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Hope amidst uncertainty: foreign scientists in contemporary Japan

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Abstract: The recruitment of foreign researchers has become an indispensable component of Japanese policy makers' efforts to globalize and improve the country's scientific institutions. By promoting the employment of foreign scientists in temporary research positions, Japan participates in the increasingly transnational circulation of academic knowledge workers. Scientists, discursively conceptualized as highly skilled workforce, are seen as participating in privileged global movements. However, the young foreign scientists enlisted to advance Japan's research sector encounter considerable uncertainties in their work and personal lives.

Focusing on the experiences of young life scientists in Osaka, this article investigates transnational scientific mobility from below. It complicates the notion of scientific workers as privileged global travelers, and examines how mobility is embedded in the minds and enlivened in the bodies of scientific workers themselves. By inquiring into the underlying relationship between the practice of mobility and hope, the article explores the diverse methods foreign researchers employ to account for the uncertainties they encounter during their own transnational movements. Demonstrating how young researchers experience and make sense not only of mobility, but also its loss, the article highlights the ways foreign scientists engage with Japan, and elaborates on the significance of immobility practices and imaginaries.

Keywords: hope, mobility, scientific production, labor

1 Situating transnational scientific mobility in Japan

Growing awareness of socioeconomic and environmental risks has exacerbated a sense of insecurity and uncertainty about the future sustainability of Japan.

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As a result, both in political and popular rhetoric scientists are increasingly called to the task to ensure the continuity of the country. Since the development of the First Science and Technology Basic Plan in 1996, scientists are charged with the responsibility to offer innovative technological solutions to the social, economic, and demographic problems Japan is facing in the wake of its prolonged economic recession and, more recently, the environmental crisis following the Fukushima nuclear disaster.

Importantly, the recent science and technology policies in Japan also posit development of “excellent human resources” as the basis of scientific innovation. Responsibility for the production of a secure and safe future has shifted from bureaucrats and corporate leaders to scientists. That is, as Japanese government aims to promote “drastic enhancement of basic research” (Council for Science and Technology Policy 2010), it also calls for greater participation in transnationally oriented scientific processes. Among the government’s efforts to “*aggressively* support relevant activities in order to form a group of research-focused universities that conduct research [...] at an internationally high level,” the acceptance of “*quality* foreign researchers and students at universities and public research institutions” is explicitly stated as one of the measures to implement the goal of establishing Japan as a global center for scientific research (Council for Science and Technology Policy 2010: 26, 27; emphases added).

By promoting the employment of foreign scientists in its research institutions, Japan is participating in the increasingly transnational circulation of academic knowledge workers (Huang et al. 2014; OECD 2008). The past two decades have witnessed a shift in academic mobility around the world. As education scholar Terri Kim (2010: 578) suggests, “previously sporadic, thin, limited and inter-national academic links and mobility have become systematic, dense, multiple and transnational.” This process is taking place due to transnational circulation and borrowing of neoliberal-minded policies that encourage the notion of research capabilities as easily transferable skills and researchers as inherently mobile experts (Kim 2009, Kim 2010).

Japan’s science and technology policies and institutional practices also have to be examined in the context of “global borrowing” of research policies. Both the government and scientific organizations themselves attempt to partake in the transnational circulation of researchers (Huang et al. 2014; Murakami 2010). According to the statistics issued by Japan’s Ministry of Education, Culture, Sports, Science and Technology (MEXT), there has been a slow yet steady increase in the number of foreign researchers in the country since year 2000. In 2013, around 12,000 international scientists were residing in Japan for longer than one month and working in the country’s public and private research insti-

tutions (MEXT 2015).¹ In comparison, in the same year there were only around 4,300 Japanese researchers who spent more than one month conducting research in scientific institutions outside Japan.² While the presence, movements and experiences of foreign researchers in Japan cannot be reduced to numbers, these statistics do offer a glimpse into the overall trends. That is, on one hand, Japan is not particularly keen on “infusing” its own researchers into the transnational flows of scientific migrants. This reluctance corresponds to global trends, as countries tend to see the departure of knowledge workers as “brain drain” (OECD 2008). On the other hand, Japan has become increasingly focused on hiring and extracting the talent of foreign-educated researchers. According to the OECD data (2008: 122), Japan has one of the most highly formalized mobility strategies in the world, having allocated various programs and financial resources for the purpose of temporarily attracting scientists from other countries.

