

# Beyond an Uninformed Public? A Comparative Analysis of Survey Data Concerning Patenting and Commodification

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## ***I. Introduction***

While there has been plenty of scholarship dealing with the ethical concerns associated with the role patenting plays in the development and dissemination of knowledge,<sup>1</sup> less has been written on the public's view of such a role. Likely, the reason for such a lack of public consultation is that patenting is seen as a complex subject, with economic and ethical policy concerns that are viewed as beyond an uninformed public's grasp. Recent studies, however, have concluded that Canadians are becoming increasingly more informed about various applications of biotechnology.<sup>2</sup> As a result, Canadians may be developing the necessary levels of critical understanding to provide useful feedback on the ethics and issues surrounding patenting.

Although patenting is seen by many as something which facilitates research and development, it is often seen by members of the public as something which restricts access to data which should be in the public domain. Even though a recent report to the World Health Organization states that "the public policy aim of patenting is only partially to reward inventors, [while] its more significant purpose is to stimulate research,"<sup>3</sup> international mistrust of the genetic industry remains.

In Australia, a particular study found that 70% of the public feels strongly that the regulation of biotechnology should not be left to market forces.<sup>4</sup> In the U.K., one study found that only a meagre 5% of individuals thought that biotechnology companies should be able to patent and charge for the use of their inventions,<sup>5</sup> while here in Canada, opinion is split and a surprisingly high 37% of Canadians think that we should

"encourage the development of biotechnology even though there might be some unknown risks."<sup>6</sup> This data suggests that Canadians have a more pragmatic view when it comes to encouraging biotechnology and may tolerate a higher threshold of apparent risk?

This paper will compare and contrast different international surveys on the theme of patenting and ownership and look at the international public's perceptions of regulation, patenting and control mechanisms for biotechnology. While such surveys cannot be relied on to generate a mirror image of public beliefs, they do provide useful, generalized feedback on overall public sentiment.

## ***II. The United Kingdom***

While 59% of Europeans are willing to agree that biotechnology companies "do good work for society,"<sup>7</sup> only 33% think that science and technology can be properly controlled by the government. In a recent survey of 2,000 individuals, only 19%, agreed that drug companies should be allowed to carry out whatever research into genetics and human cloning which they think is appropriate.<sup>8</sup> While leaving collected samples as public property was thought to be very significant,<sup>9</sup> 49% of individuals generally agreed with the statement that biotechnology companies which invest in science deserve to make a profit on that investment.<sup>10</sup> But should that profit also entail exclusive use? One survey showed that 72% of individuals still thought that even if commercial organizations have invested large amounts of time and money to develop a new way to use human genetic information, such information should still be publicly owned and available to all for use at no charge.<sup>11</sup>

For many individuals, the term “publicly owned” meant that biotechnology companies would have the same access to samples as the general public. Anything more than that created significant concerns about profiteering.<sup>12</sup> As one individual commented, “it’s the [biotech company’s] money and they are trying to find a cure, but they have got to give a little back to the health service.”<sup>13</sup> Indeed, remuneration became a very significant topic in focus group research carried out by the Wellcome Trust in 2000, with several individuals questioning why royalties to the individual donor, as a percentage of biotech profits, were not paid.<sup>14</sup> One study found that the overall perception of 61% of the population is that “science is driven by business—at the end of the day it’s all about money,” rather than a more altruistic point of view.<sup>15</sup>

On subjects seen to be more personal, such as the question of profits on human cloning, the numbers dip even lower, with only 16% of respondents agreeing that it is acceptable for companies to make profits out of research into human cloning.<sup>16</sup> Following genetic essentialist lines, the public appears to subscribe to the notion that “treating that which we regard as constitutive of our individuality is to treat it merely as a means rather than an end”<sup>17</sup> and that we have good reason to resist practices which commodify and commercialize human genes.

Yet, little U.K. research has been conducted explicitly into the public’s appreciation of the necessity of balancing the profit motive with regulation in patenting. Knowledge of the relevant issues is present—the public knows that profits encourage innovation and is obviously willing to at least consider allowing private biotech companies to conduct profitable research.

A surprising level of sophistication surrounding these issues emerged during focus group discussion in the course of Wellcome Trust research on the collection and storage of DNA samples. While not mentioning patents explicitly, individuals were able to identify problems with allowing single companies exclusive access to a particular discovery, with one individual stating the importance of having “not just the big companies but the other companies having the same database... [so] they are all working on the same level.”<sup>18</sup> Respondents also mentioned the attempted patenting of genetically modified organisms in the United States,<sup>19</sup> as well as other high-profile genetic experiments in the context of ownership. Certainly, though, there is a very elementary understanding of the issues, further research into

the public’s perception of the role of patenting and commercialization in the U.K. would produce worthwhile results.

