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# Engaging a temporal–spatial stretch: An inquiry into the role of the state in cultivating and claiming the Chinese knowledge diaspora



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## ABSTRACT

This paper examines the role of the state in cultivating and claiming the Chinese knowledge diaspora for development, focusing on the Chinese–German academic space. It calls for a temporal–spatial stretch in conceptualising the state in this policy arena. The spatial stretch broadens the usual analysis of the state to go beyond the sending nation-state framework. It illustrates that the state, rather than functioning as a unitary body, comprises different agencies and exists in a multiplicity of forms. Examples demonstrate that the Chinese state at various geographical levels and localities as well as states in other countries engage with one another in making and tapping the Chinese knowledge diaspora. The temporal stretch necessitates an extension of our analytical optic from the conventional focus on how the state claims the diaspora ‘out there’ towards recognising its important role in the strategic and selective production of the diaspora. Furthermore, this paper calls for a higher sensitivity to other temporal characteristics in state policies and practices. Moving away from an expectation of a permanent return of its talents overseas, the Chinese state has turned to the ‘diaspora option’, which refers to regulating and tapping the potential of the Chinese knowledge network that contributes from afar and/or circulates transnationally. Other mechanisms to control the temporality of knowledge diaspora engagement will also be illustrated. Finally, the paper provides an analysis of the complex, sometimes collaborative while other times competitive relationship, between the Chinese and German states in producing and regulating the Chinese knowledge diaspora.

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## Introduction

As the knowledge economy becomes more globalised, scholars, researchers and students have become incorporated into the development visions of universities and other research institutions (see [Larner, this issue](#)), and more broadly of urban centres, sub-national regions and nation-states near and far from where these talents(-to-be) are currently located. In this global ‘war for talent’, state and private-sector institutions compete to host or at least share affiliation with the highest number and quality of talents, the movement of these increasingly mobile, seemingly footloose professionals has become a contested field. What does this mean to nation-states, like China<sup>1</sup>, from which a large number of their university graduates, academics, researchers and scientists are in the global knowledge-production circuit? And what are the implications for nation-states who see the need for foreign talents in order to

keep up in the race in the increasingly globalised knowledge economy?

This paper examines the role of the state in cultivating and claiming the Chinese knowledge diaspora for development. Specifically, the analysis unpacks ‘the state’ and performs a temporal–spatial stretch in interrogating its workings. The *spatial stretch* broadens the usual analysis of the state as a coherent unit, anchored at the nation-state level and located in the ‘homeland’, the country of origin of the diaspora. In more concrete terms, this stretching emphasises the fact that the state comprises different agencies and exists in a multiplicity of forms. Examples will illustrate how the Chinese state, operating at various geographical (national, provincial, municipal/county) levels and localities (in China and overseas) engage with one another, and at the same time, with states of other countries – also to be understood as non-unitary – in making and claiming the Chinese knowledge diaspora. The relationships between these state entities are multiple and dynamic, shifting from collaborative to competitive in nature. This spatial stretching illustrates the fact that the Chinese and German state policies ‘co-produce’ the Chinese diasporic academics relationally, resulting in academic exchanges that impact bilateral

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<sup>1</sup> ‘China’ refers to China Mainland of the Peoples’ Republic of China, hence excluding the Special Administrative Regions of Hong Kong and Macau, in the analysis. Taiwan is also not considered in this paper.

relationships. The *temporal stretch* enables an extension of our analytical optic in two ways. First, it stretches the conventional focus in the current discourse on how the state claims the diaspora 'out there' (i.e. after it has been formed) towards recognising the role of the state in the strategic and selective *production* of the diaspora. In the case of the Chinese knowledge diaspora, states at different geographical levels in China and beyond (in particular, the 'destination' countries of the mobile academics) are involved in identifying individuals of particular backgrounds, nurturing their mobility (and other forms of) capital and framing them into diaspora subjects and (future) agents for development. Second, it urges a higher sensitivity to other temporal characteristics in state policies and practices that materialise the 'diaspora strategy'. Moving away from an expectation of a permanent return of its talents overseas, the Chinese state has turned to explore a wider range of temporal possibilities in implementing its 'diaspora for development' strategies, encouraging its talents overseas to return for shorter period(s) and circulate in multiple, transnational (or translocal) knowledge networks.

The remainder of the paper is organised into six sections. Section 2 provides a review of the literature on the relationship between knowledge diaspora, the state and development. The next section presents the research background and methodology. Section 4 outlines the Chinese state's relationship with its knowledge diaspora, serving as a background for the next, more substantive section, which demonstrates a spatial-temporal stretch in conceptualising the state. The subsequent section zooms in to show how the Chinese and German states produce and claim the Chinese knowledge diaspora relationally. It brings forth the complex and changeful relationship shared among the various state entities in the making and tapping of the knowledge diaspora. Finally, the paper will conclude with some implications of this study.

### Knowledge diaspora, the state and development

While knowledge diaspora contributing to (national) development is not a new phenomenon – considering, for instance, the role of returnee scholars in Chinese modernisation and national development in the early 20<sup>th</sup> century, it is a relatively new topic in the literature on migration and development. Meyer and Brown (1999) wrote about knowledge diasporas as a new approach to the brain drain in the end of the 1990s, marking practically the beginning of this branch of research. Subsequently, a number of research reports (e.g. Brown, 2000) were published. They gauge the potential of the 'brains in diaspora' in reversing the brain drain that haunts many, especially poorer economies. Indeed, the idea of the knowledge diaspora challenges the winner-takes-it-all paradigm arising from the dichotomous 'brain drain' and 'brain gain' framing, which had been prevalent in the migration and development literature. The notion of diaspora was activated in the debate pertaining to highly-skilled and professional mobilities, alongside with concepts like 'brain circulation', 'brain exchange' or 'brain rearticulation' (e.g. Arocena and Sutz, 2006; Pieke et al., 2004; Saxenian, 2005) to denote the often temporary, circular flows practiced by the highly-skilled, as well as their engagement and embeddedness in multiple networks and knowledge economies, straddling national boundaries. More recently, work on knowledge diasporas promotes them as an active strategy for nation-states to achieve brain gain. In their UNESCO working paper, Meyer and Wattiaux (2006) compare a number of international migration trajectories among scientists and engineers and illustrate evidences to show the capacity of diaspora knowledge networks. They conclude that there are 'strong potential resources for effective and mutually beneficial co-operation between developing and highly industrialised countries (1)'. A series of studies has subsequently been con-

ducted on case-studies around the world and in Asia particularly (especially China and India), reflecting the high level and rise of movements of academics and scientists from the region (e.g. the *Asian Population Studies* special issue on Skilled Diasporas in Asian Development published in 2007).