My paper aims to engage with the lived experiences of these trends. It asks: how is mobility conceptualized in the minds and enlivened in the bodies of scientific workers themselves? Among young foreign scientists in Japan, what hopes are invested in the narratives of transnational scientific mobility, and how do these hopes relate to mobility practices? Considering the extent to which mobility has come to be discursively ingrained in scientific production, what are the strategies of hope to make sense of immobility and its experiences? To suggest some answers to these questions, I will, first, situate my project methodologically and provide a brief overview of recent transformations in Japan’s scientific labor regimes. Next, I will discuss the theoretical concepts and relevant literature that frame my analysis of the ways foreign scientists in Japan experience transnational mobility. Finally, I will discuss the data collected during the eighteen months of my ethnographic fieldwork, conducted from the fall of 2012 until the spring of 2014.

1 MEXT statistics’ definition of “foreign researchers” includes postdoctoral researchers (*posudoku*) and specially appointed research fellows (*tokubetsu kenkyūin*), but does not include international students. Even though the year 2011 witnessed a decline in the number of international researchers due to the flight of Japan’s foreign residents in the immediate aftermath of the nuclear disaster in Fukushima, the number increased again in 2012. While the number of foreign researchers on both short-term (less than 30 days) and medium- and long-term (more than 30 days) contracts surpassed 35,000 altogether (MEXT 2015), for the purposes of this paper I focus on medium- and long-term researchers.

2 This number refers only to researchers with institutional affiliation in Japan. While the overall number of what the MEXT report refers to as “dispatch researchers” (*haken kenkyūsha*) reached more than 172,000 people in 2013, most of them left Japan for short-term visits, that is, less than 30 days at a time (MEXT 2015).

While based in Osaka, I carried out semi-structured and unstructured interviews with foreign PhD students, postdoctoral researchers, specially appointed researchers, assistant professors, associate professors, and full professors in various public research institutions in Japan's Kansai and Kanto areas. There were both men and women among my interlocutors, most of them in their mid-20s to late 30s; as young, early career researchers, they constitute a loose community of scientific workers who have been most affected by transformations in scientific labor regimes. Most of my research participants had lived in Japan for at least six months by the time we met. Most of them were scientists conducting research in various fields of life sciences.

Japan's Science and Technology Basic Policy Report, issued in 2010 (Council for Science and Technology Policy 2010), as well as the 4th Science and Technology Basic Plan, devised in 2011 after the Great East Japan Earthquake (MEXT 2011), manifest "Life Innovation" as one of the "major pillars of growth" in Japan's future. The choice to concentrate on the experiences of life scientists was triggered by my wish to understand how the Japanese government's focus on "life innovation" is lived and enlivened by its practitioners. Mobility scholars Glick Schiller and Salazar (2013: 192) have noted that studies of transnational migration tend to rely on a national, ethnic or ethno-religious community as a unit of analysis, as such communities are thought to share history, language and culture. My project, following Traweek (1988), assumes that life scientists as a community of practice share culture – or, more precisely, several cultures – as well. While around half of the foreign researchers in Japan come from countries in Asia, predominantly China (MEXT 2015), I have tried to capture the multiplicity of experiences of international scientists in Japan by interviewing researchers from various parts of the world. At the same time, in order to point out the commonalities within diversity, I focus on the narratives of those young scientists who come from regions – such as countries in the European Union – where mobility oriented science and technology policies, as well as institutional practices of "brain circulation," have taken a stronger hold than in Japan.

It is important to note that not one of the researchers I interviewed was on a contract longer than five years, thus highlighting both the conditions under which foreign researchers are hired, and the transformations in Japan's scientific labor regimes. Until the mid-1990s, similar to other white-collar workers, scientists in public and private research institutions were recruited into a system similar to the "salaryman" model of lifetime employment that centered on seniority, teamwork, and cooperation. Sharon Traweek's (1988) compelling and detailed ethnography on high energy physics community-making and maintaining, as well as Samuel Coleman's (1999) account on the effects of the *kōza* ('chair') system on scientific production in bioscience labs provide an insight

into scientific practices during this time. In the midst of a prolonged economic recession and in the spirit of globally circulating neoliberal reforms, however, the Japanese government has actively promoted the emergence of performance-based research institutions, increased university–industry cooperation, short-term research projects, fierce competition-based funding distribution, and flexible employment. Research institutions call for more individual initiative, flexibility and productive creativity in their employees (Byosiere 2006; Fujimoto 2008; Nakata and Miyazaki 2011).

