

This response was submitted to the consultation held by the Nuffield Council on Bioethics on Emerging biotechnologies between April 2011 and June 2011. The views expressed are solely those of the respondent(s) and not those of the Council.

Nuffield Council on Bioethics
Emerging Biotechnologies: Consultation Paper
15 June 2011

Question 1

Definitions in reference to technology and biotechnology are problematic insofar the determinants are so broad, especially if prefixed with the qualifying adjective of emerging. The ways in which existing definitions have been deployed varies across contexts, and the audiences. I would associate the notion of emerging in relation to technology and biotechnology as live forms that are in the making, with emphasis on the „not yet“, and the processes that are associated with these knowledge making practices, rather than finding an appropriate definition.

Question 2

A key problem with searching the essence in unfolding processes is to my understanding the ontological questions it poses. The idiosyncratic features of what is emerging are the precarious nature distinguishing it from what is established. Contingency and their ability to transcend the known, I view as characteristics of emerging biotechnologies.

Question 3

To my understanding they are synthetic biology and innovations deriving from biosynthetic hybrids.

Question 4

I do not think that there are factors that could be grouped in one of the three proposed categories. Knowledge production is intrinsically social. What might be opportune to consider are research activities in pre-competitive environments, including research clusters that can both in theory and practice be virtually organised.

Question 5

People tend neither to categorically accept nor reject a particular technology. Certainly there are attitudes towards technological innovation, but the splitting up into the proposed segment might not be the most meaningful approach to elucidate people's attitude to applications of novel technologies.

Question 6

I share the view that pre-competitive research settings in which academic and industrial researchers collaborate harbour potential to incentivise and invigorate technological innovation emanating from the biosciences and, more precisely, the life sciences. This is not necessarily linked with transnational and global processes but rather investment and funding of inter-institutional enterprises and cross-sector research collaborations, and national science, technology, and innovation policy and funding policy.

Question 7

As any form of technoscientific research and innovation, the political cannot be thought away. It is very much present in biotechnology, and reflected in the institutional arrangements in which techno-scientific happens. | 2

would not agree that a particular political tradition furthers collaborations. We have seen that international research collaborations can flourish in countries that are not necessarily associated with “democratic”. Wars have become extremely complex phenomena, and it would be difficult to establish to what extent forms of organised violence push innovation in the biosciences. Here we are moving on a slippery terrain since democracy is likely associated with freedom, and peace. Innovation derives from knowledge making practice, and hence social formations of researchers. They do the research, wars do not. There are, of course, numerous examples supporting claims that in times of increased exposure to military threat there are heightened incentives to invest in biotechnologies. As a consequence, additional resources are allocated to boost biotechnological innovation but this not necessarily means they find applications. In other words, there is no linear correlation between investment in defence, and investment in science and technology. A point in case is Switzerland; a country that has not been involved in armed conflicts over a considerably long period of time, but nevertheless, furthers research that can be regarded to be of military relevance.

Question 8

From my point of view these are innovation in the financing policy of biotechnological research and development, and funding of tertiary education and scientific research training.

Question 9

How international collaboration affects researchers, and how they cope with the precariousness of job security as project funding has established itself as a common model for getting research done, and transnational academic mobility is encouraged by funding bodies, such as the European Union.

Question 10

The question here is whether it is policy to shape research and innovation, or if it is research practice to influence and direct decision-making processes related to the setting of research agenda. Research findings from my recent analyses in pharmaceutical innovation for so-called neglected infectious diseases (e.g. malaria), suggest that the scientists, and not policy, set the research priorities. Research councils and private funding bodies, then take up those priorities, either alone or in investment partnerships, and allocate the resources accordingly.

Question 11

To my mind come prevention of adverse effects, and harm to humans, social formation, and the environment, in which life is possible.

Question 12

It is my personal view that those who are directly involved in the research process and the management of the laboratories in which biotechnological research takes place shall assume responsibility for their doings, respectively their non-intervention. Professional associations, as well as research institutions, as well as all partners to the research enterprise, public, private and mixed, shall account for their activities.

Question 13

Risk and precaution have become notions that, to my understanding, have been used too generously in decision-making paradigms. Risk in relation to what? Precaution of what if we cannot know the possible effect of an investigational component? we might be enticed to ask. In recognition of research processes knowingly being situational, it would eventually be meaningful to turn away from those established conceptual terms and their 3

associated parameters and instead, try to identify notions that are context specific, and relevant to a particular source, or sources of unwarranted or adverse effects.

Question 14

In the light of what I have just stated, I do not think there can be a single regulatory framework that can accommodate the issues and concerns arising from frontier research in the life sciences. Even a cluster approach is problematic insofar it involves the drawing of conceptual boundaries of a field that defies and transcends those delineations and demarcations, making the compartmentalisation a challenging, and if I may say, possibly a meaningless task. At stake is not necessarily individuality, given that the research process is an intrinsically social undertaking.

Question 15

I regard interactions with the wider public as an important component in science communication. A problem however remains with inclusive approaches – that is, who to include in public consultations, and who can speak on behalf of the „general public“. A good start, I believe, are consultations like the one to which I am contributing with my responses, now.

Question 16

Evaluation, to my understanding, already takes place by taking into consideration the plurality of different opinions expressed in consultations and public hearings. It might be worth considering focusing less on the parameters against which public engagement activities are measured, and more on getting them under way so as to gain a better understanding of how people view the opportunities and challenges advances in the biosciences present to contemporary forms of living, and desires to express ourselves.

Question 17

I find it problematic to stress the democratic character of policy-making, and here I reiterate Orwell proposing that some are more equal than others. Science is not democratic, as economy is not moral – the ethical and normative values derive from human interactions, not political or economic processes; this again is my personal view, of course.