

Learning from interdisciplinarity and making it public

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This paper is an attempt to open up discussion about how science communication in public media forums can take seriously the difficult and productive lessons that are being learned in the social sciences of synthetic biology, and use that knowledge towards innovative and experimental media outcomes. It draws on my experience as a public radio producer and host who tells stories about science for a living to general audiences, and as a scholar tracing the communication of the societal dimensions of synthetic biology. My attempt to make these worlds collide in constructive ways inspires my line of thought.

A common narrative has emerged in policy and media concerning synthetic biology that views advances in the biosciences as “de-skilling” science, making biology easier to engineer, of greater access to non-trained professionals, and therefore susceptible to potential “dual use.”¹ At a time when the (at least ideological if not always practical) “de-skilling” of biological engineering is being brought to bear in synthetic biology, individuals are claiming more participation and openness in communities and systems that are changing the natural and life sciences. This ethos can be traced in synthetic biology through the discourses of a cultural phenomenon like DIYbio,² the increasing participation of artist and other non-scientist researchers at events like iGEM,³ and the growth of bioart activities in the field, to name a few. This increasingly polyphonous “ecology of practices”⁴ in synthetic biology intersects with the imaginaries of *what the field means* that bubble over into public consciousness through their representational circulation on blogs, in galleries, on the airwaves, and more. In effect, it is not only science communication that recognizes itself as such that is crafting and telling public stories of synthetic biology to diverse non-expert audiences.

At the same time, internal to expert meetings, synthetic biology’s proactive ‘post-ELSI’ attempts towards interdisciplinary collaboration as a modern science and engineering field has underlined the importance of having ethicists, anthropologists and other social researchers participate in its unfolding.⁵ Yet these attempts don’t always function as planned. Anthropologists have given concerned accounts of their own experiences embedded in a synthetic biology research centre, where they felt that their perspectives were met with dismissal, disinterest, and sometimes hostility.⁶ A social scientist who works with synthetic biologists has said that she has at times felt that what she has to offer has been snubbed by the scientific community, and that non-scientists attached to the field should embrace an “ethics of discomfort.”⁷ At the University of Copenhagen, philosophers and communication scholars embedded in an interdisciplinary synthetic biology project have said that their experiences echo what Fitzgerald has said: that they can be “messy, emotional, and full of unexpected contingencies.”⁸ A manifesto was even written by a group of social scientists actively working in synthetic biology that urges new experimental forms of collaboration with synthetic biologists so that more fruitful outcomes might be discovered for all parties involved.⁹ What, then, is holding these experts back from seeing eye-to-eye? How can we take the communication forum or mode of engagement seriously to try and improve communication and make all parties feel seen, heard, and to the best of everyone’s ability, understood? I am interested in looking at communication experiments that can circulate in the broader public but may influence how experts approach their next interdisciplinary interactions, through forms that non-experts can get involved with and be witness to, i.e. popular media.

In my current research I am developing and analyzing new media for experimental forms of science communication that aim to work with and through people’s polarized perceptions, nourish critical thinking, and encourage empathy across different individuals who may have different or even contradictory goals in working with synthetic biology. This research asks how alternative forms of science communication can bring synthetic biology and various critical discourses concerning it into a more productive relationship than is sometimes experienced through uncomfortable interdisciplinary collaborations by learning from how they go “wrong.” This line of questioning is in no way meant to lead

to a path that can “smooth things over” or homogenize discussion into some form of consensus. It is meant to enlighten and entertain and perhaps inject some surprise into how we discuss and deal with our biotechnological futures in a “post-genomic era” through public media formats. When compared to discourses on climate change, vaccinations, or other topics of interest to risk perception studies, the public discussion on synthetic biology is still young and I argue well positioned to benefit from experimental and innovative approaches to communication that raise it in the public imagination, and can then circulate back into spaces of expert work.

Both Stengers and Latour suggest that a potentially useful way to explore alternative functionalities of being and thinking in Modernist science start with slowing down the speed at which we think.¹⁰ This is done in order to alter our perspective on issues of progress by shifting the automatic associations they carry which bind speed to concepts like efficiency, innovation and growth. It functions as a thinking tool in the public discourse on synthetic biology, allowing (a perhaps esoteric and at least metaphorical) moment of pause, reflection, and careful choosing of how to construct one’s own concerns and questions towards the science itself. By slowing down the claims in public-facing science stories and allowing for personal inquiries and feelings to shape their surface through experimental productions, can we foster productively sensitive (although always subject to failure) dynamics between communicators and publics? Can this process be helped by lessons that are being learned in the social sciences about what it means to collaborate and communicate *well* across the disciplines?¹¹ And could it then circulate back into spaces of interdisciplinary labour as a communication tool? How can creative communicators of science encourage a *slowing down of thinking in public* when crafting stories of synthetic biology for people to ponder? I would like to discuss the possibilities brought forth here with the participants in Arizona.

As Sarah Davies has written, when science communication scholarship focuses too much on the content and discursive elements of public engagement work it misses a rich opportunity to dive into the affective ability of that content to make people literally *feel* differently about science.¹² Science communication projects ranging from lectures to workshops, gallery exhibits, films, radio documentaries and more play on our sensory dimensions. However as Davies has shown, science communication research has sorely overlooked the affective qualities of these sensory elements to the craft.

Professional scientists and their publics are used to interacting in formalized engagement events and through normalized media opportunities (the public radio show, a television appearance, etc), but what room is there here to allow the subjects’ feelings towards science to become a bit more personal? Would the affects of communication change if interactions were not face to face in a room full of colleagues, or constrained by the awareness of a camera crew? What if individuals could discuss what they know and how they feel into a tape recorder in the privacy of their own home, with no one to witness, for example? And how can these personalized interactions be made public once again? What affective power could such an engagement hold? I will present some experimental methods from my own broadcasting work that inch towards answering these questions.

Perhaps by focusing on how science engagement can make one *feel*, creative communicators can find a route towards Latour and Stengers’ recommendation of *slowing down* how we think about technoscientific forces like synthetic biology in the first place. By focusing sincerely on the affective qualities of the communication experience, we might be able to embody sites and experiences that challenge our biased responses, and consider multiple potentials of how to feel about synthetic biology rather than how our professional or cultural positions automatically guide us to.¹³ ; ¹⁴.

References

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