As witnessed by the increasing amount of published volumes decrying the living conditions of researchers with advanced degrees (Mizuki 2007, Mizuki 2010; Nakano 2011), young Japanese scientists face many problems, brought about by structural reforms in Japan's scientific production. Among others, as elaborated by Kikuchi Tashirō, a longtime employee of the Japan Science and Technology Agency, these issues include: the dramatic rise in the number of graduate students and postdoctoral researchers since the mid-1990s as a result of one of the tenants of the First Science and Technology Basic Plan that aimed to increase the number of researchers in hopes to combat the economic recession; the expected decrease in academic positions at Japanese universities due to declining student numbers; the restructuring of government funding distribution since the early 2000s; the decrease in the number of tenure-track positions; the fierce competition for research grants; and the increasing reliance on work done by postdoctoral researchers on short-term contracts (Kikuchi 2010: 17–36). The bottom line is that the number of young researchers who are stuck in underpaid or unpaid research positions for years is growing, as the scientists are forced to accept several postdoctoral research appointments before – if ever – finding a tenure-track position. Thus, ironically, while scientists have come to be seen as crucial to the country's socioeconomic and environmental preservation, their work conditions are becoming increasingly insecure. How, then, do foreign researchers fit in the picture? To engage with this question, I turn to the lived experiences of transnational scientific workers in Japan, exploring them through the configuration of three theoretical concepts: virtual shortage of labor, mobility, and hope.

2 Theorizing transnational mobility of scientists

As pointed out by Kikuchi (2010), the Japanese government policies in the 1990s contributed to a sharp increase in the number of young Japanese researchers with advanced degrees and, at the same time, decrease in permanent

positions and funding opportunities. In addition, the more recent science and technology policies have encouraged the influx of foreign researchers into the labor pool, which provides scientific workers for mostly temporary positions. I suggest that it is useful to conceptualize both Japanese and foreign scientists as drawn into the cycle of what anthropologist Biao Xiang (2006) calls “virtual shortage” of labor. In his discussion on the global migration of Indian IT workers, Xiang argues that, as opposed to a real labor shortage, in the late 1990s there existed a virtual shortage of IT labor. According to Xiang (2006: 14–15), the global IT industry defined “skills shortage” as the estimated demand for workers with a very particular skill set at a very particular moment and did not take into account the number of unemployed IT workers whose skill sets could have been updated and redirected to meet the requirements. That is, despite the rhetoric otherwise, the actual gap between labor supply and demand mattered less than the corporate employers’ desire for “an ever enlarging labor supply to maintain the momentum in their expansion” (Xiang 2006: 17).

While it may seem counter-intuitive to compare the exploitative systems of transnational labor mobility of IT workers in the 1990s to contemporary movements of scientific workers, it is illuminating to examine the similarities between the practices. First, Xiang (2006: 14–19) points out that a high level of labor mobility has not always been an inherent element of the industry, but was born out of a very specific set of political, economic, and technological circumstances. Similarly, as Terri Kim (Kim 2009; Kim and Brooks 2012) argues, there has been a sharp increase in the scale and speed of academic mobility since the 1990s. While movements between institutions of higher learning have long since been common practice in the Euro-American world, contemporary political and economic regimes have systematized and normalized mobility of researchers to the extent that it seems inherent to knowledge production itself. Second, like the rhetoric of “skills shortage” in the IT industry, contemporary discourses would make us believe that “the global competition for the talent is growing” and many countries “aim to attract the same pool of highly skilled researchers and scientists” (OECD 2008: 16). Less touted are the contracts these scientists, especially early career researchers, are offered (Carrozza and Minucci 2014; Muller 2014; Muller and Kenney 2014), as well as the unpredictable global and regional shifts in research areas that receive most funding and require most scientific workers. Finally, Xiang elucidates that even though many of the transnationally mobile Indian IT workers found themselves in a perpetual loop of waiting and hoping for actual positions to open, many more young Indian men – and their families – kept devoting precious resources in earning professional credentials with hopes of leaving for work in the global IT industry. In a similar vein, social scientific research shows that young early career research-

ers around the world (Carrozza and Minucci 2014; Fahey and Kenway 2010; Leemann 2010; Muller 2014; Muller and Kenney 2014), and also Japan (Murakami 2010), invest hopes in transnational mobility. In many cases, they perceive the experience as an asset toward career advancement that may put them in advantage in the race for a very limited number of permanent positions or – that being the case with several of my research participants as well – as a “safety valve” (Carrozza and Minucci 2014) when other options seem to have dried out.

How, then, should we conceptualize mobility of scientific workers? In recent years, social theorists of mobility have called for an understanding of social life as inherently mobile. Mobility scholars’ efforts to conceptualize human movements across space seem to be greatly invested in attempts to break down binaries and confuse boundaries of various kinds: those between migration and mobility (Castles 2010), mobility and stasis (Salazar and Smart 2011; Glick Schiller and Salazar 2013), or practices and meanings of mobility (Salazar 2011). They also question the usefulness of conceptual differences in analyzing various forms of movements (Sheller and Urry 2006). At the same time, mobility scholars are greatly sensitive to what Mezzadra and Neilson (2013) have called “the proliferation of borders.” It refers to the unequal power relationships between those who are deemed to be worthy of mobility, and those whose movements are considered illicit by various national and transnational bodies of authority. As Mezzadra and Neilson (2013: ix) point out, borders – both those of the quite physical kind and the symbolic ones – “far from serving merely to block or obstruct global passages of people [...] have become central devices for their articulation.” That is, people on the move are defined by their relationships to borders or, as mobility theorists might suggest, their level of “the ease of travel” (Glick Schiller and Salazar 2013: 188).

