育行动

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s195/201803/t20180302_328482.html

中国矿业大学（北京）“四力并举”推进世界一流学科建设

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s183/202008/t20200831_483789.html

西北农林科技大学坚持开放式办学加快学校国际化发展进程

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s216/201004/t20100420_87159.html

刘延东在教育部直属高校工作咨询委员会第十九次全体会议上强调坚持改革创新加快高水平大学建设 (2009)
http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/tnull_44304.html
刘延东会见剑桥大学校长 (2008)
http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/tnull_39560.html
科技部 财政部关于改革过渡期国家重点研发计划组织管理有关事项的通知
http://www.moe.gov.cn/jyb_xxgk/moe_1777/moe_1779/201601/t20160106_227041.html
扩容提质强服务 根植产业旺产业——广东省推进职业教育改革发展纪实
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jjyzt_2022/2022_zt09/03zyjy/03zyjy_cfx/202205/t20220530_632567.html
兰州大学积极服务“一带一路”倡议
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s220/201901/t20190130_368547.html
浙江大学积极凝聚校友力量推动学校科学发展 （2008）
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s192/201004/t20100419_84664.html
北京外国语大学着力加强新时代教师队伍建设
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s141/201812/t20181205_362447.html
吉林大学充分发挥学科齐全的优势 跨学科研究成为科技发展新亮点
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s161/201004/t20100419_84012.html
西南大学“五力”助推哲学社会科学繁荣发展
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s214/201307/t20130726_154644.html
北京师范大学着力提升学科水平
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s139/201407/t20140731_172626.html
中央财经大学发挥学科优势 助力新时代经济建设
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s150/201901/t20190122_367631.html
天津大学探索国际化学院建设新模式
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s157/201509/t20150901_204830.html
中山大学强化有组织科研 不断提升科技创新能力和水平 （2023）
http://www.moe.gov.cn/jyb_sjzl/s3165/202311/t20231115_1090766.html
西安电子科技大学“四维并重”推进内涵式发展
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s218/202110/t20211014_572338.html
北京交通大学积极发挥专业优势 服务“一带一路”建设
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s142/201901/t20190123_367883.html
复旦大学坚持“五优”并进 着力加强基础学科拔尖人才培养
http://www.moe.gov.cn/jyb_sjzl/s3165/202309/t20230911_1079653.html

清华大学扎根中国大地、瞄准世界一流努力提升国际化办学水平
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s136/202104/t20210422_527674.html
浙江大学以学习实践活动为契机 攻坚克难推动学校科学发展
(2008)
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s192/201004/t20100419_84665.html
华中农业大学积极构建对外开放新格局 服务“双一流”建设
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s202/202108/t20210827_554727.html
云南大学积极探索边疆民族地区“双一流”建设特色发展之路
http://www.moe.gov.cn/jyb_sjzl/s3165/201811/t20181113_354414.html

(ii) International research collaboration policies for non-Double First-Class universities

河海大学大力推进国际化战略 提升学校办学水平
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s184/201501/t20150105_182762.html
徐州工程学院大力推进国际化发展战略着力提高师资队伍国际化水平
http://www.moe.gov.cn/jyb_sjzl/s3165/201212/t20121228_146256.html
陕西师范大学坚持“五个聚焦”着力提升研究生教育质量
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s217/202105/t20210511_530793.html
重庆邮电大学大力推进科技创新
http://www.moe.gov.cn/jyb_xwfb/s6192/s222/moe_1754/201005/t20100513_87720.html

(iii) News Report

张晓宏代表：完善基础研究人才差异化评价
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/2023/2023_zt02/jysy/jysy_dwgd/dwgd_qt/202303/t20230307_1049634.html
投入和引进帮扶资金 44.35 亿元，落地实施科研项目 1949 项：十年，教育部直属高校定点帮扶成效显著
http://www.moe.gov.cn/fbh/live/2022/54688/mtbd/202207/t20220727_649100.html
重庆市全力支持重庆大学建设国际知名高水平研究型大学
http://www.moe.gov.cn/jyb_sjzl/s3165/201012/t20101221_112947.html