Within Asia, the large number of Chinese academics and scientists overseas and the active role of the Chinese state in the past two decades in claiming the Chinese knowledge diaspora have inspired a vibrant scholarship. The extensive body of work by David Zweig and his colleagues traces and evaluates the evolution of the Chinese state's policy and relationship with its diaspora, shifting from the conventional brain-gain vis-à-vis brain-drain model to the diaspora approach (e.g. Zweig, 2006; Zweig and Chen, 1995; Zweig et al., 2004; Zweig et al., 2008; Zweig and Wang, 2013). A dominant line of research considers the development impact and potential of the Chinese knowledge diaspora and offers policy recommendations. Xiang (2005) assesses how knowledge exchange can be promoted through diaspora professional networks and puts forward recommendations to improve government management and to better synergise state activities and market mechanisms. Scholars based in Australia have contributed a series of studies on the cases there (Welch and Zhen, 2008; Yang and Qiu, 2010; Yang and Welch (2012)). Operating with a transnational perspective, Yang and Welch (2010) argue that the Chinese knowledge diaspora serves as 'transnational human capital' that can be garnered by the Chinese and Australian states for development in both economies (cf. Zweig et al., 2004). The Chinese diaspora strategy has commonly been considered a role model and compared to other cases for policy suggestions. The Indian and Chinese cases have been compared by Xiang (2007) and Hugo (2010), while Wescott (2005) compares the Filipino and Chinese knowledge networks. Although the Chinese knowledge diaspora is (becoming) a worldwide phenomenon, the extant literature has a limited geographical coverage, focusing on the US–Chinese and Australian–Chinese cases. Hardly any grounded fieldwork-based research has been conducted, for instance, on the Chinese knowledge diaspora in Europe. My recent project represents one of the first studies that contribute to more contextualised understanding of this subset of the Chinese knowledge diaspora (Leung, 2011, 2013a,b, 2014a,b).

This paper builds upon this emergent scholarship. In particular, it contributes to overcome the major spatial and temporal boundedness commonly noted in the conceptualisation of the state and its relationship with knowledge diasporas. My efforts in unpacking 'the state' here are inspired by Xiang's (2011) ethnographic work on the complex relationships between the differentiated Chinese state and overseas Chinese professionals. He shows how different levels (central and local governments) of the state and multiple actors (e.g. government officials, staff at research institutes) within the state apparatus work to incorporate with differentiated intentions and strategies. Apart from this exceptional piece, the state has mostly been treated as monolithic in the extant literature. This paper aims to further develop the 'differentiated state' perspective. It contributes to an established line of work that underlines the multi-scalar and extra-territorial nature of the state, which has evidently not been linked closely to the scholarship on knowledge diaspora and development. In the 1990s, Neil Brenner (1999), for example, analysed the fate of the state in the age of globalisation. He argued against a state-centric epistemology and underlined the need to recognise how the state functions beyond the national-scale and -territoriality in its articulation with (global) capital when handling, facilitating and coordinating the globalisation process. The multi-level governance approach, which also emphasises the complex vertical (across levels of organisation) and horizontal (across geographical space) connections and interactions among diverse governing entities, has gained currency in the study and

theorisation of borders among political geographers (Brunet-Jailly, 2005). Similarly in Environmental Geography, a body of work (e.g. Armitage, 2008; Gunningham, 2009) has emerged focusing on how state functions have been dispersed upwards, downwards and outwards (to non-state actors) (Reed and Bruyneel 2010). Recognising the multi-scalar and multi-local configurations of 'the state' is important, as it makes possible an analysis of the complex, dynamic and contextualised power relationships among the various entities and allows an evaluation of the distributional outcomes across space and scales of any state projects or interventions.

## Research background and methodology

This paper draws on the findings of my previous and on-going research on topics surrounding Chinese outbound academic mobility in the past five years. The most substantial project in this series is one on the developmental impact of academic mobility among Chinese scholars working in the Chinese–German academic space. It examined the policy framework regulating this mobility field in the past two decades, Chinese scholars' motivation for and experiences of academic mobility to Germany, and the wider impact of these mobility trajectories. Research work involved a detailed review and critical analysis of relevant Chinese and German policy statements and documents, websites (put online by government (at various levels) offices, scholarship foundations, universities, research institutions, Chinese professionals with overseas experiences, Chinese students/alumni associations, etc.), press reports, secondary data and research reports on Chinese outbound academic staff mobility. The fieldwork, conducted from 2009 to 2010, involved the implementation of a postal/email survey in which 123 Chinese scholars (of post-doc or above level, who had conducted research visits of minimum three months in Germany) participated. Subsequent to the survey, in-depth, face-to-face or telephone interviews with 64 of the participating scholars were conducted. Six key informants in China and Germany were also interviewed to collect insights from actors working in organisations engaged in promoting academic mobility of Chinese scholars to Germany. Participant observation and quasi focus-group discussion with small groups of 'mobility alumni' were also carried out.

The conceptual exercise pursued in this paper draws mainly on the on-going policy and discourse analyses that provided the foundation for the individual projects described above. Detailed analyses of the individual narratives illustrating the accumulation of capital via academic mobility among Chinese scholars (Leung, 2013a), translocal development impact of their academic mobility (Leung, 2011), state-actor relations in contesting the notion and practice of development in the Chinese transnationalised academia (Leung, 2014a) and an interrogation of the Chinese academic mobility field using the threshold model (cf. van der Velde and van Naerssen, 2011) (Leung, 2014b) have been provided in my other work.