What strikes me as particularly thought-provoking in the context of the lives-on-the-move of foreign scientists in Japan, is the convergence of two assumptions that seem to be shared by mobility scholars: first, that mobility is – and should be – normalized both on a conceptual and a political level; and, second, that, despite the dislike of binaries, there exists an assumed dichotomy between the “haves” and “have-nots.” For instance, while Salazar and Smart (2011: v) agree that “there is no clear cut separation between choice and constraint, between forced and voluntary mobility,” they argue that “[m]obility may well be the key difference and otherness producing machine of our age,” suggesting that immobility is necessarily problematic and restrictive. In addition, transnational movements of scientists tend to be considered to be those of the “haves.” That is, scientists – generally listed among “the highly skilled” (OECD 2008) – seem to be situated on the side of power because their mobility

is not to be restricted. Quite the opposite: from a policy-oriented view, scientists require gentle, yet highly regulated encouragement to *keep moving* for the advancement of global economy (see OECD 2008).

I do not want to claim that scientists in their patterns of transnational mobility encounter equally harrowing constraints as manual laborers or asylum seekers around the world, or suggest that foreign researchers in Japan face the same difficulties as other groups of migrants in the country (Douglass and Roberts 2003; Faier 2009; Liu Farrer 2011). Rather, I want to examine the very particular set of mobility – and, importantly, immobility – related concerns that are experienced specifically by transnational scientific workers in Japan. After all, transnational mobility of scientists, as can be glimpsed from recent OECD reports (OECD 2008; see also Appelt et al. 2015), is considered to be crucial for global dissemination of knowledge which, in turn, is supposed to increase national and transnational capacity for innovation and lead to global economic development. The main concern of such narratives is to posit mobility of the highly skilled as a cornerstone of hope for national economic advancement; researchers themselves are relevant only to the extent that they alleviate national anxieties by productively participating in knowledge circulation. In contrast, my paper aims to focus on individual hopes and aspirations, and serve as an examination of transnational scientific mobility from below. Investigating the meanings foreign researchers invest in their temporary stays in Japan, it sets out to elucidate the ways in which practices of mobility both engender and are enabled by the highly personal and individualized hopes of scientific workers themselves.

To tease out the relationship between mobility and hope, it is useful to remember Noel B. Salazar's (2011: 576) persuasive argument that mobility always involves "much more than mere movement." Imaginaries of mobility and practices of mobility converge and cannot be separated. As Salazar (2011: 586) points out, "[m]igration is as much about these imaginaries as it is about the actual physical movement from one locality to another and back." Mobility imaginaries build on cultural contexts, as well as on individual aspirations and anxieties. Hence, hope constitutes a powerful mobility imaginary; as such, it is also inevitably intertwined with the practice of mobility. At the same time, the images, messages, and personal experiences that enable specific mobility imaginaries – including hope – are often contradictory (Salazar 2011). Thus, similarly to Italian early career researchers in Carrozza and Minucci's study (2014), encouraged by popular and policy discourses on transnational mobility of the highly skilled, my research participants often regarded the idea of mobility as such to be positive. At the same time, they sensed the image to be in disconnect from their own practices of mobility and experiences in Japan. For instance,

rather than conceptualizing their move to Japan as pursuit of knowledge or even a confidently hopeful step toward career advancement in their home countries, they spoke of economic necessity to accept a position at a Japanese lab, a forceful mentor in the home institution who pushed toward the move, or a failed job search in other parts of the world. In a similar vein, the image of global knowledge circulation as a desirable practice in the minds of my interlocutors competed with their own experiences of what they perceived to be lack of scientific discussions, abundance of unnecessary meetings, and social exclusion in their Japanese workplaces. Images of Japan as a country of high scientific and technological advancement and efficiency were often muddled upon experiencing first-hand the institutional and social mechanisms of scientific production in place; in turn, “everywhere else in the world” or “the West” came to substitute Japan as the mythologized locales where innovation practices and human relationships are supposed to “work better.”