牢记国家使命，扎实推进一流大学建设
http://www.moe.gov.cn/jyb_xwfb/moe_2082/zl_2015n/2015_zl53/201511/t20151104_217651.html
“不出国的留学”撬动高校国际化
http://www.moe.gov.cn/jyb_xwfb/s5147/201303/t20130327_149503.html
上海市着力深化高校学科建设与知识创新
http://www.moe.gov.cn/jyb_xwfb/s6192/s222/moe_1740/201403/t20140304_164873.html
高等教育领域“放管服”改革实践操作指南（第四期）
http://www.moe.gov.cn/s78/A02/gongzuo/fangguanfu/201904/t20190428_379807.html
协同创新是提高高教质量的突破口——三论学习贯彻全面提高高等教育质量工作会议精神
http://www.moe.gov.cn/jyb_xwfb/s5148/201203/t20120327_133168.html
以党的十九大精神为引领 着力打造一流国家教育智库 为建设教育强国推进教育现代化提供强力支撑
http://www.moe.gov.cn/jyb_xwfb/moe_2082/zl_2017n/2017_zl76/201712/t20171219_321737.html
学习贯彻党的二十大精神，推动公费留学创新发展
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jjyzt_2022/2022_zt17/xxgc/xxgc_bt/202212/t20221227_1036583.html
辽宁省深化教育改革创新 服务推动全面振兴——2022 年全国教育工作会议经验交流之五
http://www.moe.gov.cn/jyb_sjzl/s3165/202202/t20220209_598172.html
怀进鹏会见香港中文大学（深圳）校长徐扬生一行
http://www.moe.gov.cn/jyb_zzjg/huodong/202303/t20230314_1050956.html
怀进鹏会见香港大学校长张翔
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/202305/t20230525_1061403.html
深化教育改革创新 实施高校开放办学
http://www.moe.gov.cn/jyb_xwfb/moe_2082/2021/2021_zl31/202111/t20211105_577817.html
习近平强调，坚持科技是第一生产力人才是第一资源创新是第一动力
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jjyzt_2022/2022_zt17/bg/bg_bgzy/202210/t20221018_670494.html

全国人大代表、江苏省教育厅厅长葛道凯：
让“回国潮”来得更猛一些
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jyzt_2018n/2018_zt07/zt1807_dbwy/201803/t20180320_330601.html
刘延东会见美国宾夕法尼亚大学校长：建设一批国际知名高水平大学，需要在高层次人才培养和高水平科研合作上加强国际合作
http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/tnull_43323.html
福建拟引进 200 名台湾高校教师
http://www.moe.gov.cn/jyb_xwfb/s5147/201601/t20160106_226986.html
华东师范大学启用教师中英文主页系统促进国际合作交流
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s169/201004/t20100419_84199.html
以高水平教育对外开放助推世界一流大学建设——教育部召开学习贯彻习近平总书记在清华大学考察时的重要讲话精神座谈会
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/202105/t20210508_530342.html
四川省坚持“五维发力” 加快推进基础学科拔尖人才培养
http://www.moe.gov.cn/jyb_sjzl/s3165/202309/t20230928_1083229.html
大力提升中文的国际地位和影响力
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jyzt_2020n/2020_zt23/zhuanjiawenzhang/202010/t20201026_496666.html
杜占元率团访问欧洲三国
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201209/t20120922_142589.html
教育部关于进一步加强高等学校基础研究工作的指导意见
http://www.moe.gov.cn/srcsite/A16/s7062/201203/t20120309_172767.html
郝平会见联合国教科文组织自然科学助理总干事
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201009/t20100910_97462.html
两部门实施“111 计划”建 100 个世界一流学科创新引智基地
http://www.moe.gov.cn/jyb_xwfb/s5147/201612/t20161201_290553.html
教育部：我国已与 58 个国家和地区签署了学历学位互认协议
http://www.moe.gov.cn/fbh/live/2022/54849/mtbd/202209/t20220920_663310.html
在开放办学中提升育人质量 （2007）
http://www.moe.gov.cn/srcsite/A14/A14_other/200703/t20070309_75774.html