## The Chinese state (first viewed in entirety) and its knowledge diaspora

Since 1978, more than 2.6 million students have left China to study abroad and only 1.1 million have returned (Romann, 2013). The Chinese state became more concerned about this 'brain drain' in the late 1980s and has since then implemented numerous policies and programmes to reclaim the brainpower stored overseas. Fig. 1 summarises the most important ones implemented in recent years. In addition to hardware incentives, soft, discursive governing technologies have also been pursued to reinforce the grand 'go out and return for development' narrative. The recurrent reiteration that overseas professionals abroad are in a unique position to

help China's modernisation by key, central political figures at important occasions, for instance, instills patriotism among its sons and daughters in the diaspora and assigns them moral responsibilities to do their share from near and far (see also Xiang, 2011; Nyíri, 2001 and cf. Ho, 2009; Lin, 2012 for discussion of the Singaporean state's pursuit of flexible citizenship). These state efforts, together with the booming economy with lucrative jobs and ample entrepreneurial opportunities, have encouraged more overseas professionals to return. The Ministry of Education announced that 330,000 returned in 2012, compared to 80,000 a decade ago. The result in the diaspora talent hunt at higher levels in the academic and research field is also quite impressive. Between 1990 and 2010, the Ministry of Education spent close to US\$98 million in seed funding for about 20,000 returnees. Almost 1600 returnees have received funding from another programme by the Chinese Academy of Science, launched in 1994, offers as much as 2 million RMB (US\$328,500) for research (Romann, 2013). The accumulative effect of the ensemble of programmes is noteworthy. According to figures from 2011, more than 3100 academics have returned with a guarantee of access to tenured positions, research laboratories and one-time bonuses (generally of at least US\$150,000 per person) (Lim, 2011). Chinese academicians and professional returnees, as of 2009, accounted for 72 per cent of the research group leaders of the country's key science and technology projects; 67 per cent of the principal awardees of national natural science awards; 81 per cent and 54 per cent of the members of the Chinese Academy of Sciences and Chinese Academy of Engineering respectively; and two-thirds of the doctoral supervisors in China's universities and research institutes (Zhou, 2009). These proportions are remarkable, especially considering that only a minority of Chinese scholars have studied or worked abroad.

It is, however, important to relativise this success by noting that more than three times as many Chinese students now go abroad to study compared to a decade ago (Romann, 2013). A recent official report states that 87 per cent of top scientists and engineers living abroad had no plans to return to China (Zhang, 2013). Going beyond the numerals, there are also questions regarding the quality of this rising return: Are the top talents returning or 'only' those at the lower end of the talent spectrum? What do they do when they return? Are they indeed bringing back innovation and different (and better) ways of conducting science and business? Mixed evidence makes it difficult to gauge how effective these programmes are at bringing back top talents in general terms.

## Unpacking 'the state' with a spatial-temporal stretch

Having provided an overview of the Chinese state and its engagement with the knowledge diaspora, the paper will now turn to unpack the state. Indeed, existing scholarship and media discourse on this topic tends to present the Chinese state as a unitary body operating in a highly centralised and bureaucratised manner. Zweig (this issue) warns against viewing the state as a coherent apparatus and illustrates convincingly that China's diaspora strategy has been driven by charismatic individuals in the central polity. He concludes that diaspora strategies in China are characterised by flexible and *ad hoc* policy-making processes. My analysis below focuses on the multiplicity of 'the state' from an institutional perspective. Specifically, it highlights (i) the multi-scalar and multi-sited nature of the state, as well as how the multiple actors/agencies comprising the state share both collaborative and competitive relations in scouting and t(r)apping talents from overseas, and (ii) the cross-temporal characteristic of state efforts in cultivating and trapping the knowledge diaspora, as well as the shifting priority on temporality over permanency in state policies.



## II. General information of the efforts of the Ministry of Education to attract outstanding students and scholars abroad to return to China or make contributions for China through various ways:

The CPC Central Committee and the central government have always been attaching great importance to the work related to students and scholars studying abroad. And the Ministry of Education (MOE) has been strictly implementing the guideline of "supporting students and scholars studying abroad, encouraging them to return to China after their completion of studies and guarantee them the freedom of coming and going". Meanwhile, the MOE has taken effective measures to attract outstanding students and scholars to return to China or to make contributions through various ways.

The returned students and scholars play an leading role in areas like education, S&T, high-tech industries, finance, insurance, trade and management etc, and serve as a driving force for the country's economic and social development. At same time, many students and scholars staying abroad take initiatives to make contributions to China through various ways, such as giving lectures during short-term visit to China, having academic exchanges, conducting joint researches, bringing in projects and investments and providing information and technical consultancy etc. Accordingly, governments at all levels as well as enterprises and institutions have all come up with supportive policies in this regard. Relevant institutions, special funds and talent-reserves have been established to facilitate the returnees in their careers. As for the MOE, it has been conducting some exemplary programs to attract students and scholars to return as well as to facilitate their careers. The main programs are as follows:

"The Fund for Returnees to Launch S&T Researches": Since its inception in 1990, the fund has provided financial support to 24 batches of altogether 10,926 returnees, with an amount of more than 350,000,000 RMB.

"Program for Training Talents toward the 21st Century": This program targets the outstanding young teachers who have returned from overseas studies. Since its inception in 1993, 11 batches of 922 people are supported with an amount of more than 180,000,000 RMB.

"The Chunhui (literally, Spring Bud) Program": The program targets those returnees with doctoral degree and with outstanding achievements in their respective fields. Since its inception in 1996, the program has funded more than 8000 individuals and 90 groups of scholars and researchers to serve the country on short-term visit.

"Changjiang Scholar Incentive Program": The program provides financial support to young and middle-aged leading scholars of certain disciplines who have studied abroad and are invited by Chinese HEIs as Special Professors or Lecture Professors. Altogether 537 scholars are supported through this program, amounting to 93% of the total number of Special Professors and Lecture Professors.

"Program of Academic Short-return for Scholars and Research Overseas": This program finances those outstanding Chinese scholars studying or doing researches abroad to give lectures or do researches in 28 key HEIs during their short holidays or returns to China. Since its reception in 2001, the program has aided 6 batches of 104 such scholars.