### **III. The United States of America**

In the United States, however, public understanding of the issues surrounding this debate may be significantly lower.

While 77% of Americans think that genetic testing should be easily available to members of the public,<sup>20</sup> there has been no research conducted which clearly analyses the acceptability of commodification to the general public. The recent Science and Engineering Indicators report shows that United States residents tend to harbor fewer reservations about science and technology than

their European and Canadian counterparts,<sup>21</sup> but it is very difficult to say whether such opinion would translate into a higher threshold of tolerance for commercial involvement. Even though the same reservations over the government’s ability to regulate the biotech industry are prevalent in the United States, there is still a high overall level of comfort with the products of biotechnology.<sup>22</sup> Patenting and freedom of information are issues which at least appear in the American consciousness, with one 1997 study showing that patenting and freedom of information appeared in the popular news media more frequently than even ethical, religious or moral concerns.<sup>23</sup>

### **IV. Australia**

Focus group research has concluded that most members of the public are generally suspicious of biotechnology and genetic engineering,<sup>24</sup> as the “main motivation for this technology was seen as increasing the profits of multinational corporations”<sup>25</sup> rather than any altruistic end. Overall, Australians are very concerned about the regulation of biotechnology, and focus group research has uncovered a “perception that there are no adequate controls over the process, motivations and outcomes of the development and application of biotechnology in Australia”<sup>26</sup> despite a marked increase in awareness of the Office of Gene Technology Regulator, from 10% in 1999 to 15% in 2000.<sup>27</sup>

Interestingly, another survey found that the Commonwealth Scientific and Industrial Research Organization (CSIRO)

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was the most trusted organization to give accurate information about the regulation of industry.<sup>28</sup> These results run counter to the higher levels of mistrust of public authorities in both the U.K. and the Canada.<sup>29</sup> Given the relatively high levels of knowledge and trust in a research body such as CSIRO, further research into how such trust mitigates or alters the perceptions Australians hold of patenting's role in industry would likely yield interesting results. One possible explanation for the higher level of trust Australians have is their relative unfamiliarity with the term "biotechnology"<sup>30</sup> and its applications which may make them more willing to blindly trust governmental regulators. Indeed, one study addresses the apparent contradiction between high levels of trust and low levels of knowledge and concluded that the public "trusts the regulators, but are not aware of what they are doing to control the issue."<sup>31</sup>

## V. Canada

While one study has found the majority (51%) of Canadians would not accept patents on altered human genes if such patents would lead to the commercialization of the human body, a surprising 30% minority would actually sanction such patents.<sup>32</sup> Furthermore, a substantial minority (24%) of Canadians say that patents on any form of life developed through biotechnology are acceptable.<sup>33</sup> Could the Canadian public actually trust industry to self-regulate more than other jurisdictions? Or could it be that the relative mistrust of government Canadians have<sup>34</sup> leaves certain members of the public with few other places to put their faith? Although a majority (53%) would rate the regulation of reproductive and genetic technologies as "extremely important,"<sup>35</sup> there is the possibility that government may not be maintaining public confidence in its ability to effectively regulate rapidly developing biotechnology.<sup>36</sup> A similar phenomenon that was observed in Australian research is evident, where "despite a lack of familiarity, most people are willing to evaluate the regulatory system" and focus group research has shown that "most people want to believe that the system is functioning well, in part because they feel unprepared to deal with the consequences if it were not."<sup>37</sup>

Recent high-profile cases, such as the Harvard onco-mouse case currently before the Supreme Court have helped swell public concern over patenting, but, even the media is willing to report that "securing the public's confidence and support has been a long-standing task that has met with uneven efforts."<sup>38</sup> Overall, however, as in the U.K., public

understanding of issues surrounding the development and use of new technologies is still quite strong, and additional research into public opinion concerning commercialization and patenting would likely yield fruitful results.

## VI. Conclusions

While public consultations on the commercialization of the biotech industry have been quite limited internationally, public opinion on issues surrounding patenting and commercialization is present. As awareness of biotechnology issues crystallize further, research needs to properly address the complexity of the public's concerns. However, as biotechnology is still a relatively new topic in the social consciousness, researchers should be wary that "statements by individual lay people about genetics, or the squares that they check off in boxes, might often be an artefact of the research process,"<sup>39</sup> rather than direct representations of public belief.

