Bioethics and Governments

Comparing French and American Responses to New Human Technologies

September 22-24, 2005, 9:00 AM - 5:00 PM

PUBLIC OPINION: FRANCE

Anne FAGOT-LARGEAULT
Professeur au Collège de France, Paris
Chaire de philosophie des sciences biologiques et médicales
Membre de l'Institut (Académie des Sciences)

This presentation is based on three surveys commissioned by the European Directorate General for Research (DGR). The Reports can be consulted online. The first Report I shall mention is three years old, it is specifically about public perceptions of the new biotechnologies, 15 countries were involved at the time. The other two Reports are very recent, the surveys were conducted early this year (2005), the 25 current member countries belonging to the EU are covered, plus some European countries outside the Union, such as Switzerland, Iceland and Turkey. The data are analysed both globally for the EU and individually for each country, so I'll give the French position and situate it within the range of positions in the EU.

1. Europeans and Biotechnologies in 2002 (*Eurobarometer 58.0*, published 2003 [E58])

A series of five Eurobarometer surveys on "biotechnology and the life sciences" was conducted for the DGR in 1991, 1993, 1996, 1999, 2002. The European Parliament and Commission have encouraged public consultation "as part of the process of a comprehensive and transparent legislative framework" [4], and the Eurobarometers are "considered as one of a number of instruments through which the public voice may be heard" [1, p. 6], that is, as instruments of democracy.
What can be gathered from the series is that Europeans express great optimism and confidence about technologies in general, especially telecommunications and computers: they will "improve our way of life"! On biotechnologies in particular, there was a decline in optimism from 1991 to 1999, then a turning point, and optimism rose again. Why? (they offer two hypotheses: the *de facto* moratorium on the commercial exploitation of GM crops, from which the turmoil around GM crops calmed down; or the promise of new medical benefits from the research on the human genome, and from the research on stem cells, at the end of the Century [E58, p. 11]).

The 2003 Report is the latest Report published in the series. It is based on a representative sample of 16500 respondents (about 1000 in each member state). I skip the technical details of the methodology, and go to the data. Six applications of biotechnologies have been targeted:
genetic testing for hereditary diseases,
cloning human cells and tissues,
genetically modified (GM) enzymes for soaps ("friendly soaps"),
transgenic animals for xenotransplantation,
GM crops (the use of GM seeds in agriculture),
GM foods (cuisine with GM products).

There is a sharp contrast between the positive judgment on medical applications of biotechnologies, including the cloning of human cells, and the rejection of biotechnologies in agriculture and nutrition. "A majority of Europeans do not support agri-food technologies" [E58, p. 42]. This is particularly visible for the case of France.

[E58, p. 13]

«Contrary to what might be expected the term 'cloning' does not lead to automatic rejection. When cloning is employed in an application that is seen to be useful, people are prepared to discount the risks and affirm support. The 'green' biotechnologies attract much less support. A majority would not encourage GM foods, while GM crops gain very modest support» (Eurobarometer 58.0, p. 13).

[E58, p. 14]

In their comments and conclusions, the authors of the Report note that:

- The option 'don't know' was available, and around 20% of responders picked that option, as far as biotechnologies are concerned (nanotechnologies: 50% of DK). The analysts try to define the profile of the "engaged public": level of information, sources of informations, professionals or institutions they trust as sources. Being better informed makes you more tolerant of biotechnologies, even though you are more clearly aware of the risks: "emergence of risk-tolerant support", [E58, p. 42]).

- Reasons for accepting or rejecting do not depend only on scientific information. Ethical and political motivations have to be taken into account. In a number of cases (ex. eating GM foods) "respondents are more likely to express 'citizen' rather than 'consumer' preferences" [E58, p. 37]. The generalization of genetic testing may be acceptable individually for sterile couples, but it may "reactivate fears of eugenics and become associated with civil liberties, social equality and justice" [E58, p. 43].