## III. Some more measures MOE is going to take in an endeavor to strengthen topnotch talents training and attract Chinese scholars overseas to return and work in China or serve the country through various ways:

1. Reform the mechanism and send more HEI-based scholars to study or do research abroad. Within the framework of state-funded students or scholars, 300 research personnel, from the "Changjiang Scholar Incentive Program", "Innovative Corps of HEIs Program" and "Young Leaders of Various Disciplines Supporting Program", will be selected to do joint researches in high-level foreign universities; 5000 young backbone teachers will be selected to do researches (including post-doctoral researches) or study for doctoral degrees.

2. Innovate the ways of attracting topnotch scholars to return and work in China with more flexibility. Make full use of the network of [www.liuxue.net](http://www.liuxue.net), which serves as a platform for both the employers and the students and scholars studying abroad; the "Expressway Mechanism" is to be strengthened to build direct connection between Chinese HEIs and possible returnees; other flexible measures shall also be taken in such effort.

3. Promote more flexible programs for the students and scholars studying overseas to serve the country, through academic exchanges, joint researches, talents training and so on. In such an effort, the Chunhui Program should be strengthened.

4. Strengthen the development of enterprises park for those returned from overseas studies and establish fine marketing mechanism and comprehensive circumstances, through the "Supporting Fund for Starting Enterprises for Outstanding Talents who Return from Overseas Studies" and favorable policies concerning the procedures for starting an enterprise.

5. In an effort to better carry out the principle of "guarantee them (the Chinese students and scholars studying or doing research abroad) the freedom of coming and going" the Ministry of Education and Ministry of Public Security have promulgated policies concerning issuing 5-year stay and multi-visas to the outstanding talents working for Chinese HEIs and S&T institutions and are considering granting permanent residence for those topnotch talents.

6. Help the returnees' children to study in local schools and help their spouses to hunt jobs. The Ministry of Education is making efforts to coordinate with relevant ministries and sectors in such regards for the convenience of the returnees.

7. To cope with the "Western Development" campaign, the work related to students and scholars studying abroad has also come up with new ideas, that is, to establish cooperating mechanism with the Western regions. The Ministry of Education plans to bring more bilateral or multilateral investment and cooperative projects to the West, to bring more state-funded programs for studying abroad to the West and to bring more returnees to the West.

**Fig. 1.** Examples of efforts of the Chinese Ministry of Education in luring the knowledge diaspora. Source: <http://www.moe.gov.cn/publicfiles/business/htmlfiles/moe/s3917/201007/91574.html>.

### *Spatial stretch*

The achievement of the Chinese state in establishing, maintaining and strengthening its relations with the knowledge diaspora, though often initiated at the central state level, should be understood as a result of efforts made by numerous state and affiliated actors and institutions operating at various geographical scales and in different localities. High-level policies set by the Ministry of Education have to be implemented on the ground by provincial governments, local governments, universities, research institutions as well as government departments of widely-varied functions dealing with taxation, insurance, housing, children and spouse settlement, etc. Beyond executing central state programmes, many provincial, municipal and county governments have made their own investments to make links with Chinese overseas. A large number of local (municipal and county) governments have also set up their own Overseas Chinese Scholars Pioneering Parks (similar in concept to the state-level parks, but drawing upon local resources) to lure Chinese scholars from overseas (Zhao and Zhu, 2009). They compete to offer more and better incentives to potential returnees. Numerous institutions based on kinship, birthplace, university affiliations and professional sectors, etc., have been set up with local government resources and delegations are sent to strategic destinations for 'marketing' purposes. In her research, Saxenian (2005) observes that in strategic areas such as Silicon Valley in California, there has been an almost continuous flow of company and government 'head hunting' representatives from all over China, not just coastal urban areas, but also from central and western provinces. In my study case, though far from being 'continuous', similar state-corporate-joint talent hunt tours are also conducted regularly in strategic locations such as bigger German cities especially where large universities, research institutions and companies in key industries (e.g. automobile manufacturing, engineering, chemical and pharmaceutical technology, and electronics) are based. Zhao and Zhu (2009) note some differences between the talent-hunting strategies by the central state vis-à-vis its counterparts at the local levels. As compared to the central government, which is more interested in top scientists and engineers, local governments are more driven to lure entrepreneurs, especially those in high-tech industries (Zhao and Zhu, 2009).

Municipalities that are particularly proactive in this race include Shenzhen, Shanghai and Tianjin. The Mayor of Shenzhen sent out the call of 'Back to start an undertaking in motherland, and make your dream come true in Shenzhen' in the early 2000s, encouraging overseas professional to contribute to the development of Shenzhen through various forms of project cooperation, part-time work engagements, visiting and giving lectures as well as conducting business consultancy. It now operates four global talent liaison offices in Los Angeles, Tokyo, Sydney and Brussels, as a part of its Peacock Plan. These offices target leading and high-caliber overseas Chinese working on their PhDs or master studies and foreign experts. In addition to setting up liaison offices overseas, Shenzhen has hosted China's biggest job fairs successively in the last decade, attracting thousands of international training organisations, executive head-hunters and human resources services institutions (Fu, 2011). Shenzhen's strong competitor, Shanghai, has also been very active in the race. The Overseas Chinese Affairs Office in Shanghai sends delegations regularly to major cities where Chinese scholars are concentrated, while Shanghai Technology Innovation Center organises workshops overseas to sell the city to aspiring returnees. Located in northern China, Tianjin's international recruitment plan is also ambitious. Pumping up from its effort in recruiting 760 international talents in 2012, the local government announced recently its new effort for 2013, in consortium with about 125 key universities, research institutions and enterprises in hiring 1326 positions

for top talent from overseas, with about 46% of the positions set at or above the level of associate professor and vice-chairman of companies (Chen and Hu, 2013).