汇聚发展合力 推动中西部高等教育内涵式发展——部省合建云南大学云南省支持情况

http://www.moe.gov.cn/jyb_xwfb/xw_fbh/moe_2606/2019/tqh20191122/sfcl/201911/t20191122_409295.html

认真学习贯彻党的二十大精神，推动民间教育国际合作交流迈上新台阶

http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jjyzt_2022/2022_zt17/xxgc/xxgc_bt/202301/t20230116_1039448.html

郝平会见苏丹高教科研部国务部长哈里发

http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201005/t20100514_108065.html

教育部与广东省政府、广州市政府、华南理工大学签署协议部省市校共建华南理工大学广州国际校区

http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201703/t20170316_299766.html

以一流研究生教育助推一流大学建设

http://www.moe.gov.cn/jyb_xwfb/moe_2082/zl_2017n/2017_zl13/201703/t20170309_298786.html

自信自强 守正创新 科教兴国展宏图——党的二十大报告在全国教育系统干部师生中持续引发热烈反响

http://www.moe.gov.cn/jyb_xwfb/s5147/202210/t20221019_670652.html

直属高校“十四五”规划编制专家座谈会召开

http://www.moe.gov.cn/jyb_zzjg/huodong/202009/t20200930_492643.html

辽宁省积极推动高校科技创新 服务区域高质量发展

http://www.moe.gov.cn/jyb_xwfb/s6192/s222/moe_1737/202107/t20210719_545494.html

世界语言大会开幕 刘延东出席并致辞

http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/201406/t20140606_169857.htm

北京高科大学联盟成立

http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s137/201111/t20111103_126201.html

教育部科技司 国家外国专家局教科文卫专家司关于组织申报 2018 年高等学校学科创新引智基地的通知

http://www.moe.gov.cn/s78/A16/tongzhi/201710/t20171025_317464.html

重庆召开教育工作会议确立未来十年奋斗目标

建设西部教育高地率先进入人力资源强市

http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/s3582/s3922/s4587/201012/t20101227_113099.html
强化源头创新能力更好服务支撑国家战略
“建设教育强国夯实国家富强之基”系列评论之三
http://www.moe.gov.cn/jyb_xwfb/s5148/202307/t20230726_1070929.html
张晓宏代表：完善基础研究人才差异化评价
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/2023/2023_zt02/jysy/jysy_dwgd/dwgd_qt/202303/t20230307_1049634.html
教育部：统筹国内国际两个大局、推进高水平制度型开放
http://www.moe.gov.cn/fbh/live/2022/54849/mtbd/202209/t20220920_663365.html
深入践行人类命运共同体理念 在参与全球抗疫中展现中国担当
——“教育系统坚决打赢疫情防控阻击战”系列之十
http://www.moe.gov.cn/jyb_sjzl/s3165/202008/t20200824_479873.html
上海市教委启动高等教育内涵建设五大工程
http://www.moe.gov.cn/jyb_xwfb/s6192/s222/moe_1740/201004/t20100420_85952.html
面向不确定未来，教育如何适应与改变——第 23 届中国国际教育年会暨展览观察
http://www.moe.gov.cn/jyb_xwfb/s5147/202302/t20230220_1046004.html
《国务院办公厅关于改革完善中央财政科研经费管理的若干意见》问答
http://www.moe.gov.cn/jyb_xwfb/s271/202109/t20210901_557280.html
习近平：加强基础研究 实现高水平科技自立自强——加强基础研究 实现高水平科技自立自强
http://www.moe.gov.cn/jyb_xwfb/moe_176/202307/t20230731_1071698.html
中共教育部党组关于抓好赋予科研管理更大自主权有关文件贯彻落实工作的通知
http://www.moe.gov.cn/srcsite/A16/s7062/201904/t20190417_378380.html
教育部关于印发《高等学校哲学社会科学“走出去”计划》的通知
http://www.moe.gov.cn/srcsite/A13/s7061/201111/t20111107_126303.html

Version 2: Translated English Titles

(i) International scientific research cooperation policy for double-first-class universities

