What's the matter with biosecurity?

Sam Weiss Evans, Research Fellow, University of California, Berkeley[1]
sam@evansresearch.org

Main Point: We need to promote a dialogue between multiple conceptions of security and then build governance mechanisms that are flexible enough to maintain that dialogue through power sharing. Doing this entails connecting work in STS and Responsible Research and Innovation with the biological and security communities, and those communities with others (policy, publics, industry…) as equals, not dominant or subordinate.

"If you don't have security, you don't have society," might be a good way to describe the general thinking about the role that a perception of security plays in ensuring we can do all the other things that constitute society. Such a simple statement, however, misses two basic points about security: it is multiply constituted, and those that have the power to define the objects, subjects, and governance mechanisms of security are also fundamentally shaping the type of society in which we live.

The biosecurity community is well-versed in the need for security to be a central topic of discourse for states, and biosecurity professionals have argued for broadening the conception of national security beyond traditional state concerns to include things like health, agriculture, and building design. But in doing so, the argument is usually for those other communities to take on a security discourse, rather than for the security community to promote its goals by taking on the discourses of health etc (e.g. Bernard, 2013). In the US, such arguments are based on the assumption that security is the language that Washington listens to, and that it is where to find the money. That these assumptions are often borne out speaks to the power the security discourse has in shaping [at least American] society.

But what type of security are these arguments talking about? Rabinow and Bennett (2012) argue strongly that the pervasive understanding of security is one based on a framing of the 'dual-use' problem: that there are bad actors out there who must be prevented from using our knowledge and technology against us. While there are likely many cases where we can know the enemy, know the technology that might harm, and be able to prevent the two coming together with destructive results, there are just as many cases where the subjects, objects, and actions of security concern are not known. Focusing only on the former is tantamount to the old adage of looking for your keys under the streetlamp because that's where the light is. Export controls, Institutional Biosafety Committees, even the newly minted Dual-Use Research of Concern US Government policies fall into this camp. So what would it mean to govern security concerns that are not yet known?

This question should be a central strand of research and action in the coming decade. Answering it means finding meaningful ways past the traditional framing of security as a dual-use concern, where this framing is found to be lacking. It means fully appreciating that potential security concerns may also be health concerns, or concerns about the environment, economy, or morality.

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Crucially, this line of research should go against calls to think of everything as a potential security problem. This is not a call for securitization. Rather, it is a call to reassess the ways that we make the subjects and objects of security concern. For example, what assumptions about the innovation process, the role of science in society, and the relationship between science and security are we making when we build governance mechanisms that rely on scientists as the ones who raise potential security concerns about work they are undertaking? How would those assumptions need to change if we instead instituted broader systems of prior research approval?

Security should not be the trump card it is often wielded as today in the US, particularly when threats are contested, unknown, or ambiguous. Instead, it should be a discourse of equal standing to the many others that form our society. In the same vein as the first statement, perhaps we could also say, "As war is politics by other means, talking about security is talking about the economy, health, and environment by other means." The trouble is, as with war, talking about security tends to prevent, or at least overshadow, these other ways of addressing an issue.

Work within STS, particularly the responsible research and innovation literature, has been promoting alternatives to many ways of understanding, building, and governing innovation systems, but much work still needs to be done, particularly in studying alternatives to traditional ways of framing and governing security concerns.

But this is not just a field of study. STS has a history of being quite poorly integrated into American political thought and governing institutions. The National Nanotechnology Initiative was a preliminary step to change that, and synthetic biology, and perhaps next geoengineering, are areas where STS scholars' insights have an opportunity to be influential in shaping future governing and thinking. The recent work of Ken Oye and the Wilson Center in the US, and of several scholars in the UK are good examples of reshaping at work (Kuiken et al, 2014; Jefferson et al 2014).

The National Science Foundation has a key role to play reshaping our understanding of what it means to engage in biosecurity governance. If it continues to fund work on societal aspects of emerging technology as an add-on to other research, it can only expect to get back findings that show how the current system works (or more often, doesn't). Finding ways to put together a process whereby research and development proceed in step with the development of governance and public engagement is a much better use of funds.

Bernard, K. W. (2013). Health and National Security: A Contemporary Collision of Cultures. Biosecurity and Bioterrorism: Biodefense Strategy, Practice, and Science, 11(2), 157–162.

Jefferson, C., Lentzos, F., & Marris, C. (2014). Synthetic biology and biosecurity: challenging the "myths." Infectious Diseases, 2, 115.

Kuiken, T., Dana, G., Oye, K., & Rejeski, D. (2014). Shaping ecological risk research for synthetic biology. Journal of Environmental Studies and Sciences, 1–9.

Rabinow, P., & Bennett, G. (2012). Designing Human Practices: An Experiment with Synthetic Biology. University of Chicago Press.