Late comers and smaller players are also joining the global talent hunt. Zhenjiang city in Jiangsu province, for instance, implemented 20 incentive policies for the first time in 2013 to help attract, within three years of implementation, 200 foreign experts and 700 high-level talents with an overseas background. The Donghu New and High Technology Development Zone of Wuhan city in Hubei province also plans to offer rewards to those who successfully recommend high-level international talent to the zone – with the highest reward reaching 240,000 RMB (Chen and Hu, 2013). Government agencies at provincial level are also involved, operating often in liaison with and coordinating municipal governments in the specific province. For example, Guangdong province has been committed and successful in its 'talent cultivation and introduction' project (Qin 2011). Shandong province recently made plans to establish another 10 recruitment liaison offices overseas, including in the USA and Germany, to expand its channels for the recruitment of overseas talent (Chen and Hu, 2013). Recruitment activities are held in China also. Large conventions aimed at recruiting overseas Chinese professionals have become a regular scene in major cities in China since the Guangzhou municipality organised the first Overseas Students Fair in 1998 (Xiang, 2011).

Translocal alliances have also been formed to foster closer relationships among high-tech parks in different regions. The Association of China Returnee Entrepreneurship Parks, for example, comprises 41 high-tech parks from Beijing, Nanjing, Shanghai, Shenzhen and some other cities, involving state and business actors in the network. Such collaboration allows different local state initiatives to tap each other's comparative advantages. For instance, Zhongguancun in Beijing is strong in its high-tech research and development, but relatively weak in production. On the other hand, Nanjing high-tech zone has competitive advantage in labour and infrastructure cost, as well as production scale. By way of collaboration through the Association of China Returnee Entrepreneurship Parks, member institutions are able to optimise their performance (Zhao and Zhu, 2009).

The above examples illustrate how the Chinese state operates on the ground in a multi-scalar and multi-sited institution that is traversed by competitive as well as collaborative relationships. It is important to underline the uneven power shared among the different state entities in their hunt for talents. Large cities in coastal regions are in an advantaged position to attract overseas returnees. According to the estimates by Zhao and Zhu (2009: 39), among an estimated total of 300,000–400,000 returnees, about 100,000 have chosen to live in Beijing, 70,000 in Shanghai, 30,000 in Guangzhou, Shenzhen and other Pearl River Delta cities, nearly 100,000 in provincial capital cities, with only 50,000–100,000 returnees in other more remote counties. Tapping the knowledge diaspora for development is therefore a strategy that exacerbates the unequal development potential across China, especially in innovation and technology sectors.

Another spatial stretching advocated here is an acknowledgement of the active role played by 'other' states. Since China has become more active in promoting international movement of students and academics, there has been a boom in 'other' states especially in Asia, Australia, North America and Western Europe in co-producing, selecting, circulating and tapping the Chinese knowledge diaspora. The rise of China as an economic, political and scientific world power, and the proactive partnership-building efforts by the Chinese state (at various levels) motivates the recent surge in the engagements of foreign players. The need to strengthen ties with Chinese colleagues for scientific progress, economic opportunities and positive diplomatic relationships is widely circulated by actors ranging from highest-level politicians

to managers of individual research funding programmes. High-visibility initiatives such as the 'German–Chinese Year of Science and Education 2009/2010' and the '100,000 Strong Foundation' launched by US President Obama to promote the expansion and diversification of US Americans studying Mandarin and studying abroad in China illustrate the widespread perceived 'need' to strengthen academic ties with China. Promoting the coming and staying, albeit temporarily, of Chinese academics and scientists is one of the major policies in these ties-building and -strengthening efforts. Foreign states involved in mobilising Chinese academics and scientists comprise entities at diverse levels and with capacities including the nation states, sub-national states, universities, research centres and funding agencies. The active involvement of many private corporations, often in collaboration with the state in this arena should also not be under-estimated.

States control human mobility by being the principal gate-keeper at national borders. The size of the Chinese academic diaspora expanded within a short period of time as a result of the Tiananmen Square incident in 1989. Special relaxation of immigration policies was implemented in major Western countries to allow Chinese students studying there to stay, starting with the executive order by the US Government that granted Chinese students permanent residency in 1990. This extraordinary gate-opening gave permanent residency to 70,000 Chinese students and scholars in the USA (including 20,000 family members), 10,000 in Canada (Zweig and Chen, 1995) and 28,500 in Australia (Mackie, 1997 as cited in Xiang (2011, p. 826)), expanding the mobility options for a sizeable pool of Chinese scholars, many of whom were expected to return to China upon graduation.

Under 'normal' circumstances, academics, while differentiated by their disciplinary backgrounds and research expertise, belong also to those targeted by 'brain gain' immigration policies worldwide. Though not without hurdles, the immigration procedures for foreign academics are generally less cumbersome as compared to those applied to lower-/de-skilled workers. A survey of the major skilled immigration policies in force, such as those implemented by the Australian ('457 skilled visa programme') and the UK Government (Tier 1 (Exceptional talent) points-based immigration system), confirms that professionals in the academic and research fields are considered as one of the targeted sub-groups.

States at sub-national levels also compete for foreign talents. Operating separately from other municipal governments in Mainland China, the Special Administrative Region of Hong Kong implemented an Admission Scheme for Mainland Talents and Professionals in 2003, aiming to 'attract qualified Mainland talent and professionals to work in Hong Kong in order to meet local manpower needs and enhance Hong Kong's competitiveness in the globalised market' (Hong Kong Special Administrative Region Government, 2013: 1). Other examples include the state of Victoria in Australia (with Melbourne as its centre) and the Quebec Skilled Workers immigration schemes, both designed to compete with international as well as intra-national counterparts.

Universities are logically key players in mobilising academic professionals. Drawing on a survey and interviews with research staff, international office and human resources staff from 17 German, Swiss and Dutch universities and research institutions, a recent study concludes that international staff recruitment was considered as important to extremely important for the respondents' institution – which is not surprising as the survey was conducted at the European Career Fair in Cambridge (Massachusetts, USA), and that the most commonly mentioned target geographic regions were Asia (especially China, India, and Singapore) and North America, while countries considered as rising in importance for their institution were the BRIC countries (Brazil, Russia, India and China) and Argentina. Engineering and natural sciences are

listed as the disciplines in which international recruitment is most important (Montgomery, 2012).