Fudan University adheres to the "five excellent universities" principle and strengthens the training of top-notch talents in basic disciplines
http://www.moe.gov.cn/jyb_sjzl/s3165/202309/t20230911_1079653.html
Beijing Jiaotong University actively makes full use of its professional advantages to serve the construction of the Belt and Road Initiative
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s142/201901/t20190123_367883.html
Forty-seven Chinese and foreign universities have established "Belt and Road" university alliances
http://www.moe.gov.cn/jyb_xwfb/s5147/201510/t20151019_214089.html
Tsinghua University takes root in China and aims at the world's first-class efforts to improve the level of international education
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s136/202104/t20210422_527674.html
Give full play to the advantages of high-level universities to serve education scientific decision-making: The Ministry of Education and Tsinghua University jointly build the Education Strategic Decision-making and National Planning Research Center
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201109/t20110902_123898.html
The research direction is education, industrial and regional development
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201104/t20110416_117492.html
Wuhan University "six major plans" to accelerate the development of philosophy and social sciences
http://www.moe.gov.cn/jyb_sjzl/s3165/201202/t20120223_130886.html
Bear in mind the national mission to build a first-class university
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jyzt_2015nztzl/2015_zt15/15zt15_mtpl/201511/t20151112_218763.html
Wuhan University has taken multiple measures to promote the great prosperity of philosophy and social sciences
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s196/201112/t20111202_127439.html
Tianjin University experience in the pilot reform of doctoral education for students

http://www.moe.gov.cn/s78/A22/A22_ztzl/ztzl_bsyjsjyzhgg/201901/t20190124_367962.html
Experience in the pilot reform of doctoral education in Fudan University
http://www.moe.gov.cn/s78/A22/A22_ztzl/ztzl_bsyjsjyzhgg/201901/t20190124_367956.html
Shanghai Jiao Tong University supports independent innovation with its "four services"
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s166/201105/t20110527_120240.html
Renmin University of China eight measures to promote the development of philosophy and social sciences decade
http://www.moe.gov.cn/jyb_sjzl/s3165/201202/t20120222_130818.html
Wuhan University strives to promote the growth of young scholars in humanities and social sciences
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s196/201008/t20100806_93836.html
—— Written on the 110th anniversary of Tsinghua University
http://www.moe.gov.cn/jyb_xwfb/s5147/202104/t20210425_528055.html
Fudan University has played a good "combination of fist" service "Belt and Road" construction
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s164/201901/t20190117_367204.html
Sun Yat-sen University has comprehensively improved the quality of graduate student training
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s206/201709/t20170906_313486.html
Inner Mongolia University has actively promoted the construction of high-level teachers
http://www.moe.gov.cn/jyb_xwfb/s6192/s222/moe_1736/202107/t20210714_544671.html
Jilin University serves the national strategy and deeply promotes the opening-up and cooperation of the university
http://www.moe.gov.cn/jyb_sjzl/s3165/201109/t20110916_124237.html
North China Electric Power University gives full play to the discipline and major characteristics to help the construction of "Belt and Road"
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s158/201807/t20180712_342829.html
The Central University of Finance and Economics actively implements the five strategies to accelerate the construction of "double first-class"
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s150/201907/t20190716_390750.html

Zhejiang University actively promotes the prosperity and development of philosophy and social sciences
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s192/201811/t20181119_355128.html
Shandong University has made solid progress in promoting innovation and entrepreneurship education
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s194/201904/t20190423_379166.html
Beijing Language and Culture University has improved its ability to open schools to the outside world with the "five internationalization"
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s140/202112/t20211231_591630.html
Ocean University of China actively promotes the "Belt and Road" education campaign
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s195/201803/t20180302_328482.html
China University of Mining and Technology (Beijing) promotes the construction of world-class disciplines
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s183/202008/t20200831_483789.html
Northwest A & F University adheres to the open education to speed up the development process of its internationalization
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s216/201004/t20100420_87159.html
At the 19th plenary meeting of the Work Advisory Committee of Universities directly under the Ministry of Education, Liu Yandong stressed the adherence to reform and innovation to accelerate the construction of high-level universities (2009)
http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/tnull_44304.html
Liu meets with President of Cambridge (2008)
http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/tnull_39560.html
Notice of the Ministry of Science and Technology and the Ministry of Finance on matters related to the organization and management of the National Key Research and Development Plan during the Transition Period of Reform
http://www.moe.gov.cn/jyb_xxgk/moe_1777/moe_1779/201601/t20160106_227041.html
—— Guangdong Province to promote the reform and development of vocational education documentary
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jjyzt_2022/2022_zt09/03zyjy/03zyjy_cfx/202205/t20220530_632567.html
Lanzhou University actively serves the "Belt and Road" initiative
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s220/201901/t20190130_368547.html