[E58, p. 34]
[E58, p. 37]

- The citizen's ethics is more an ethics of the common good (teleological ethics) than an abstract ethics of respect for the moral agent (deontological ethics):

«The importance of tangible benefits is illustrated by the findings for medical applications. The widely recognized contribution of bio-medical technologies to health generally outweighs perceived risks and moral concerns. This is particularly evident in the levels of support observed for the cloning of human cells and tissues and to a lesser extent in the case of xenotransplantation, despite the emphasis on ethical dilemmas accompanying both applications as evidenced in official documents and some scientific research. Is this an indication that relying solely on 'ethical' deliberations, such as those considered by ethics committees, fails to capture the public mood? Perhaps the public is more utilitarian than political bodies and ethical committees» (Eurobarometer 58.0, p. 43).

The authors conclude that this invites complementary research, to situate the public perception of biotechnologies in a broader socio-cultural context.

2. Europeans, Science and Technology (*Special Eurobarometer 224*, publ. 2005 [E224])

In December 2001 an action plan named "Science and Society" was adopted by European authorities. The objectives were to promote scientific education, bring scientific policy closer to citizens, involve women, strenghten the ethical basis of science and technology, "in order to put responsible science at the heart of policy making" [E224, p. 3]. The aim was to "motivate European citizens to become more involved in science" [*ibid.*]. The DGR commissioned another poll on "Europeans' experience and perception of science and technology". Between Jan 3 and Feb 15 interviews took place in people's homes and in their national languages, in 25+7 countries.

The scope of this Report is very broad, I select only a few aspects.

- Strong confidence in science and technology is again a prominent feature of Europeans' attitudes. Europeans are not technophobic. They are especially optimistic about the **medical** benefits of techno-science:

[E224, p. 53]

France rates even more optimistic on the first item, and slightly more skeptical on the others.

- Yet a majority of Europeans believes that science and technology are responsible for most of the environmental problems we currently face, that they are no solution for solving those problems, and that GM food is dangerous for the human health.

[E224, p. 61]

French responders agree with that pessimism.

- Finally, scientists are not considered responsible for the misuse of their discoveries. The idea that scientific research must be regulated by society, and that society (particularly, policy-makers) is responsible for the way scientific work is conducted, is an important finding of that study. The message seems to be:let the scientists do their research work freely, and impose firm ethical and legal restrictions on the applications of the research.

[E224, p. 82]

[This might be interpreted here as: let scientists do their research on cloning, or on embryonic stem cells, but control the applications: limit reproductive cloning to rare cases of infertility in certain cultural contexts, scrutinize the protocols aiming at therapeutic cloning to see whether the objectives are ethically acceptable - for example, wanting to cure diabetes in young people might be found admissible, while wanting to cure neurodegenerative diseases in old people might be found futile.]

The authors conclude that Europeans have internalized the idea of "a balance between ethics and scientific progress" [E224, p. 125].

3. Social values, Science & Technology (*Special Eurobarometer 225*, publ. 2005 [E225])

This poll is about Europeans' views on their **ethics** and **values**, in order to appreciate "the influence of ethics on science and technology in the future" [E225, p. 2]. As in the previous poll, "interviews were conducted face to face in people's homes in their national language between January 3 and February 15, 2005"; 32 countries were surveyed.

One of the questions asked was: "Q6. On the whole, how satisfied are you with the life you lead?" - The answer is that "the vast majority (82%) of European citizens are satisfied with their life in general" (p. 4). The questionnaire goes on with religious or spiritual beliefs, attitudes towards politics, degree of information about politics, involvement in policy-making, awareness of environmental issues, animal welfare, gender equality, children's upbringing, etc. Then it comes to decisions about science and technology: should such decisions be based on a risk-benefit analysis, what is the role of experts, of interest groups, of the media, of public authorities, of the researchers themselves? What are the values that should prevail in the decisions: quality of human life, protection of the environment, protection of individual privacy, protection of freedom, protection of the dignity of human life, etc.