In the case of Chinese–German academic space, an array of German state-funded institutions works to promote academic mobility among Chinese students and scholars. These include the German Academic Exchange Service (DAAD), the Alexander von Humboldt Foundation and the Max Plank Society. Return fellowship is a common practice under these schemes that aim to sustain and strengthen the transnational knowledge network. Unlike earlier fellowship schemes which often required recipients to return to their home countries (especially in the Third World) upon completion of their studies or research as a strategy to curb 'brain drain', German-funded fellowships nowadays generally do not interfere with fellows' post-sponsorship mobility plan.

### *Temporal stretch*

Analyses of the state and its knowledge diaspora often focus on policies and strategies targeting an existing knowledge network, giving rise to the misconception that the state only plays a responsive role in reclaiming the brain power stored already 'out there'. In the Chinese case, the state is by no means only brain-hunting; it plays a key role also in *producing* the knowledge diaspora. The Chinese state's committed and targeted policy in promoting study abroad, breeding the knowledge diaspora and luring overseas scholars back to China began with Deng Xiaoping, the chief architect of the Open Door Policy. Deng spent five of his formative years (aged 16–21) in France 'to learn knowledge and truth from the West in order to save China' (Stewart, 2001: 23) and believed that scholars and students sent abroad would bring back advanced ideas and expertise needed for China's modernisation and development. His conviction was translated to an expansion of study abroad programmes. Subsequent political leaders have developed foreign study and scholar exchange programmes in China as key instrument to realise the national development strategies 'Revitalising the nation with science, technology, and education' (*kejiao xingguo*) and 'empowering the nation through talent' (*rencai qiangguo*). Specifically, 'Selecting first-class students, sending them to first-class universities [meaning Harvard, Yale, Cambridge and Oxford and the like], to learn from first-class academics' (China View News Reporters 2006) was presented in the mid-2000s as the official strategy to improve the quality of Chinese human capital and meet the demands of the increasingly inter-related capitalist global political economy. Between 2007 and 2011, the Chinese state selected and sent 5000 research students from China's 49 most prestigious universities (e.g. Tsinghua University, Peking University) to study abroad, especially to esteemed US and European universities. With the number of Chinese students and young researchers rising in 'top' universities around the world, these higher education institutions serve as a training ground of future Chinese diaspora talents, who are required or lured to return, in one way or another, to strengthen the Chinese knowledge base.

The knowledge diaspora nurtured by the Chinese state, especially the *crème de la crème* section of this, hence displays certain distinctive spatial characteristics: the scholars are mostly from China's best universities concentrated in a few urban centres and they are sponsored to study or work at prestigious institutions concentrated in a few countries considered to beat the top of the global knowledge hierarchy. State sponsorship has also been concentrated in disciplines that are identified by the state as in urgent demand for China's development, e.g. telecommunication and IT, agricultural high technology, life science and population health, material sciences, energy and environment, engineering and applied social sciences (Beijing Daily Reporter, 2007). This selection frames, to a large extent, the characteristics of the



knowledge diaspora to be tapped a few years after they depart for their foreign studies.

The direct control of the state in thoroughly constructing the Chinese knowledge diaspora has shrunk to some extent due to the rising proportion of Chinese students studying overseas with private funds in recent years. These younger students are understandably free to choose their study subjects. Nevertheless, students and more advanced scholars on state sponsorship are considered by the state to be of higher quality within the knowledge diaspora. They are the first to be targeted by the state upon the completion of their study and research stay while many of the 'less desired' members in the knowledge diaspora are confronted with a hard time securing a respectable employment prospect upon return as *haigui* (high-skilled returnees, sometimes also translated as 'sea turtles') (Hao and Welch, 2012; Li and Yang 2013; Zweig and Han, 2008). By installing a hierarchy of knowledge (and other forms of cultural and social capital) gained overseas among Chinese scholars, the Chinese state can still exercise strong command of the grooming and capitalise on the privileged sections of the knowledge diaspora, despite a massification of international academic mobility induced by the rising capacity to pay among the expanding (upper-) middle class.

Besides calling for more attention to the diaspora-cultivating work done by the state, this section calls for a higher sensitivity to other temporal characteristics in state policies and practices. The most important to highlight is the switch of the Chinese state from its call for (quasi) permanent return migration of Chinese scholars to the 'diaspora option' in the early 1990s that does not require a permanent or long-term return. Specifically, with the approval from the Party Central Committee and the State Council, the Ministry of Personnel published the 'Opinion on Encouraging High-Level Overseas Chinese Students to Return to Work in China' in 2001 that makes this temporal turn explicit. The Opinion called upon relevant state and other related entities to act in accordance with the principle of 'supporting Chinese students studying abroad, encouraging them to return home, and allowing them to come and go freely' (People's Daily Online, 2001). In addition to the freedom to move in and out of China, returnees are also guaranteed the rights to retain their long-term or permanent right of residence abroad while they work in China. In addition to accepting and encouraging temporary return to serve the motherland, the policy discourse has moved away from an emphasis on 'return and serve the country' (*huiguo fuwu*) to 'serve the country [from abroad]' (*weiguo fuwu*) even without any physical return (Zweig et al., 2008). The temporal-spatial flexible diaspora option aims to tap the potential of the Chinese knowledge network that can contribute from near and afar, often circulating transnationally (or translocally) between work places in China and overseas. This shift recognises the fact that talents accumulate human and social capital through exchange and circulation, state policies that offer favourable conditions for them to enter and exit are hence in demand. Latest policy announcements by the Ministry of Education highlight plans in further improving and flexing the conditions for academics and scientists to leave and return. Increasing funds and other supports are made available for 'returnees' to give lectures during short-term visits to China, take part in academic exchanges, conduct joint research and offer information and technical consultancy (Ministry of Education, 2014).