Zhejiang University actively gathers its alumni to promote the scientific development of the university (2008)
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s192/201004/t20100419_84664.html
Beijing Foreign Studies University focuses on strengthening the building of teachers in the new era
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s141/201812/t20181205_362447.html
Jilin University gives full play to the advantages of complete disciplines and interdisciplinary research has become a new highlight of scientific and technological development
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s161/201004/t20100419_84012.html
The "Five forces" of Southwest University promotes the prosperity and development of philosophy and social sciences
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s214/201307/t20130726_154644.html
Beijing Normal University focuses on improving its discipline level
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s139/201407/t20140731_172626.html
The Central University of Finance and Economics gives full play to its academic advantages to help the economic construction in the new era
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s150/201901/t20190122_367631.html
Tianjin University explores a new model of international college construction
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s157/201509/t20150901_204830.html
Sun Yat-sen University strengthens Organized scientific research and continuously improves the ability and level of scientific and technological innovation (2023)
http://www.moe.gov.cn/jyb_sjzl/s3165/202311/t20231115_1090766.html
Xidian University "attaches equal importance to the four dimensions" to promote the connotative development
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s218/202110/t20211014_572338.html
Beijing Jiaotong University actively makes full use of its professional advantages to serve the construction of the Belt and Road Initiative
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s142/201901/t20190123_367883.html
Fudan University adheres to the "five excellent universities" principle and strengthens the training of top-notch talents in basic disciplines
http://www.moe.gov.cn/jyb_sjzl/s3165/202309/t20230911_1079653.html
Tsinghua University takes root in China and aims at the world's first-class efforts to improve the level of international education
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s136/202104/t20210422_527674.html

Zhejiang University takes the learning and practice activities as an opportunity to overcome the difficulties and promote the scientific development of the university (2008)
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s192/201004/t20100419_84665.html
Huazhong Agricultural University actively builds a new pattern of opening up and serves the "double first-class" construction
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s202/202108/t20210827_554727.html
Yunnan University is actively exploring the road of "double first-class" construction in border minority areas
http://www.moe.gov.cn/jyb_sjzl/s3165/201811/t20181113_354414.html

(ii) International scientific research cooperation policy for non-Double-First-Class universities

Hohai University vigorously promotes the strategy of internationalization to improve the school running level
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s184/201501/t20150105_182762.html
Xuzhou Institute of Technology vigorously promotes the international development strategy and strives to improve the international level of the teaching staff
http://www.moe.gov.cn/jyb_sjzl/s3165/201212/t20121228_146256.html
Shaanxi Normal University adheres to the "five focuses" to improve the quality of graduate education
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s217/202105/t20210511_530793.html
Chongqing University of Posts and Telecommunications has vigorously promoted scientific and technological innovation
http://www.moe.gov.cn/jyb_xwfb/s6192/s222/moe_1754/201005/t20100513_87720.html