Mobility as a configuration of practices and imaginaries, as well as the dissonance between different imaginaries and practices, enable and, at the same time, rely on hope as a personal and social resource. Hirokazu Miyazaki (2006: 149) argues that “hope lies in the reorientation of knowledge” and shows how, for instance, certain economic concepts, supported by their associations with rationality and logic, may serve as sources of hope in uncertain times. Even as his notion of what constitutes “rationality,” “trust,” or “logic” shifts over time, Miyazaki’s informant continues to draw on these ideas to situate himself within the larger socioeconomic context of recessionary Japan. While Jarret Zigon (2009) distinguishes between hope for a better life and the more existential hope for a “sane life,” characterized by attempts to make sense of one’s place in the social world, Miyazaki’s informant’s method of hope serves as means of maintaining both. I want to suggest that my research participants are engaged in similar personal projects: in order to make sense of mobility practice, they invest meanings and hopes into mobility imaginaries whose content changes over time. That is, hopes that many young scientists direct toward their future lives – such as dreams of a permanent position, departure from Japan or, quite the opposite, finding a way to stay in the country longer – help them deal with the uncertainty-ridden present.

While allowing for the fact that hopes are generally put to work to project a more stable future, it is crucial to keep in mind Sara Ahmed’s (2010) suggestion that there might also exist a relationship between hope, injustice, and temporal orientation toward the past. Arguing that “[h]ope could be described as stubborn attachment to a lost object, which stops the subject from moving on,” Ahmed (2010: 188–189) points to a more complicated potentiality of hope or, rather, “hopeful subjects.” Hopefulness, she suggests, may disguise unjust

configurations of power which remain invisible due to the absence of immediate suffering, thus rendering hope a “technology of control.” I want to suggest that it is precisely the immediate invisibility of power, disguised in rhetoric of transnational mobility as an inherently good process, that prompts young scientists to enter the regime of virtual shortage of scientific labor and accept transnational mobility as an important part of scientific subjectivity. As I wish to show in the next part of the paper, encounters with Japanese institutions prompt the young foreign scientists of my study to question the practices and imaginaries of transnational mobility, envision their lives in Japan embracing or rejecting this ideal, and devise various strategies of hope to manage uncertainties.

3 Embracing mobility, cherishing immobility

Scientists, suggested Bill, a very energetic principal investigator at a neuroscience lab in Osaka, should take risks not only in science, but also in order to get out of their comfort zones. They should know their value and participate in the free market, he continued. For Bill, transnational mobility was an opportunity to do just that: to assert his value within the global scientific labor regimes. In his late 30s and from a European country which prides itself to be one of the global centers in his field of research, Bill was very, as he called it, “brand sensitive.” Claiming to possess a global perspective of the ways science should be done and offering a highly structured narrative of the aspects in which he saw Japan as still lacking in this enterprise, Bill was invested in improving the image of his host institution. During our first conversation, he proudly pointed out that the research center’s newly upgraded website had been his project. The website, indeed spectacular in comparison to its older version, had been a topic of conversations among the researchers working at the center, as Bill had employed a professional photographer to capture interesting pictures of the institution’s scientists to add to the website. The photos had to be appealing, Bill explained to me, and show the researchers happily working in the newly built and spacious institute. There had been only one professor, he noted with both pride and slight disappointment, who had refused to smile for the camera. For Bill, the new website represented an attempt to “market” the institution to potential international collaborators and postdoctoral researchers. While highly organized in his criticism of the practices of scientific production in Japan (he even brought a couple of *Nature* and *Science* articles outlining these issues to our first meeting), Bill defined the purpose of the new website as a project of

“mak[ing] science *seem* international.” That is, on one hand, Bill saw his host institution’s efforts to seek out and hire foreign scientists to be merely perfunctory. He ironically regarded himself as the “token overseas person” in his research organization, thus expressing criticism of the ways Japan’s scientific mobility oriented policies were actually enacted. On the other hand, Bill hoped to present an exciting image of the institution and attract “enthusiastic” post-doctoral researchers through the polished new website, thus participating in the development of images whose purpose was to create specific mobility imaginaries in potential applicants abroad. Despite the increasing numbers of graduate students and early career researchers in the country, Bill did not find them fitting for the work he envisioned at his institution. He felt there was “no free market of junior scientists” in Japan and hoped for the “enthusiasm” of young foreign researchers to fill the void. Thus, paradoxically, while critical of scientific production practices in Japan, Bill was not only engaging in his own mobility project, but also participating in creating mobility imaginaries and enabling mobility practices of others within a system he considered inefficient.