Taking the flexible diaspora option does not mean that the Chinese state opens the gates and surrenders its control over mobility. Rather, the state regulates this mobility field with carrots and sticks. As mentioned before, continual efforts have been made to offer overseas scholars incentives to return (albeit temporarily or in virtual form). It also acts hard to ensure that a section of the knowledge diaspora touches Chinese ground for a period of time. For instances, it imposes temporal restrictions to scholars'

academic mobility experiences it supports. Numerous scholarship and research fellowship programmes are in place in China, increasingly commonly in collaboration with overseas partners, to sponsor students and scholars to study and/or work in China or overseas for a defined period of time. In order to keep scholars overseas in reach, publicly-funded scholars are often required to sign a 'contract' that makes clear their plan to return – a common practice in many other countries. Other control mechanisms include the requirement of a 'security deposit' (equivalent to a few thousand Euros) to be paid by the scholar on exchange/training personally to guarantee his/her return upon successful completion of the programme. Tan Qi (pseudonym), then Associate Professor in a social science discipline in her early 40s, was in an emotional trough when we met shortly after her visit to her family over Chinese New Year roughly in the middle of her one-year research fellowship. Sympathising with her homesickness, I asked if she would consider shortening her stay that involved only literature study without any field- or laboratory-based work in Germany. My apparently naïve suggestion took her somewhat by surprise. She explained her situation in a troubled tone,

That is not possible. In order to come here, I had to pay a sum of money that is required. If I do not finish the whole fellowship, I will not be able to get that back. It is quite a sum of money that I had to put together from our personal savings.

After taking a few sips of tea, she continued:

And what I am doing is prestigious. I cannot just stop. My supervisors and colleagues, who so kindly nominated me, would be disappointed. I am lucky to have this chance, so I have to complete it.

Being the funder of these academic mobility projects, the Chinese state fellowship foundation effectively controls the temporal-spatialities of this scholar's 'talent'-formation process. Similar mechanisms are also exercised in student and postdoctoral scholarship programmes. One of the conditions for China Scholarship Council fellowships held by some of our interviewees is an obligation to return to China for at least two years following the completion of sponsored study or training. The Chinese state's efforts in 'grounding' the transnational Chinese knowledge network operate in tandem with overseas partners (e.g. universities, fellowship foundations, research institutions and the like), which foster the return and circulation of their alumni and former research fellows. Through (co-)funding and steering longer- and shorter-term stays, circular and recurrent mobility of Chinese academics (and their counterparts), Chinese and partner state entities build, maintain and strengthen a knowledge network that connects mentors and (former) mentees working at different institutions across nations, realising the shared 'transnational knowledge diaspora for development' strategy.

### Mapping the relations between the Chinese and German states in the co-production of the Chinese knowledge diaspora

Through the temporal and spatial stretched-out optic, the role of various constituents of the Chinese and other states (as well as other private and quasi-state institutions) in producing, managing, circulating and claiming the Chinese knowledge diaspora can be charted. Entities of the Chinese and other states do not only exist side by side in producing and engaging with the Chinese knowledge diaspora. This section charts how the multi-scalar and multi-sited states operate in relational terms, sharing sometimes collaborative while other times conflictual relationships.

Promoting international academic mobility and knowledge circulation in order to arrive at a win-win-win scenario is the

mantra *en vogue*. Such a symbiotic, though also competitive, relation also characterises to a large extent the Chinese–German rapport in the higher education and research field. Compared to three decades ago when the German funders were involved as aid-givers and capacity-builders, the Chinese and German partnership now operates on ‘the principle of cooperation, on equal-footing’, as concluded by my key informant who works for an important German funding organisation that supports German–Chinese research collaborations. An increasing number of fellowship opportunities are now jointly funded by the Chinese (e.g. via Chinese Academy of Sciences) and German public funds. The Sino-German Center for Research Promotion in Beijing, founded jointly by the National Natural Science Foundation of China and the German Research Foundation (DFG) in 2000 is an example. The Center supports activities relating to the Chinese–German scientific cooperation, such as bilateral workshops, symposia, summer schools, cooperation groups and research projects, as well as exchange programmes for early career researchers. National-level initiatives such as this Center offer opportunities for academic exchanges that touch ground in specific, ‘centres of calculation’ which are nodes of resource circulation and accumulation and hence important sites of knowledge production and dissemination (Latour, 1987). Such institutional set-ups have promoted the development of academic mobility corridors and networks spanning selected, privileged sites of knowledge production (Leung, 2011). For instance, the establishment of a German–Chinese Research Group between the Institute of Biology at the Freie Universität Berlin and the China Agricultural University in Beijing represents one of these knowledge corridors. Though funded by the German Federal Ministry of Education and Research, with a budget of 1.35 million euros, the research centre promotes the collaboration of young researchers affiliated to the two specific institutions located in the

respective capital cities, with a rather ‘narrow’ technical research focus on rice production optimisation.

Finally, special events such as the recruitment event ‘The PhD Workshop China’, advertised as ‘Your Gateway to Reach China’s Top Postgraduates’, reflect the collaborative nature of the internationalised Chinese education and research field. Organised by the Chinese Education Association for International Exchange, the fair offers Chinese graduate students a platform to ‘shop for’ PhD opportunities in foreign countries (and vice versa) and to meet face-to-face with official representatives of accredited overseas colleges and universities. Over 80 institutions, universities, colleges, academic research institutes and other higher learning institutions participated in 6<sup>th</sup> Workshop held in 2012. Germany’s delegation was the largest, comprising one-third of the exhibitors with 36 representatives from 21 universities, graduate schools, clusters of excellence and research institutes, as well as a German Academic Exchange Service (DAAD) consultation table. Other major delegations came from Canada, the UK, the Netherlands and France. Exhibitors presented their international PhD programmes and discuss future research opportunities in Germany with qualified Chinese candidates. At such occasions, the Chinese state offers a platform for international partners to disseminate information and recruit potential PhD students while keeping up its efforts in maintaining its grip on these talents-in-the-making. A survey of the participating institutions reveals – as it also would, if we would tally the disciplinary nature of all ‘centres of calculation’ and scholars funded – unsurprisingly a bias toward natural science, technical and engineering disciplines (Fig. 2). This confirms the shared disciplinary bias in the co-production of the Chinese knowledge diaspora discussed earlier.

While often sharing a collaborative relationship, the stand of the Chinese and German states is, however, not always fully in line.