(iii) News Report

Representative Zhang Xiaohong: Improve the differentiated evaluation of basic research talents
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/2023/2023_zt02/jysy/jysy_dwgd/dwgd_qt/202303/t20230307_1049634.html
A total of 4.435 billion yuan has been invested and introduced, and 1,949 research projects have been implemented. Ten years, remarkable results have been achieved in helping universities directly under the Ministry of Education
http://www.moe.gov.cn/fbh/live/2022/54688/mtbd/202207/t20220727_649100.html
Chongqing municipality fully supports Chongqing University to build itself into an internationally renowned and high-level research university
http://www.moe.gov.cn/jyb_sjzl/s3165/201012/t20101221_112947.html
Bear in mind the national mission and make solid progress in building first-class universities
http://www.moe.gov.cn/jyb_xwfb/moe_2082/zl_2015n/2015_zl53/201511/t20151104_217651.html
"Study abroad without not going abroad" leverages the internationalization of universities
http://www.moe.gov.cn/jyb_xwfb/s5147/201303/t20130327_149503.html
Shanghai municipality focuses on deepening the discipline construction and knowledge innovation in colleges and universities
http://www.moe.gov.cn/jyb_xwfb/s6192/s222/moe_1740/201403/t20140304_164873.html
Practical Guidelines for the Reform of "Supervision and Service" in the Field of Higher Education (Phase IV)
http://www.moe.gov.cn/s78/A02/gongzuo/fangguanfu/201904/t20190428_379807.html
Collaborative innovation is the breakthrough to improve the quality of higher education —— Three theories on learning and implementing the spirit of comprehensively improving the quality of higher education
http://www.moe.gov.cn/jyb_xwfb/s5148/201203/t20120327_133168.html
Guided by the spirit of the 19th CPC National Congress, we will strive to build a first-class national education think tank to provide strong support for building a strong education country and promoting the modernization of education

http://www.moe.gov.cn/jyb_xwfb/moe_2082/zl_2017n/2017_zl76/201712/t20171219_321737.html
We will study and implement the Party's 20th spirit and promote innovative development of overseas abroad at government expense
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jjyzt_2022/2022_zt17/xxgc/xxgc_bt/202212/t20221227_1036583.html
Liaoning Province to deepen education reform and innovation services to promote all-round revitalization —— 2022 National Education Work Conference experience exchange five
http://www.moe.gov.cn/jyb_sjzl/s3165/202202/t20220209_598172.html
Huai Jinpeng met with President Xu Yangsheng of the Chinese University of Hong Kong (Shenzhen) and his delegation
http://www.moe.gov.cn/jyb_zzjg/huodong/202303/t20230314_1050956.html
Huai Jinpeng met with President Zhang Xiang of the University of Hong Kong
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/202305/t20230525_1061403.html
We will deepen education reform and innovation, and open colleges and universities to their schools
http://www.moe.gov.cn/jyb_xwfb/moe_2082/2021/2021_zl31/202111/t20211105_577817.html
Xi stressed that science and technology is the primary productive force. Talent are the primary resource. Innovation is the primary driving force
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jjyzt_2022/2022_zt17/bg/bg_bgzy/202210/t20221018_670494.html
Ge Daokai, NPC Deputy and Director of the Education Department of Jiangsu Province:
Let the "return tide" come more fierce
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jyzt_2018n/2018_zt07/zt1807_dbwy/201803/t20180320_330601.html
To build a number of internationally renowned and high-level universities, it is necessary to strengthen international cooperation in the training of high-level personnel and high-level scientific research cooperation
http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/tnull_43323.html
Fujian plans to introduce 200 university teachers in Taiwan
http://www.moe.gov.cn/jyb_xwfb/s5147/201601/t20160106_226986.html

East China Normal University has launched the teacher Chinese and English language homepage system to promote international cooperation and exchange
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s169/201004/t20100419_84199.html
—— The Ministry of Education held a symposium to study and implement the important spirit of General Secretary Xi Jinping's speech during his visit to Tsinghua University
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/202105/t20210508_530342.html
Sichuan Province adheres to the "five dimensions" to accelerate the training of top-notch talents in basic disciplines
http://www.moe.gov.cn/jyb_sjzl/s3165/202309/t20230928_1083229.html
Vigorously enhance the international status and influence of the Chinese language
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jyzt_2020n/2020_zt23/zhuanjiawenzhang/202010/t20201026_496666.html
Du Zhanyuan led a delegation to visit the three European countries
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201209/t20120922_142589.html
Guidance of the Ministry of Education on Further Strengthening basic Research in Institutions of Higher Learning
http://www.moe.gov.cn/srcsite/A16/s7062/201203/t20120309_172767.html
Hao Ping met with UNESCO Assistant Director-General of Natural Science
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201009/t20100910_97462.html
The two departments have implemented the "111 Plan" to build 100 world-class discipline innovation and introduction bases
http://www.moe.gov.cn/jyb_xwfb/s5147/201612/t20161201_290553.html
Ministry of Education: China has signed mutual recognition agreements of degrees and degrees with 58 countries and regions
http://www.moe.gov.cn/fbh/live/2022/54849/mtbd/202209/t20220920_663310.html
Improving the quality of Education in Open school running (2007)
http://www.moe.gov.cn/srcsite/A14/A14_other/200703/t20070309_75774.html
Gathering development to promote the connotative development of higher education in central and western China —— Ministry of Yunnan University and Yunnan Province support

