

Gail Davies (2007) The funny business of biotechnology: Better living through chemistry-comedy *Geoforum* Volume 38, Issue 2, March 2007, Pages 221-223

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Novavax Inc. and Generex Biotechnology Corp. led gains by biopharmaceutical companies after the World Health Organization said seven Indonesians may have contracted avian influenza from other humans. Bloomberg.com May 24th 2006.

Remington Arms Company: Stocks in this firearms manufacturer fell sharply after it was discovered that the company's previously announced 'cure' for the Avian Flu was nothing more than the model 1100 Classic Trap Shotgun. The Onion.com July 18th 2006.

The future of biotechnology is an increasingly emotive subject. It is also of growing interest to geographers. From speculation about the risks to global biosecurity, the promise of safety through biometric surveillance, the hope of new pharmaceuticals, the opportunities for expanding agricultural production, or disgust at new forms of biological manipulation, biotechnology is proceeding through a series of affective appeals to our deep-seated hopes and fears. Such speculations also make claims about the kinds of spatialities we inhabit, stressing the importance of borders, boundaries, enclosures and surveillance. If the recent claims for future applications of the life sciences are amassed, we find our selves and our bodies located at the centre of a global triage system, subject to a fantastical array of technological devices, drug regimes, medical and agricultural products, which promise to treat the ailments that define us, curing individual disease, protecting state security, or feeding the world. Such biotechnological imaginaries define our pathologies, yet at the same time they offer us hopes of salvation, or at least corporeal alleviation. The speculative business of biotechnology is increasingly to ignite both our fears and our hopes at the same time.

Yet for all these heady emotions, I want to suggest that biotechnology is a funny business as well. This too is a speculative claim, but it is an argument I want to try and make by drawing on a different emotional repertoire: that of humour, irony and ambiguity. You'll have to bear with me, there isn't a punchline. I'm also hesitant in my delivery. To point out the potential comedy that comes with the conjoined narratives of danger and hope in biotechnological discourses feels like tempting fate. I'll be holding my breath until this comes to print and maybe ruing it shortly after. The problem is that the avian flu virus will mutate, someone will try and use some form of biological agent in a terrorist attack, there will be further unfortunate

deaths for those left in the wake of the pursuit of better medical treatment for the fortunate. These things have happened before, and they will happen again. So where is the humour here? Perhaps this is my point. The increasingly shrill speculations around the future of biology have left little space for us to reflect outside of their anxious embrace, to question the trajectory of particular pathogens through society, to chart alternative connections between biology and the politics of health and security, to think differently about strategies for cultivating the well-being of all kinds of organisms. We both fear and desire change, and the promissory futures of biotechnology draw affectively on these fears and fetishes. A little humour might enable us the space to think differently.

So why is this a pertinent issue now? There are a few developments in the life sciences that mean the material effect of these speculative discourses is increasing. The impact that expectations have in directing the development of any particular technology are now well documented in what science and technology studies call the sociology of expectations (Brown and Michael 2003). Such reviews show us what is at stake in defining a technology as something new, or alternatively locating it within established trajectories (Jasanoff 2005). It also shows us how expectations in biotechnology have changed over time. That is, the way the future was once represented is different to the way it has been represented more recently (Brown and Michael 2003). This is in large part due to the growth of scientists as entrepreneurs as well as researchers. In standing to benefit from a short term rise in stock value, there are now more incentives to make strong claims about the future, notwithstanding the uncertainties evident in current research activity or the indeterminacies of long term performance. This then links to a further form of analysis, about the particular salience of speculative capital at this historical moment (Cooper 2006a, Sunder Rajan, forthcoming). Speculation is not new to capitalism. What is crucial to the analysis here is that speculation appears to be both more intense and at the same time less coupled to a material basis in profit than at any other time in the history of capitalism. As Kaushik Sunder Rajan puts it, 'it is not that abstraction replaces materialism, but rather that the abstractions that represent value are more and more distantly coupled (ontologically and temporally) from their materialist bases' (forthcoming).

It is also possible to suggest there are changes in the tropes through which biotechnological speculation is operating. Going back to Mulkay's classic analysis of the rhetorics of hope and fear in analysis of debates over embryo research, there are hopes expressed around these new technologies, and so too there are fears (Mulkay, 1993). These dualities still exist. But what seems of increasing salience is appeal to a more brutal form of biopolitical rhetoric that links discourses of bodily security explicitly to biotechnological futures. There is perhaps a new rationality of life being forged in the response of biotechnology companies to what Melinda Cooper has termed the 'biological turn in the war on terror' (Cooper, 2006b). Security is increasingly defined in human and biological terms, and so biotechnological hopes

and fears are defined in concert, capitalizing on the opportunity to offer individuals and governments protection in ways that militarize the politics of biotechnology, through new drugs and new biosecurity regimes that seek to insulate human and animal populations from exterior risks (see for example Braun, 2006). In the same way that Mulkey suggests the UK parliamentary debates about embryology demonstrated the apparent unassailability of representations that evoked 'hope' (Mulkey, 1993), so too these dual representations of hope and fear can appear equally irrefutable, leaving little space for alternative voices.

Finally then, there is frustration that there is no obvious place to occupy which is outside of these material and discursive circuits. Whilst it might be possible to explore the material bases of such speculations, to seek to denaturalise these projects, their discourses cannot be so easily discounted, for the reality of them operates precisely in the realm of potential, that is the potential to materialise new markets (Sunder Rajan, forthcoming). It is not possible to avoid the affective economies of hope and fear through which such promissory futures are constructed. Speculation is a central performative repertoire in these contemporary bio-economies and cannot be side-stepped by cynicism about the basis for making such claims; rather a different form of engagement with the discourses, materiality, performativity and accountability of speculation itself is required.