Certainly, though, a majority of Canadians have at least an elementary understanding of the ethical and moral dilemmas surrounding the patenting of human life, and are equally appreciative of the need to balance both the public and industry's interests. Internationally, however, Canadians seem especially pragmatic in their outlook, and are less apprehensive than those in the U.K. and Australia about the role of industry in the biotechnology. Perhaps a lack of exposure to damaging byproducts of biotechnology, such as advanced animal husbandry, which is seen to be at fault for mad cow and foot and mouth disease, or perhaps the "historic burden" that North Americans do not share as closely stemming from the "genetic experiments of the Nazi period" creates a heightened apprehension in the U.K. especially.<sup>40</sup> Overall, however, even such apprehension can only lead to a more educated public, and as individuals seek out data to assuage fears and misconceptions, both lawmakers and researchers must keep track of an increasingly nuanced public consciousness.

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1. See generally Ted Schreker & Alex Wellington, "Patenting of Higher Life Forms and Human Biological Materials: An Introduction to the Issues" (Ottawa, Canadian Biotechnology Advisory Committee, 2001), online: Canadian Biotechnology Advisory Committee <<http://www.cbac-ccbc.ca/english/sections.aro?exp=Reports+and+Related+Documents>> (date accessed: 25 July 2002); see also Timothy Caulfield & Richard Gold, "Genetic testing, ethical concerns, and the role of patent law" (2000) 57 Clin. Genet. 370.
2. Edna Einsiedel, *Biotechnology and the Canadian Public: 1997 and 2000* (Calgary: University of Calgary, 1997). See also, Canada, Biotechnology Assistant Deputy Minister Coordinating Committee, *Public Opinion Research into Biotechnology Issues, Fifth Wave*. (Ottawa: Pollara Research and Earncliffe Research and Communications, December 2001) at 11. Executive summary available online: Canadian Biotechnology Strategy <<http://biotech.gc.ca/docs/engdoc/5Wavexec-e.pdf>> (date accessed: 24 July 2002) [*Fifth Wave*] where awareness since October, 1999 has increased by 10%.
3. Abdallah S. Daar & Jean-François Mattei, (1999) *Annex 1 of the report of the informal consultation on ethical issues in genetics, cloning and biotechnology: possible future directions for WHO*. WHO/EIP/GPE/00.1, World Health Organization at 102.
4. Australia, Biotechnology Australia, *Public Attitudes Towards Biotechnology*. (Melbourne: Yann Campbell Hoare Wheeler, 1999), online: Biotechnology Australia <[http://www.biotechnology.gov.au/industry\\_research/reports/reports.asp](http://www.biotechnology.gov.au/industry_research/reports/reports.asp)> (date accessed: 24 June 2002).
5. U.K., Human Genetics Commission, *Public Attitudes to Human Genetic Information*, (London: MORI Social Research, 2000) at 27, online: Human Genetics Commission <[www.hgc.gov.uk/business\\_publications\\_morigeneticattitudes.pdf](http://www.hgc.gov.uk/business_publications_morigeneticattitudes.pdf)> (date accessed: 25 July 2002) [*Public Attitudes*]. See also U.K., Human Genetics Commission, *Inside Information: Balancing interests in the use of personal genetic data*. (London: Human Genetics Commission, 2002), online: Human Genetics Commission <<http://www.hgc.gov.uk/insideinformation/iiintroduction.pdf>> (date accessed: 24 July 2002).
6. Canada, Industry Canada, *Understanding the Consumer Interest in the New Biotechnology Industry*. (Ottawa: Optima, 1995) at 29.
7. INRA (Europe), *Eurobarometer 52.1, The Europeans and Biotechnology* (Brussels: March, 2002) at 69, online: The European Union On-line <<http://europa.eu.int/comm/research/pdf/eurobarometer-en.pdf>> (date accessed: 25 July 2002) [*Eurobarometer 52.1*]. In addition, a recent report to the House of Lords found that there was a "crisis of trust" and a marked increase in skepticism regarding the biotechnology industry was observed from previous studies conducted in 1988. U.K., House of Lords Science and Technology Committee, *Science and Technology—Third Report*. (London: House of Lords, 2000), online: The United Kingdom Parliament <<http://www.publications.parliament.uk/pa/ld199900/ldsel ect/ldsctech/38/3801.htm>> (date accessed: 30 July 2002).
8. First & 42nd, *Therapeutic Cloning and Genetic Research - a fascinating set of opinions is forming among the British public*. (London: First & 42nd, 2002) [*Therapeutic Cloning*].
9. The Wellcome Trust and Medical Research Council, *Public Perceptions of the Collection of Human Biological Samples* (London: Wellcome Trust, 2000) at 63 [*Public Perceptions*].
10. U.K., Office of Science and Technology, *Science and the Public: A Review of Science Communication and Attitudes to Science in Britain*, (London: The Wellcome Trust, 2000) at 25 [*Science Communication*].
11. *Public Attitudes*, *supra* note 5 at 27. A more significant 90% of individuals thought that if the company was publicly owned, that it should not be able to charge for access to the technology it had developed.
12. *Public Perceptions*, *supra* note 9 at 63-64.
13. *Ibid.*
14. *Ibid.*, at 65.
15. See also *Science Communication*, *supra* note 10 at 25, where 39% of individuals agree and 22% strongly agree with this statement.
16. *Therapeutic Cloning*, *supra* note 8.
17. Mark J. Hanson, "Biotechnology and Commodification Within Health Care" (1999) 24 J. Med. Philos. 267 at 276.
18. *Public Perceptions*, *supra* note 9 at 64.
19. Wellcome Trust, *Public Perspectives on Human Cloning*. (London: The Wellcome Trust, 1998) at 19.
20. Virginia Commonwealth News Survey. online: Virginia Commonwealth University <[www.vcu.edu/nus](http://www.vcu.edu/nus)> (date accessed: 22 July 2002).
21. U.S., National Science Board, *Science and Engineering Indicators—2002*. (Arlington, VA: National Science Foundation, 2002) at c. 7-13. This study may contradict a 1987 finding that Americans find the end products of biotechnology attractive, but are sufficiently concerned about potential risk that strict regulation might be necessary. See Office of Technology Assessment, *New developments in Biotechnology: Public perceptions of biotechnology* (Washington D.C.: US Government Printing Office, 1987), online: Office of Technology Assessment <[http://www.wss.princeton.edu/~ota/ns20/alpha\\_f.html](http://www.wss.princeton.edu/~ota/ns20/alpha_f.html)> (date accessed: 4 December 2002).
22. Thomas J. Hoban, "Consumers will accept biotechnology foods." (1996) 10(4) BT Catalyst 4. See also Thomas J. Hoban & Patricia A. Kendall, "The consumer connection: what biotechnology needs to succeed. Consumers ask: What's in it for me?" (September 1994) Food Processing 79; For emerging trends, see Susanna Horning Priest, "U.S. Public Opinion Divided Over Biotechnology" (2000) 18 Nat. Biotechnol. 939.
23. Charles Hagedorn & Susan Allender-Hagedorn, "Issues in agricultural and environmental biotechnology: identifying and comparing biotechnology issues from public opinion surveys, the popular press and technical/regulatory sources" (1997) 6 Publ. Understand. Sci. 233.
24. *Public Attitudes Towards Biotechnology*, *supra* note 4. This study also concluded that 26% of Australians could not define the term "biotechnology."
25. *Ibid.*