While his critical assessment of the unfamiliar ways science is “done” in Japan was a sentiment shared by several of my interviewees, Bill’s narrative lacked the frustration many others felt. After all, as he pointed out, this was a temporary appointment for him; a permanent one was waiting back home where he would return in a year. Thus, for Bill, the move to Japan was to be embraced and to be enthusiastically enjoyed, as it constituted a temporary, rather than a permanent break from his institution in Europe. At the time we met, he did not consider prolonging his stay in the country either. Bill was thriving, and his mobility practices most resemble those of an ideal-type transnationally mobile scientist (Leemann 2010) who embraces flexibility and applies his research skills to any position he finds beneficial to his career advancement.

A more complicated take on mobility and hopes associated with it can be glimpsed from the narrative of Daniel. A bioscientist in his late 30s, he had been living in Japan for more than eight years when we met. Critical of the state of research in his field in his home country and fascinated by Japanese culture, he had arrived in Japan from southern Europe to work as a postdoctoral researcher at a lab in Kyoto; after several years there he moved to a lab in a newly formed institution in Osaka. While he found the environment in the new lab toxic and was clearly frustrated with his “boss” during our conversations, he was determined to “make it work.” After all, he said, he was married and had two children. His wife – herself half-Japanese – was working part-time as a language instructor, and Daniel felt that he was not well positioned to find a new job, as he and his family were not ready to leave the Kansai region. There-

fore, he told me, he would try to not let the frustration he felt at the lab every day affect his work. Instead, Daniel emphasized, he would focus on mastering the language to reach a level of proficiency that would allow him to apply for Japanese government grants in Japanese, thus making him stand out – that is, be more competitive – among other foreign researchers in the country.

While Daniel and I used to meet for conversations quite regularly, I had not seen him for two months when we met again at a local coffee shop. Very excited, he told me that, first, his “crazy” boss had quit, leaving the lab in disarray and Daniel’s own position in the institution quite uncertain, and, second, that he had bought a house. He showed me pictures of the purchase and pondered remodeling plans. Confused, I asked if he felt safe buying a house that tied him to a particular place, considering the recent upheaval at work. After all, Daniel himself had explained to me before that not only was his lab at a constant risk of being dismantled, but also the future of the research institution itself was uncertain, as it had been established by the Japanese government in mid-2000s with a specific end date in sight. His response to my baffled inquiries was: “If I waited to have a stable job to buy a house, I would never actually do that.” It is clear that Daniel’s mobility imaginaries and practices are quite different from those of Bill’s, pointing to the problematic aspects of transnational scientific mobility and the discursive attempts to naturalize it.

In her article on the destabilization of the notion of citizenship and the mutating forms of belonging in Asian megacities, anthropologist Aihwa Ong (2007: 89) has argued that “professional nomads,” including scientists, “are at once situated and circulating, and they embody a kind of market citizenship – occupation-driven, mobile, temporary residence, here today, gone next year – bodies that express the sign value of the extraterritorial reach of the global city itself.” According to Ong (2007: 91), the global nomad is “an ultimate ‘city resident,’ a betwixt and between figure” whose body and skills are crucial for the reconfiguration of the fabric of the city to which he or she has been temporarily drawn. While Ong theorizes the ways in which the notions of citizenship transform along with the flow of foreign bodies circulating through the city, I want to ask what happens at the moment when the bodies of “nomads” – young scientists in my case – attempt to become less “nomadic” and take the risk of turning immobile. That is, what happens when one prefers immobility and, more concretely, how is this preference experienced and realized by foreign scientists in Japan? Thus, Daniel’s family circumstances and a desire to see his children grow up in a place they can call home for an extended period of time entail a loss of mobility – one of his main assets as a transnationally positioned scientist – that renders him less competitive in what Bill referred to

as the “free market of science.” While his skills might be transferable transnationally, his body is much less so.

It is difficult to characterize the experiences of scientists like Daniel as those of “professional nomads,” globe-trotting and flexible in the movements of their skilled bodies. Daniel and others among my research participants who found themselves unwilling or unable to leave Japan and/or scientific research for personal reasons felt extreme pressure to publish in high-ranking scientific journals in order to keep their high-impact publication count as high as possible and thus maintain their marketability – no longer transnationally, but rather within a limited geographical area. As the Japanese government’s policies explicitly state that they aim to “considerably increase” the number of researchers “whose research papers are ranked within the top one percentile in the world’s citation ranking in their individual research areas” (Council for Science and Technology Policy 2010: 26), the number of publications in high impact factor journals – along with successful prestigious grant applications – becomes the main measure of a scientist’s skills and worth in the minds of institutions and researchers themselves. Hope as reorientation of knowledge for scientists like Daniel is available in very specific and quite limited directions: as they are trying to adapt, they have to rely on notions such as productivity and competitiveness of a very restricted scope to project a hopeful future.

