Synthetic biology
Call for evidence
Demos welcomes the Royal Society's timely interest in the issue of synthetic biology. Early debates on the issue within the scientific, NGO and policy communities suggests that it has the potential to be enormously disruptive in potentially positive and negative ways. It is therefore ripe for a considered and broad-ranging analysis, which can help set the agenda for a constructive public debate on the visions, values, hopes and fears around synthetic biology. Discussions of risk and ethics are vitally important, as they are with any scientific area, particularly in the life sciences. But there is also a real opportunity to infuse research trajectories with a constructive sense of public value at this early stage (see Wilsdon, Wynne and Stilgoe, 2005, *The Public Value of Science*, Demos).

As the Royal Society realised through its groundbreaking work with the Royal Academy of Engineering on nanotechnologies, the process of exploration of these emerging issues is important. We would recommend that, in its approach to synthetic biology, the Royal Society carried out both public and stakeholder engagement to build a broader picture of the relevant questions. Given that the implications and applications of synthetic biology lie some way in the future, the approach to the issue should be open-minded, humble and exploratory.

It is interesting to note that the scientific synthetic biology community have realised the need to consider questions of ethics and regulation alongside those of science. At the 2006 synthetic biology 2.0 conference (http://pbd.lbl.gov/sbconf) the attendees considered self regulation of the sort exemplified by the 1975 Asilomar declaration on genetic engineering. This demonstrates the depth of the questions being asked by the new potential of synthetic biology. At the recent 3.0 conference in Zurich, these questions continued to be debated.

The challenge now is to broaden the debate beyond this community, and to invite some new perspectives. At the same time, the Royal Society should see this issue as an opportunity to build on its nanotechnologies work to consider broader systemic questions of science policy. As nano was in 2004, synthetic biology is an opportunity to think, at a time when it can make a difference, about the bigger picture of science and society (see Stilgoe, 2007, *Nanodialogues*, Demos). We need to talk about the public value of science in the context of issues such as innovation, ethics, public engagement and global equity and development.

Synthetic biology in particular seems to bring into sharp focus questions of interdisciplinarity – how research funding, oversight and public debate cross traditional boundaries – and intellectual property – who owns and is able to make use of synthetic biology knowledge, techniques and technology? We look forward to seeing the Royal Society's progress on this issue and would of course be delighted to contribute in any way we can.

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