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Medical Tourism, Stem Cells, Genomics: EASTS, Transnational STS, and the Contemporary Life Sciences

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In May 2008, I had the pleasure and privilege of giving a talk at National Taiwan University on the occasion of the first anniversary of EASTS, the East Asian Science, Technology and Society: an International Journal. I have been following the journal since its inception, so in my talk, I presented a number of cases from my recent research considered in the light of how EASTS provides resources for analyzing the kind of material with which I have been grappling. In particular, I situated my talk in relation to the exciting position paper by Daiwie Fu in the first issue, "How Far Can East Asian STS Go?" that takes up the question of regional identity, postcoloniality, and deterritorialization. It is also in conversation with the important introduction by Dung-Shen Chen and Chia-Ling Wu on the links between democracy, public participation (including dissent), civil society, and technoscience throughout the East Asian region and beyond. In this comment, I will summarize the main points of my talk: what the journal offers me as a US-based STS scholar working on topics that refuse neat regional or national bounding, and how that might be applied to make sense of some actual examples.

Picking up on the themes from Fu, Chen, and Wu, EASTS, offers three things that I have already found extremely helpful. First, the journal provides timely publication in English of empirically and historically grounded papers on East Asian science and technology. There is still relatively little Science & Technology Studies scholarship in English about East Asian cases. Scholarship on East Asian science and technology from such nearby disciplines as the history of science and political science tends to be marked by highly problematic meta-narratives that are obsessed with science and technology as an historical index of the rise and fall of civilizations, or of a putative contemporary distinction between inventive metropoles of the West and rapid follower metropoles of the East. The fact that these narratives are often also "actors' categories," fuelling nationalisms in East Asia as elsewhere, is part of what the journal brings under scrutiny.

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Second, EASTS is a journal editorially centered in East Asia but participating in and furthering an academic economy dominated by and productive of global English speakers and readers. This makes non-optional the geographic, historic, economic, militaristic, and rhetorical imbrications of East Asia with the rest of the world, as well as with supra-national imaginaries such as that of the "global" and "the academy". Given how central science educational diasporas are to East Asia, and how important East Asian students and faculty are to Western, especially US, scientific institutions' rankings, to fail to acknowledge these aspects of science internationalism would be to completely miss the character of modern science. This mutual imbrication of regions is a crucial step for STS practitioners to take.

Third, the journal promises an invigoration of the kinds of terms that dominate thinking about transnational geopolitics in the English-speaking academy, such as "post-colonial," and "neoliberal," and "empire;" and related analytics for talking about subjectivity and agency in relation to science and technology, such as "from below," "expert," and "user." The multi-territorializations of East Asia (as elsewhere, I would argue, but see below) refuse flattening, however, so it is not a question of following flat networks innocent of recalcitrant power dynamics. There may be no single center-periphery, but neither is the region (or any other) beyond center-periphery dynamics. Global finance has center-periphery dynamics in East Asia and beyond. So does ICT. So does stem cell research. So do nuclear weapons. So does science education. But they reference several different, changing, and often related, center-periphery histories and movements of material, people, and ideas. Conceptual innovation in this area promises to be of great interest to those in the field of STS, as well as to those who theorize the global, international, or transnational more generally.

The nations and un-nation represented by the journal's editorial board (interestingly, the journal leaves pending the place of China in the journal's regional imaginary), Taiwan, South Korea, Japan, and "the West" represent complex East Asian territorial histories. East Asia has mounted and endured internal colonizations that have lasting impacts on science and technology. There have been and to a certain extent remain several (all compromised) contenders to Empire (or occupation or colonial or imperial influence) in the region, from European nations, to Japan, to the United States and China, several of which use science and technology, especially military, financial, infrastructural, chemical, and information technology, as significant territorializing substrates and substitutes. The regions' relations with Europe, the United States, Latin America, the former Communist bloc and current post-socialist states, South and Southeast Asia, East Africa, the Gulf States, and so on, each leave legacies that are shaped by and in turn shape different aspects of science and technology.

East Asia, then, is not the figure of the colonized Other or the global South, although sometimes for some groups these labels might be appropriate; neither can the region be summed up by the global in-betweenness of the "emerging economy" identity. In so far as the region shared rapid industrializing export-led growth in the last fifty years, and in so far as it has been the object of recent neoliberal economic reforms, this is yet a different geography, betokening modernization then globalization with relatively deterritorialized but wildly unequal distributions

of resources. Likewise, there is no single shared religion or language, and neither Christianity nor Islam dominate the region demographically, while both being significantly represented within the region or in close neighboring or economically linked countries. Dissent within individual nations in the region uses different international and local repertoires ranging from appropriations of human rights discourse by feminists fighting nationalist patriarchy, to nationally specific forms of mass protest against such things as US imports or military bases, or domestic government excesses. Centers and peripheries can each be domestic or overseas.