However, the pressure to publish – and hopes for career advancement associated with it – was not shared equally among all the foreign researchers in my study. The mobility practices and imaginaries of Jure, a close friend by the end of my fieldwork, greatly resonate with the “everyday mobility” described by Jamie Coates (2013). In his discussion on Chinese youth in Japan, Coates (2013: 8) suggests that, rather than necessarily a sign of success, mobility may also be conceptualized as “a practical choice made within a range of options which are created by wider institutional forms” and enabled by both successes and failures. Jure’s mobility practices and imaginaries are reflective of this pattern. He had arrived in Japan as a postdoctoral researcher on a two-year contract at a bioscience lab, encouraged by his former mentor at the institution in his home country in Central Europe and driven by the financial incentive offered. While in Japan, Jure managed to secure extension of the contract for two more years, as he and the principal investigator of his lab came to be convinced that his project would take a longer time to complete. However, for many reasons Jure felt unable to write up and submit for publication the data he had gathered during his experiments. He confessed that he would be happy doing lab work without the pressure of publishing or expectations to produce what my interlocutors referred to as “output.” Indeed, Jure would often stay in the lab until very late on weekdays and sometimes on weekends as well, conduct-

ing and checking up on experiments. While he knew that he was hired precisely to produce the “output,” he found the practices of scientific production at his institution to be disingenuous and felt discouraged by this observation.

However, even though he kept making self-deprecating remarks about his own inability to produce the required “output,” unlike Daniel, Jure was not anxious about the necessity to have a research job or look for work in Japan in particular. Having taken a resigned stance toward his current position, Jure allowed himself to have a multiplicity of mobility imaginaries and future-oriented strategies of hope. He often pondered what he might do if he decided to “quit” science; while working for a biotechnology company was the seemingly obvious answer, Jure entertained other possibilities as well. Half-jokingly, he relished in the idea of becoming a gardener or a pastry chef. On one hand, as an ideal-type transnationally mobile scientist, Jure planned to stay in Japan for the length of his contract and then move on to the next locale where his research skills might be required. On the other hand, he subverted this image by subtly refusing to publicly and institutionally perform his skills through publications and grant applications. While often frustrated about what he perceived as his inability to write up his data in a manner that he himself would find satisfying, Jure was less anxious about his future in Japan than Daniel. Even though, trying to account for the shifts in his own mobility imaginaries over time, Jure grew deeply curious about Japanese society, he did not perceive his mobility practices to be hindered by deep personal attachments to Japan and hopes of staying in the country.

The narrative of Yue adds another dimension to the picture. In her early 40s, Yue has been living and working in Osaka for the past ten years. Born in Beijing, unlike most Chinese scientists working in Japan, she had earned her doctoral degree at a globally renowned research institution in the United Kingdom. Upon graduation, she had gained a postdoctoral research position at an equally famous university in the United States, but found life there unsettling and quit her appointment before the end of the contract. Yue arrived in Japan on a year-long research contract and met her future husband – a Japanese citizen – there, thus prompting her to prolong her stay in the country. She was hired as an assistant professor at the same institution where her husband worked at the time. When we met, Yue was still working at the same institution, had a son in elementary school and, throughout our conversations, pondered her commitment to science. She felt there was insufficient exchange of ideas – both scientific and social – at her institute and was unnerved by the lack of interest in research she observed in her master’s student.

At the same time, Yue was still awaiting what she referred to as “scientific breakthrough” in her work. It would be exciting, she said, if there was an

important breakthrough in her research; the possibility of it kept her motivated. On the other hand, Yue continued after a moment of deliberation during one of our conversations, it would put too much pressure and expectations on her. Yue felt that she had already “failed” her mentor in the United Kingdom by moving to Japan and not having become a principal investigator at a lab within a few years of finishing her PhD; what if, she wondered, she would become a principal investigator as a result of a “breakthrough” in her research and then find herself unable to sustain the lab scientifically or financially? As Yue contemplated these issues, she also knew her current contract would be terminated in near future. The principal investigator of her lab would be retiring in a few months, and she would have to look for a different position. During our conversations, she was considering various options for the future, including the possibility of “quitting” science and becoming a preschool teacher, as communication with children fascinated and inspired her. At the same time, she also looked for open positions at other research institutions. Not finding a suitable position in the Kansai region, Yue applied for jobs farther away and pondered what would happen to her family if she was hired and had to move.

