What Makes a Monster?
An Exploratory Dialog Among the Makers

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Contemporary biotechnologists have developed unprecedented capacities to manipulate life, capacities that unsettle fundamental ontological and moral boundaries. At the same time, the biosciences claim the authority to declare what interventions constitute mere manipulation, undertaken in the service of rational explication of life or the production of life-enhancing technologies, and what constitute transgression. In effect, in knowing life, which in contemporary biotechnology coincides with manipulating life, scientists and technologists treat questions of moral transgression as depending upon prior judgments about the technical nature of the technological object itself. Saying what it *is* (and the authority to do this) shapes whether and how questions are asked about whether the creation of such an object is transgressive. As a result, the question that is central to *Frankenstein*-- what makes a monster, and who is responsible for its creation?-- is either cast outside the scientists and technologists' sphere of responsibility (e.g. malicious use of "dual-use technologies" by rogue actors), or as following from narrow technical judgments about likely outcomes (e.g. risks and benefits).

Thus, technical knowledge of (and capacity to manipulate) life is rendered a form of moral authority to designate what is monstrous and what only appears so to scientifically unknowledgeable beholder. In short, biology and increasingly overlapping technological fields like AI have come to position themselves as adjudicators not only of their own technological creations, but of the forms of moral imagination that are appropriate to them. In this move, monstrosity—an unaccountable transgression against moral order—is domesticated and made accountable: it is relocated from the threatening margins to be subdued on the home turf of scientific rationality, while at once reconstructing moral transgression as expression of (malicious or irrational) human agency. So, for example, the production of a highly virulent virus becomes a problem not with the lab that produces it (or its underlying notions of good and virtuous science), but of governing the product: keeping it out of the "wrong" hands. Capacities to engineer life, including human life, in ways that may perturb foundational understandings of nature, integrity and dignity become problems not of the creation of these technical capacities per se, but of the conditions under which the resulting technologies can legitimately be governed and put to use. In short, the engineering of life and its moral boundaries becomes a problem of regulating technologies rather than the creative impulses (and corollary notions of scientific right and responsibility) that give rise to them.

We propose to constitute a conversation that reverses this, focusing not on specific technologies, but reflecting instead on how questions about the potential for transgression tend to go asked or unasked and in what terms. We will draw together a groups of high-level figures, evenly balanced from technoscientific and humanistic fields, to discuss what makes a monster and how monsters are made in contemporary science and technology, and to reflect upon the ways in which their respective fields conceive of what constitutes transgression. Our aim is to generate a conversation that is grounded in reflection on these individuals' experiences with morally ambiguous technological projects, but that transcends specific technological domains to

reflect more generally upon ideas of life and its moral boundaries, and the relationship of these ideas to operative notions of what is licit and illicit, responsible and irresponsible.

We will use a proven (but nowadays far too rarely employed) model for structured but open conversation: informal salons, hosted over a nice dinner, that bring together unlikely dialogue partners around a provocative question or topic in a setting that facilitates safe, free-ranging, and exploratory discussion. We propose to convene this conversation by hosting a dinner in the San Francisco Bay Area. We will invite five to ten high-level figures drawn primarily from Bay Area universities and the local biotech industry. We will capture the content of the conversation itself to be used for a range of deliverables. In order to do this, we propose to include an HSD graduate student to help coordinate and serve as rapporteur. In addition, the gathering will serve as a valuable intellectual and networking opportunity for the HSD student.

The success of a gathering like this relies upon an existing baseline of trust and familiarity among a critical mass of the conversation partners. Therefore the people we propose to invite are people with whom we already have existing personal relationships, and who in some cases already know one another. Indeed, one important payoff of this forum beyond the forms of creative intellectual engagement and insights that it can generate, is that it establishes and begins to foster relationships of trust and friendship, which can in turn lay the foundation for further conversation, collaboration, and joint writing.

We will draw our participants from the following list:

- David Relman, Stanford Medical School and Center for International Security & Cooperation
- Jennifer Doudna, Innovative Genomics Institute, UC Berkeley
- Drew Endy, Bioengineering, Stanford University
- William Hurlbut, Institute for Neuroscience, Stanford University
- Robert Harrison, Italian, Stanford University
- Terry Winograd, Institute for Human Computer Interaction, Stanford University
- Brad Templeton, Electronic Frontier Foundation
- Francis Fukuyama, Center for International Security & Cooperation, Stanford University
- Meghan Palmer, Center for International Security & Cooperation, Stanford University
- Andrea Nightingale, Department of Classics, Stanford University
- Jessica Riskin, Department of History, Stanford University
- Duana Fullwiley, Department of Anthropology, Stanford University
- Peter Theil, Clarium Capital
- Kevin Esvelt, MIT Media Lab
- James Sheehan, Department of History, Stanford University

Deliverables

One important deliverable will be the record of the conversation itself, as well as contributing to the potential success of a larger externally funded project which the PIs are currently developing and which will include multiple gatherings on this model, focusing on overlapping and synergistic topics.

While it is impossible to predict in advance what will come out of a conversation like this, it is our experience that it is likely to generate high value insights. Given that the participants in this conversation are already public figures, the potential for informal dissemination of these insights is high -- changed ideas lead to follow-on conversations. Whatever the other outcomes, we propose to produce a piece of writing that offers a reflection on monstrosity and new technologies in light of the Frankenstein bicentennial, and which captures and further elaborates this conversation, and to the extent appropriate, reports directly on the discussion in the gathering. We will publish this piece in an intellectually sophisticated but publically oriented outlet like the New Atlantis.

One necessary inducement for participation in such a gathering is a good dinner. Ideally, we will make use of a private home in order to have a relaxed and intimate atmosphere with no constraints on the duration of the gathering. The budget will go toward catering that dinner, and providing travel for the small number of non-Bay Area participants, including the two PIs and one HSD graduate student. Ideally Tess Doezema will serve as the graduate student assistant. The focus of the gathering is of direct relevance to her dissertation research and to her work for the Virtual Institute for Responsible Innovation. If she is unable to do this, we recommend Anne Hammang.