Science and technology are fast moving. Benefits are expected from their development.
Society's values and cultural heritage are slow moving.
There may be a conflict between anticipated benefits and present cultural values.
The way that questions are asked is: what do you think will be very important in ten years time?
Some of the answers:

- **General** perspective. The question is: for each technology mentioned, do you think it will have a positive effect, a negative effect, or no effect, in the next 20 years?

[E225, p. 74]

Note that Europeans in general (E225):

remain optimistic about technologies (all technologies rate above 50% positive answers, except nanotechnology : 48)

hierarchy: above 90%, solar energy and other new energy sources + medicines and new medical technologies (94%, highest); above 80%, computers and information technologies; around 65, biotechnology and genetic engineering, as high as mobile phones, space exploration, and high-tech agriculture

France agrees with the average European judgement on every item, except high-tech agriculture (36% positive, instead of 66%)

- **Abortion**, *i.e.* protection of the unborn (Q15a, 2).

[E225, p. 71]

The question is: will the issue of "protecting the dignity of any human unborn life" be important for our society in ten years time?

This is a key issue to understand public opinions about reproductive and other human technologies. A high proportion (above 70%) of 'very important' is found in countries where abortion is illegal (Malta) or permitted only in very rare circumstances (Ireland). The proportion is low (under 40%) in former communist countries of Eastern Europe, such as Hungaria, where abortion was a routine birth control method. France is in the middle (49%). Voluntary termination of pregnancy has been legal (depenalized) in France since 1975.

- Now let us anticipate **possible applications** of science and technology.
(this tells us also about the dreams or nightmares of the authors of the questionnaire)

For each application the respondent is asked whether he/she approves of its use. He/she has a choice between 5 answers:

yes absolutely / yes but regulated & controlled / yes but exceptionally / never / DK

(*i.e.* they want it / they want it with precautions / they want it with restrictions / they oppose it).

[E225, p. 81]

Leaving aside other than biological technologies, focusing on the prospects offered by bio-technosciences:

are **favored** (less than 20% against): biodiversity, *i.e.* reintroducing wild animals in their natural environment / implanting into the brain a computer chip to give the deaf the capacity to hear again / developing genetically modified bacteria that could clean up the environment / storing the genetic data of a population in order to study the genetic causes of human diseases

are **accepted** with precaution (over 50% yes): genetic treatment of 'bad habits' (smoking, alcoholism) / genetic diagnosis of predispositions to diseases / prolong our expected life span by 25 years / cloning animals for the research on human diseases / develop GM crops

are **rejected** by a majority (over 50% never): implanting in our brain a computer chip to improve our memory / develop a genetic test for children to detect their future talents or weaknesses / growing meat from cell cultures so that we won't have to slaughter farm animals / cloning human beings in the context of medically assisted procreation

- Cloning
«While Europeans seem somewhat prepared to accept cloning animals and cloning human stem cells from embryos (in exceptional circumstances or under strict control) for the sake of human health, the majority clearly draws the limit to cloning human beings» (Special Eurobarometer 225, p. 82).

. Cloning **animals** such as monkeys or pigs for research into human diseases

[E225, p. 82]

Globally in Europe only 8% is against (88% yes);
in France only 4% is against, 93% in favor

. Cloning human beings so that couples can have a baby even when one partner has a genetic disease (**reproductive cloning**)

[E225, p. 84]

Globally in Europe 59% says 'never'

in France 80% opposes it (note that in France it is against the law, qualified as 'crime against the human species', and highly penalized).

. Cloning human stem cells from embryos to make cells and organs that can be transplanted into people with diseases (**therapeutic cloning**?) (using **embryonic stem cells** to derive stem cell lines for the purpose of therapeutics?)s

[E225, p. 85]

Globally in Europe 22% says 'never', 20+41+11 = 72% approves of it under conditions,

France is in the average: 22% against/ 74% in favor, including 44% under regulation and control, and 22% only in exceptional circumstances. Note that in France therapeutic cloning is currently against the

law and penalized, although qualified as 'misdemeanor', and punished less heavily than reproductive cloning. On the other hand, the use of embryonic stem cells taken from left over embryos is authorized (for a duration of five years) (a good reason to prefer cloning is that it would allow immunologically compatible grafts).