As she considered her options, Yue felt deep commitment to staying in Japan. While she thought it might be possible to work away from Osaka bringing her son along, she did not seriously consider leaving Japan. After all, her husband had a more stable research position and she felt settled in the country. Rather, as could be glimpsed from her narrative at times, Yue would be ready to leave scientific work temporarily or permanently. Despite transnational experiences of various kinds – having been born in China, attained her doctoral degree in the United Kingdom, worked in Japan – Yue’s decision to prioritize her family and stay in Japan, that is, choose comparative immobility, rendered her less competitive under the conditions of virtual shortage of scientific labor. At the same time, making herself imagine a different kind of a career path – reorient her knowledge to possibilities outside scientific work – allowed her to “make it work”: to be hopeful about the future, as both mobility and immobility provided potential imaginaries and practices. As Yue came to realize, when she considered “quitting science,” with most pleasure she entertained the idea of teaching children English through magic tricks. That is, a different mobility imaginary prompted her to shift the focus from immobility as a risk to the possibility of imagining it as opening space for a new personal adventure.

Karl, an Australian in his early 30s working as a postdoctoral researcher at a biochemistry lab in Osaka, used to complain bitterly about the state of Japanese science as he saw it. He had moved to Japan following his fiancée who had also worked as a postdoctoral researcher at a lab in Osaka for some time. Having been in Japan for about one year by the time we met, during our conver-

sations Karl with scathing humor bemoaned the way his lab was set up, the attitude the principal investigator took toward his graduate students and employees, the lack of communication and the long hours his colleagues spent at work. Karl was disillusioned by what he saw as lack of a proper reward system in public research organizations as such and his Osaka lab in particular. As a postdoctoral researcher whose mobility imaginaries were not oriented toward Japan, Karl felt he could speak his mind with no restraint. He openly set himself apart from Daniel to whom he later introduced me. Daniel, Karl sighed, would do anything to stay in Japan and continue academic research, despite already being in his late 30s and with little chance of ever setting up his own lab. Unlike Daniel, Karl continued, he himself wanted more certainty and security in his life. Ironically, an industry job was where he saw it possible. At a company, Karl said, one knows what the evaluation criteria are and is compensated for performing well. He was frustrated by the attempts of foreign scientists like Daniel to “make it work” in Japan. Karl did not see Daniel’s efforts as a rational choice and framed his own intention to find a corporate job not as “quitting” (that is, the way Daniel would frame it), but as the most appropriate way of having a hope for good life in the future.

A few weeks after our conversation, Karl had accepted a job offer at a company in Australia and quit his postdoctoral position mid-contract. While he had temporarily engaged in the practice of transnational scientific mobility, Karl rejected the hope it seemed to offer. Rather, he perceived attempts to gain a permanent research position in Japan in the sense of Ahmed’s (2010) hope as a technology of control: for Karl, such a hope was attachment to something that does not exist and hinders more fruitful reorientation of knowledge. Like Jure’s subtle refusal to produce “output” in the form of publications the integrity of which he found unacceptable, Karl’s decision to leave his postdoctoral position mid-contract subverts the larger global discourse of transnational scientific mobility and refuses to engage with the imaginaries it offers. Such a course of action also rejects the more local efforts to temporarily incorporate foreign researchers in Japan’s institutions and thus increase the country’s profile as a “global research center” through the presence of transnationally oriented brains and bodies.

4 Conclusion

In this paper, I have examined the mobility-oriented hopes and aspirations of foreign scientists in contemporary Japan, and highlighted the necessity to dis-

cuss their strategies of hope in the context of global regimes of transnational mobility of scientific workers. In the wake of its economic recession, Japan has come to both rely on scientific innovation for the country's socioeconomic continuity, and increasingly participate in transnationally oriented scientific processes. It attempts to tap into the labor pool of foreign researchers while retaining the workforce of Japanese scientists. Meanwhile, both groups experience increasing insecurities and uncertainties in their work lives.

As an examination of mobility from below, this paper has inquired into the lived experiences of transnational scientific mobility. Focusing on the narratives of foreign life scientists based in Osaka, it has engaged with the ways early career researchers see themselves in relation to the larger processes of transnational mobility. The paper has emphasized the importance of the relationship between mobility practices and individual strategies of hope as mobility imaginaries. The five scientists whose sense-making practices and mobility-oriented hopes have been recounted and discussed in the paper represent particular configurations of this relationship. While overlapping at times, they point to several strategies – such as thriving, trying to adapt, making it work, resigning, and quitting – the foreign scientists employ to make sense of their position within the larger global regimes of scientific production, as well as the particular practices of scientific work at Japanese research institutions.

Importantly, the lived experiences of on-the-move scientists reveal the importance not only of the practices and imaginaries of mobility, but also those of immobility. Complicating the tendency to conceptualize mobility as inherently positive and indicative of power, hopes for immobility among foreign researchers in Japan reflect aspirations toward stability, and provide a critique of transnational scientific mobility as an unquestionable good.

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