1. Berlin International Graduate School of Natural Sciences and Engineering
2. Bonn-Cologne Graduate School of Physics and Astronomy
3. Chemnitz University of Technology
4. Cluster of Excellence "Asia and Europe in a Global Context" (Heidelberg University)
5. German Academic Exchange Service (DAAD)
6. Graduate School of Excellence Materials Science (Mainz)
7. Graduate School University of Erlangen-Nürnberg
8. Hannover Biomedical Research School
9. Heidelberg Graduate School of Mathematical and Computational Methods for the Sciences (Heidelberg)
10. Helmholtz Association of German National Research Centres
11. Institute of Medical Psychology (University of Magdeburg)
12. Graduate Academy University Jena
13. Goethe Graduate Academy (Frankfurt)
14. International Giessen Graduate School for Life Sciences
15. Karlsruhe School of Optics & Photonics
16. L3S Research Center (Leibniz Universität Hannover)
17. Ludwig-Maximilian University Munich
18. Philipps-Universität Marburg
19. TU Dortmund University
20. Technische Universität München
21. University of Bayreuth
22. University of Münster

**Fig. 2.** German institutions taking part at the PhD Workshop China 2012 (Beijing).



The German state can and has modified the Chinese knowledge diaspora, though in rare exceptions, by offering the possibility for academic mobility among Chinese scholars and intellectuals who are not considered by the Chinese state as a valuable resource for national development. Chinese scholars working in humanities and less-applied social science subjects are excluded mostly from the academic mobility programmes offered by the Chinese state (and to a large extent, its international partners). One of my interviewees, Yuan Mijiao (pseudonym), a lecturer specialised in rural and gender development studies who had spent some years in Germany with German public funding, told me in a regretful tone that even though the Chinese state has invested considerably in promoting academic mobility and international exchange, ‘research like ours [not belonging to any strategic areas] is seldom funded. We struggle enough to keep our ordinary teaching and research activities going.’ While huge budgets are dedicated to achieve scientific superlatives (e.g. building the world’s fastest supercomputer), institutions with less- or not-prioritised teaching and research foci, and especially those located in poorer parts of the country remain excluded from the ‘China’s quest to become super scientific power’ grand narrative. Academic mobility for marginalised disciplines (or research topics) is often only possible with external funding. More political, prominent and controversial examples reflecting the disjuncture between the Chinese and German ideologies include the offer of a guest lecturer position at Berlin University of the Arts to the leading Chinese dissident artist Ai Weiwei and the reception of Chinese dissident poet and writer Liao Yiwu, who was given the Peace Prize of the German Book Trade 2012. Liao now lives in Berlin at the invitation of the German Academic Exchange Service DAAD Artists in Berlin Programme. At an interview, he thankfully says, ‘The DAAD is my best refuge (DAAD, 2012).’ Although these cases are very exceptional, they illustrate how the Chinese knowledge diaspora space can also be a field of contest, where academics can negotiate room for their less-supported or oppressed scholarly interests and critical political ideas. It is a space where other states can display their internationalised governing power by shaping, as slightly as it may be, the contour of the Chinese knowledge diaspora.

## Conclusions

This paper has advanced our understanding of the role of state in producing and regulating the knowledge diaspora for development in a few ways. Conceptually, I argue for a temporal and spatial stretch in understanding the role of the state in the making and steering of knowledge diaspora for development. As the knowledge economy becomes more globalised, the geographical mobility of highly-skilled individuals is increasingly seen as standard and actively promoted by actors and institutions near and far. Restricting our lens to the relationship between the homeland (central) state and the knowledge diaspora in our inquiry into migration-as-development is insufficient. Appreciating the state as multi-scalar and multi-sited does not only help us arrive at a more realistic understanding of the academic mobility-development nexus. Such a perspective also allows us to see the knowledge diaspora as a dynamic and contested field where different state actors and institutions share multiple and changing relationship with each other. As shown above, while the German and Chinese states share mostly a collaborative relationship, aiming to harness the Chinese knowledge diaspora as transnational capital, there have also been episodes when the German state challenged the Chinese state and provided an alternative interpretation of what the Chinese knowledge diaspora should mean and serve.

Going beyond describing the state’s functions in wooing the knowledge diaspora to return, the above discussion has thrashed

out how the state exerts its power in identifying some bodies of knowledge as essential for development and privileging particular groups of academics for mobility capital, which can subsequently be converted into other forms of capital for development (Leung, 2013a). In particular, I have illustrated the disciplinary and spatial bias in policies and practices implemented by multiple states that nurture and harvest the Chinese knowledge diaspora. By identifying who, where and what is more valuable (and less controversial) in the global knowledge and science market, the state privileges and mainstreams certain sub-groups of academics and marginalises others. Moreover, the Chinese state’s commitment in luring talents to return from the diaspora has arguably contributed to unfair competition against academics who do not have mobility biographies or foreign experiences. Indeed, discontent arising from this bias toward mobility has increasingly been heard (Lim, 2011). While one should not romanticise the academic worksphere as it, like any other field, is always marked with power geometries, the effect of the existing heavily biased policies on the healthy development of the education and research field should not be under-estimated. These processes of exclusion and inclusion that work to define and underpin the knowledge hierarchy deserve more attention.

Last but not least, this paper’s focus on the state is not meant to downplay the role of individual members of the knowledge diaspora as active agents. Though nested in and hence being regulated by various states and their policies, (potentially) mobile academics negotiate their mobility trajectories and career plans, and strive for their own notions of development. They do so often by making use of the opportunities offered by state and non-state institutions in their home countries or elsewhere, and subsequently shaping these state practices. The present research has also produced findings that show how the knowledge diaspora (and their localised) colleagues share multiple relationships (from collaborative, contradictory to conflictual ones) with different states and their apparatuses, sometimes reinforcing while other times toppling their notions of development (Leung, 2014a,b). In order to tease out the complex relationships between the various actors and institutions involved in the making and claiming of overlapping and cross-cutting knowledge diasporas, more critical policy analyses supported by grounded fieldwork and vigilant contextualisation are necessary.

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