http://www.moe.gov.cn/jyb_xwfb/xw_fbh/moe_2606/2019/tqh20191122/sfcl/201911/t20191122_409295.html
We will earnestly study and implement the Party's 20th spirit, and push international cooperation and exchanges in non-governmental education to a new level
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/jjyzt_2022/2022_zt17/xxgc/xxgc_bt/202301/t20230116_1039448.html
Hao Ping met with Minister of State of the Higher Education and Research Department of Sudan
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201005/t20100514_108065.html
The Ministry of Education signed an agreement with Guangdong Provincial Government, Guangzhou Municipal Government and South China University of Technology
http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/moe_1485/201703/t20170316_299766.html
To boost the construction of first-class universities with first-class graduate education
http://www.moe.gov.cn/jyb_xwfb/moe_2082/zl_2017n/2017_zl13/201703/t20170309_298786.html
—— The party's 20th report in the national education system cadres and teachers and students continue to trigger a warm response
http://www.moe.gov.cn/jyb_xwfb/s5147/202210/t20221019_670652.html
An expert symposium on the compilation of the 14th Five-Year Plan of directly affiliated universities was held
http://www.moe.gov.cn/jyb_zzjg/huodong/202009/t20200930_492643.html
Liaoning province actively promotes the high-quality development of university science and technology innovation service areas
http://www.moe.gov.cn/jyb_xwfb/s6192/s222/moe_1737/202107/t20210719_545494.html
Liu Yandong attended and delivered the opening of the World Language Conference
http://www.moe.gov.cn/jyb_xwfb/s6052/moe_838/201406/t20140606_169857.htm
The Beijing High-tech University Alliance was established
http://www.moe.gov.cn/jyb_xwfb/s6192/s133/s137/201111/t20111103_126201.html
Department of Science and Technology of the Ministry of Education, Department of Education, Science, Culture and Health Experts of the State Administration of

Foreign Experts Affairs on organizing the application of discipline Innovation Introduction Base in 2018
http://www.moe.gov.cn/s78/A16/tongzhi/201710/t20171025_317464.html
Chongqing held an education work conference to set the goal of the next ten years Build the western education highland to take the lead in entering the strong city of human resources
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/s3582/s3922/s4587/201012/t20101227_113099.html
We will strengthen our innovation capacity at the source to better serve and support the national strategy
"Building a strong country of education to consolidate the foundation of national prosperity" series of comments third
http://www.moe.gov.cn/jyb_xwfb/s5148/202307/t20230726_1070929.html
Representative Zhang Xiaohong: Improve the differentiated evaluation of basic research talents
http://www.moe.gov.cn/jyb_xwfb/xw_zt/moe_357/2023/2023_zt02/jysy/jysy_dwgd/dwgd_qt/202303/t20230307_1049634.html
Ministry of Education: coordinate the domestic and international situations and promote high-level institutional opening up
http://www.moe.gov.cn/fbh/live/2022/54849/mtbd/202209/t20220920_663365.html
We should fully practice the vision of a community with a shared future for mankind and demonstrate China's responsibility in participating the global fight against the epidemic
—— "The education system resolutely wins the battle against the epidemic" series of ten
http://www.moe.gov.cn/jyb_sjzl/s3165/202008/t20200824_479873.html
Shanghai Municipal Education Commission launched five major projects of connotation construction of higher education
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