In other words, there are historically distinct topographies of power and oppression that refuse wholesale analytics like "postcolonial" or neoliberal" except when applied with great care. This is a great thing for scholarship. The East Asian perspective of the journal, in short, forces the analyst of STS to be empirical about power. Those of us writing from the United States today find ourselves in a situation where being powerful on the world stage is currently so over-determined that it is hard to talk about the less powerful within, the powerful without, and solidarities with the less powerful without. Following EASTS' lead, perhaps we can destabilize this.

My forthcoming book, *Good Science*, considers empirical developments in the contemporary biomedical and life sciences, and engages bio-political theory. I investigate different scientific and ethical genealogies and their partial convergence in a new global language of bioethics and innovation. I make a case for a new transnational space in which to deliberate technical and ethical matters simultaneously. I claim that this alternative to bioethics is mandated by developments in the life sciences and by a world whose economic, environmental, and military imperatives implicate the life sciences. In my talk to the EASTS gathering, I referenced material from a chapter on medical tourism, a chapter on stem cell research, and a chapter on genomics. I ended with challenges to STS as a field raised by the examples and by the discussion above about EASTS.

In my chapter on medical tourism, I bring together work on three interrelated phenomena: *medical tourism*, with its emphasis on the movement of empowered, biosocial citizens and their insurers in seeking medical care by traveling down scientific, regulatory and/or economic gradients, and on the development by entrepreneurs and governments of medical infrastructure as a form of vacation destination that earns foreign exchange and creates a new sector of the labor market; *medical migrations*, which focuses on movements across regional and national boundaries in ways relating to health status and care and to immigration or migrant status and the freedom from various kinds of persecution; and *medical trafficking*, which emphasizes those living in the global south and those living low-income lives in the global north who are increasingly forced to or opt to become sources of biological resource for the wealthy. In my talk, I showed two examples of medical tourism promoting websites from the two countries perhaps most known in this regard, India and Thailand. Both quotes are replete with the kinds of multiple transnational circuits discussed above.

> We have so far treated 95,000 international patients, many of whom are of Indian origin. We have been a frontrunner in medical tourism in India and

> attract patients from Southeast Asia, Africa and the Middle East. We have tied up with the hospitals in Mauritius, Tanzania, Bangladesh and Yemen besides running a hospital in Sri Lanka and managing a hospital in Dubai…. This is just a beginning." India's *Healthcare Management* Newspaper, 15 March 2005; at http://www.expresshealthcaremgmt.com/20050315/medicaltourism02.shtml accessed November 29, 2008

> Three leading private hospitals in Bangkok are working with Thai immigration to make it even easier to extend your stay for medical treatment purposes. Thai immigration code has a special clause allowing for long stay visas for health rehabilitation. And to make it even easier, Bumrungrad, Bangkok International and Samitivej hospitals have each established visa extension service centers in their facilities. What makes this particularly effective is it is in conjunction with Thai immigration. An immigration officer pays a visit each week to process applications for extensions and if all is in order the extension is granted on the spot. Since this type of extension requires the medical facility to sponsor the applicant, the patient has very little to do other than complete their personal information and sign the form. The hospital's visa concierge does the rest." http://medicaltravelsite.com/blog/2006/10/ last accessed November 30, 2008.

In an example drawn from my own fieldwork, I traced a case of a Japanese couple coming to a clinic in Hawaii for egg donation to enable them to get pregnant. This was an example of reproductive tourism (I compared the press release in Time Magazine, August 14, 1944, when the first example of human in vitro fertilization was announced with an article from Time Magazine, December 13, 2007, by which time pregnancy was ranked number one of "Ten Best Chores to Outsource"). I recorded the grounds on which the couple selected their egg donor from among the various East Asian and Asian American donors "on the books." In the process, one otherwise suitable donor was rejected when the couple discovered she was of Korean ancestry.