«It would seem that at the EU level, while Europeans are strong in their stance against cloning human beings, they are more receptive to the possibility of cloning human stem cells from embryos to make cells and organs that can be transplanted into people with diseases» (Special Eurobarometer 225, p. 85).

Elements for a conclusion

- The French situation is currently **blocked at the political and legal level**, because a new law was voted in 2004, which authorizes the research on human stem cell lines derived from spare embryos, and prohibits the research on human cloned cells, whether for the purpose of therapeutics or for the purpose of making babies.

The permission to use embryonic stem cells for research was well accepted, because the freezers of medically-assisted procreation are filled with spare embryos, who have become left over embryos. It is common sense to judge that using those embryos for research is better (or less worse) than discarding them.

We thus live on the simplistic distinction between natural embryos and artificial ones: cloning (whatever the purpose) is evil, using human embryos made for the purpose of procreation (and not used for procreation) is OK.

- **Public opinion**, however, may **evolve** rapidly. There are many signs of an evolution:

. In the circles around medically-assisted procreation, the possibility of reproductive cloning is discussed freely, in the context of rare cases of sterile couples whose religious or cultural beliefs are incompatible with sperm or egg donation; we had a master's dissertation on that topic last year, by a biology and philosophy student, working in a laboratory at the Cochin Hospital in Paris.

. The results published by the Korean group directed by Woo Suk Hwang in Seoul have been widely commented in the media; even though they were proved to have been fabricated, they have comforted the hopes of many patient's associations, that therapeutic cloning may be a solution for patients suffering from conditions such as diabetes, multiple sclerosis, immunological defects, etc.

. A former Minister of research, Roger-Gerard Schwartzenberg, deposited before Parliament a project to modify the 2004 law; he proposes that therapeutic cloning could be depenalized and permitted in specific cases, under control and regulation by the *Agence de la Biomédecine* (*Bio-medicine Authority*, somewhat analogous to the British *Human Fertilisation and Embryology Authority*).

. There are currently new hearings planned by the National Assembly and the Senate.

. A French researcher, member of the Academy of Sciences, after contributing to a discussion meeting in London, that was published in the Proceedings [6] of the *Royal Society*, had a double page interview in a very popular journal (*Liberation*, [7]) under the title "we will have to ask ourselves about the transgenic human being". He evokes the possibility that adding one more copy of a specific gene might help protecting some people from early cancer. Paradoxically, it appears that transgenic human beings, or transgenic animals, could be more acceptable to French public opinion than GM tomatoes or transgenic rice.

References

[1] European Union, ***Eurobarometer 58.0*** *: Europeans and Biotechnology in 2002*, A report to the EC Directorate General for Research from the project 'Life Sciences in European Society' QLG7-CT-1999-00286, March 2003, online.

[2] European Commission, ***Special Eurobarometer 224*** */ 63.1 : Europeans, Science and Technology*, June 2005, online.

[3] European Commission, ***Special Eurobarometer 225*** */ Wave 63.1 : Social Values, Science and Technology*, June 2005, online.

[4] European Parliament and Council of the European Union, 'Directive 2001 / 18 / EC of the European Parliament and of Council', *Official Journal of the European Communities*, 2001, L106: 1-38.

[5] Commission of the European Communities, 'Life sciences and biotechnology - a strategy for Europe', *COM 27*, 2002.

[6] Weill Jean-Claude & Radman Miroslav, 'How good is our genome?', *Phil Trans R Soc London* B, 2004, 359: 95-98.

[7] Radman Miroslav, 'Il va bien falloir se poser la question de l'homme transgénique', *Libération*, 12-13 juin 2004, 46-47.