

Social and Ethical Issues Concerning Protocells: Key Questions and Answers

European Center for Living Technology Workshop

Palazzo Franchetti, Venice, Italy

16-17 March 2006

Workshop Organizers:

Mark Bedau (ProtoLife SRL, Reed College) and Emily Parke (ProtoLife SRL)

A number of scientific research groups are working to create "protocells"-- simple artificial living systems created from nonliving materials. Creating protocells will raise a number of important social and ethical issues. These include potential benefits to individuals and to society, potential harms including health and environmental risks, and violations of cultural, religious or moral prohibitions. This is the fourth in a series of workshops sponsored by the EU PACE project aimed at investigating these issues. These workshops aim to foster informed public discourse on the social and ethical implications of living technology.

This workshop will focus on addressing a set of key questions about the social and ethical issues of protocell research and development (see below). The first day will consist of two invited experts presenting their individual impressions about how to answer the questions. On the second day, the invited experts and workshop participants will engage in a focused roundtable discussion with the aim of reaching preliminary answers to these questions.

Program

Thursday, 16 March:

15:00 - 16:00	Bill Durodié (Senior Lecturer in Risk and Corporate Security at Cranfield University)
16:00 - 16:15	break
16:15 - 17:15	Brian Johnson (BBSRC Bioscience in Society Strategic Panel)
17:15 - 17:30	break
17:30 - 18:00	Discussion

Friday, 17 March

15:00 - 16:30	Discussion of key questions
16:30 - 16:45	break
16:45 - 18:00	Formulate conclusions about key questions

Key Questions

- 1) The **social and ethical implications of related new technologies**, such as genetic engineering, synthetic biology, and nanotechnology, are already actively under discussion. Should we try to have protocell issues discussed in those contexts? Should we try to separate protocells from those other technologies, or should we emphasize similarities?
- 2) A credible and useful discussion of the social and ethical implications of protocells must be informed by **up-to-date knowledge of relevant issues**, such as (i) current procedures for testing and regulating new chemical products, (ii) current guidelines for patenting new life forms, (iii) current actual practical applications of the Precautionary Principle in Europe and elsewhere. What is the list of topics about which the protocell community must ensure it is well-informed?
- 3) How should protocell scientists and entrepreneurs promote and participate in the discussion of the social and ethical implications of protocell science and technology without creating **conflicts of interest** or the appearance of conflicts of interest?
- 4) The **media** are already somewhat aware of the broader implications of protocells, and their attention will grow with time. How should we try to manage our relationship with the press? What should we do proactively? When? What should we avoid?
- 5) The same question (4) but regarding the **general public**?
- 6) The same question (4) but regarding the **NGOs**?
- 7) The same question (4) but regarding the **regulatory agencies**?
- 8) What are the key **social and ethical milestones** for the protocell community over the next three years? Here are some provisional candidates:
 - win grant to study protocell social/ethical issues (like current \$570K synthetic genomics Sloan grant)
 - produce self-imposed research guidelines (like 1976 Asilomar guidelines)
 - commission an independent evaluation of social and ethical implications (like Cho et al. 1999 *Science* paper)
 - commission a risk analysis of some aspect of protocell research (e.g., risks of accidental release from laboratory of protocell or protocell precursor that is harmful to human health or to the environment)