In traveling to Hawaii, the couple came to a part of the US with its own complex history of settlement and conquest, and the last State to join the Union. The couple chose Hawaii because, despite having only limited insurance coverage for assisted reproductive technologies for residents, private egg "donation" (the couple pays the donor) is legal, unlike in Japan. They also liked the relative geographic proximity to Japan and the abundance of Asian and Asian American donors available in Hawaii. And, they were wealthy enough to participate in this private form of medical tourism. Economics, colonial legacies, medical technology, desire, ethnicity, regulatory gradients: all were in evidence, co-producing the technology in question. While the different power dynamics and circuits temporarily converged in this treatment cycle with these individuals at this clinic, the different genealogies underlying each did not magically coalesce. To understand this instance of this reproductive technology, it was necessary to describe several different more and less territorialized histories. East Asia is a hub for many kinds of medical tourism, including stem cell treatment and cosmetic surgery. Regulatory and economic gradients, and colonial and neoliberal and nationalist histories are at stake in these circuits too.

For my second example, I described one of my chapters on stem cell research. In this chapter I compare Hwang Woo Suk's lab at Seoul National with Biopolis in Singapore, in 2005 at the height of Hwang's fame, and end with reflections from a return visit in 2008, long after Hwang's fall from grace. In 2005, the Western press referred to "Eastern" stem cell research as a single entity free from the stymieing abortion politics of the West. Far from being the same, these two labs were radically different.

I summarized the Seoul National University lab as "charismatic nationalist", and Biopolis as "international elitist". SNU's lab had high security and required lab members to pass through a rigorous apprenticeship in micromanipulation techniques. Hwang himself emphasized Korean skills with metal chopsticks as a reason for apparent Korean breakthroughs. The facilities at Biopolis, on the other hand, were open in the same kind of way in which elite real estate in a planned community is open. The Korean lab had members in training drawn from several Asian countries, and Hwang had overseas collaborators. By contrast, Biopolis sought aggressively to recruit high-salary, high-reputation scientists from overseas to fill its real estate. Hwang was known for having cloned a dog, Snuppy, a difficult veterinary achievement. The animal most in evidence at Biopolis when I toured the facility was the tropical zebrafish, the model species of choice for this tropical city-state, arranged in either a "US" or "German" style to suit researchers. One lab emphasized mammalian embryological, reproductive, and micromanipulation techniques, while the other intended to focus on gene regulation in stem cell differentiation. And so on.

I argue that within these two so-called Asian Tigers, as in other countries, there are very distinct patterns of the development of stem cell research at least as salient as the similarities. These differences reflect and in turn re-instantiate changing and different ideas of health, genealogy, and nation, different national innovation styles, different science funding regimes, different relations of basic research to the economy, different regulatory and ethical standards, and different civil society groups. Both labs were manifestations of intense investment in international competitiveness and in international "standardization and harmonization," but this meant very different things in the two countries. Again, the kinds of complexities discussed above help make sense of the inadequacy of categories such as "the West" and "the East" when talking about stem cell research.

Finally, I briefly mentioned my chapter on genealogies and geographies of emerging genomics in my talk. I separated out four domains of genomics:

1. Forensics: Exoneration, Criminalizing, Paternity Testing
2. Histories: Genealogy, Ethno-nation, Memory
3. Biomedicine: Therapeutics, Diagnostics, Prognostics
4. Auto-biographics: Personalized Genomics

The first two are territorial, though only the first is an approximation to the classically biopolitical, being concerned with the nation-state and surveillance of its population. The second is both infra- and transnational, as well as transhistorical. The third and fourth are related and are both significantly deterritorialized, but the third concerns itself most with the future, and with the innovation complex, biosociality, and intellectual property, while the fourth is a new practice in the repertoire of the neoliberal subject's care of the self. I speculated that within East

Asia, and between East Asia and the rest of the world, something like these four interacting but distinct trajectories of genomics will become salient. Understanding and regulating as well as making the most of genomic and bioinformatic technologies domestically and internationally requires understanding these different circuits, including who they harm and who they benefit.

In conclusion, reflecting on EASTS is a fruitful way of thinking about the transnational imbrications of the contemporary life sciences. This exercise leaves the practitioner of Science & Technology Studies with at least the following check-list of challenges for a given field site, archive, or case study:

> What is the role of the nation-state, and of infra- and supra-national entities and regions?
> What are the active geographies and movements of people, things, knowledge, and how are they stratified?
> In what way is the academy implicated in these geographies, especially in this era of the innovation complex?
> How can any one scholar have the linguistic skills and time and funding necessary to follow contemporary science and technology?