So what strategies are there to engage differently with these politics of biotechnological speculation? It is perhaps too easy to be pulled into tracing the construction of these darkly emergent worlds, following the science as it moves towards a teleological future and thus to tell stories that accentuate their discursive force. I would tentatively suggest there are other productive modes of engagement, which might both challenge and expand the scope of biotechnological speculation, through seeking to capture our imaginations in different ways. If engaging with affective economies of hope and fear, affect becomes a political strategy. And in puncturing the apparently seamless construction of networks of biotechnological risk and innovation, irony and humour are potentially transformative tools. As Donna Haraway puts it, 'irony is about contradictions that do not resolve into larger wholes, even dialectically, about the tension of holding incompatible things together because both or all are necessary and true. Irony is about humour and serious play. It is also a rhetorical strategy and a political method.' (Haraway, 1991, p.149). Recourse to a critical attitude and an absurdist humour might just be a productive way to begin to open up spaces to see the politics of biology differently.

What I am not suggesting, however, is a distancing form of irony. Indeed, I want to suggest we could usefully look first to the humour inherent within biology itself. Originally writing at the end of the US involvement within Vietnam, and recently cited within Richard Mabey's book of reflections on nature and emotion (Mabey, 2006), the biologist Joseph Meeker suggests that there is comedy within biological processes themselves. Evolution, he argues,

'proceeds as an unscrupulous, opportunistic comedy, the object of which appears to be the proliferation of as many life forms as possible. Successful participants in it are those who live and reproduce even when times are dangerous, not those who are best able to destroy enemies or competitors. Its ground rules for participants, including people, are those that also govern literary comedy; organisms must adapt themselves to their circumstances in every possible way, must studiously avoid all or nothing choices, must seek alternatives to death, must accept and revel in maximum diversity, must accommodate themselves to the accidental limitations of birth and environment, and must prefer cooperation to competition, yet compete successfully when necessary [...] Comedy is a strategy for living that contains ecological wisdom, and it may be one of our best guides (Meeker, 1974, cited in Mabey, 2006, p.200).

Comedy as a strategy for living eschews the essentialism and anthropocentrism that feature in these linear narratives of biological risk, and challenges the emphasis on destruction in the pursuit of purity that emerges frequently in biosecurity strategies. A few examples demonstrate the diversity of paths that biological agents can take as they are woven into the fabric of society and nature relations. Take for example the incongruous history of the Botulinum Toxin, a neurotoxic protein produced by the bacteria *Clostridium botulinum*. It first emerged of interest to science as a cause of food poisoning, was later considered as an agent in chemical warfare or biological terrorism, and subsequently as a medical treatment for involuntary muscle spasm. It is now routinely and voluntarily injected into consumer foreheads during lunch breaks to temporarily keep the signs of ageing at bay, leaving it not at all clear which populations now need to be protected against Botox®. Ironies are also evident over an evolutionary time scale. Biologists are only now recognising the function of the viral remnants within our DNA and the productive role played by viruses in 'species development, in the creation of new genes, and even in the evolution itself' (MacPhail, 2004, p. 325), just at the point when the value of biosecurity regimes for humans and for animals appear to be premised on the impossible promise of developing disease-free populations.

Defining the materiality of what is a biological agent itself becomes a matter of some dark humour for authorities seeking to govern biotechnological risks. As Brian Balmer asks in a forthcoming paper, 'which is more dangerous: the four page patent specification for VX nerve gas or Nesquik milkshake powder?' (Balmer, 2006, p. 691). The trajectories traced in the paper suggest a more complicated answer than might first appear. Whilst Terry Olsen was quickly arrested by the FBI and imprisoned for sending himself a mixture of sugar and chocolate Nesquik he claimed was anthrax in the wake of the World Trade Centre attacks in 2001, the security implications of publishing the patent on the chemical warfare agent, VX, in 1975, is conversely treated with relative nonchalance by British Ministers. As I have written

about elsewhere, humour also features centrally in public debates about the claims made for the future of biotechnology, in this case in speculations around the potential options for organ transplantation (Davies, 2006). Here, humour is a device that challenges the universalising claims made in the life sciences, relocating these through the contingencies and comedies of inhabiting a singular and often unpredictable body. Again, these are not trivial exchanges, but serve to de-reify expectations by drawing attention to the gaps that open up between personal embodied experiences and entrepreneurial claims, as people reflect on what it might mean to materially inhabit the new bodies that are proposed.

So, in tracing the speculative trajectories of the life sciences, I would argue there is an opportunity for using humour and irony to think about the metaphors of life we evoke, the kinds of subjectivities we engage, the performativity of the narratives we write, and the ways in which we might stage more creative debates about the future of biotechnology. Recent work by urban geographers on different strategies for engaging with the city demonstrates just how imaginative some of these forms of research and writing can be in opening up ideas about how to live cities differently (see for example Pinder, 2005). As the life sciences increasingly shape the contours of our bodies, the boundaries of the states and the forms of sociality we are likely to inhabit, we too need experimentation that opens up attention to the inevitable subversions and inherent openness of the relations between biology, space and society. Laughter might just turn out to be a good medicine, even if we don't have or want the closure that a punchline would supply.

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