26. Australia, Biotechnology Australia, *Biotechnology Public Awareness Final Report* (Millward Brown, 2001) online: Biotechnology Australia <[http://www.biotechnology.gov.au/industry\\_research/reports/reports.asp](http://www.biotechnology.gov.au/industry_research/reports/reports.asp)> (date accessed: 24 May 2002) at 16 [*Biotechnology Public Awareness*].
27. *Ibid.* at 19.
28. See also Janet Norton, Geoffrey Lawrence & Graham Wood “The Australian Public’s Perception of Genetically-Engineered Foods” (1998) 8 *Australas. Biotechnol.* 172 at 178 for a summary of trusted organizations. In this survey, public authorities ranked in the mean of the surveyed groups. See also *ibid.* where 73% of the public stated they would trust the Office of Gene Technology Regulator as a regulator.
29. See e.g. *Eurobarometer 52.1*, *supra* note 7 at 79 which ranks “national public authorities” below “television and newspapers” in eighth spot in terms of providing information which could be trusted. In Canada, see *Biotechnology and the Canadian Public: 1997 and 2000* *supra* note 2 at 26, where government regulators ranked the lowest out of any body in terms of levels of trust.
30. *Public Attitude Towards Biotechnology*, *supra* note 4.
31. *Biotechnology Public Awareness*, *supra* note 26 at 19.
32. Canada, Industry Canada, *Understanding the consumer Interest in the New Biotechnology Industry*, (Ottawa: Optima Consultants, 1995) at 19.
33. *Ibid.*
34. *Biotechnology and the Canadian Public: 1997 and 2000*, *supra* note 2 at 26. See also PricewaterhouseCoopers, “Canadians Support Cloning of Human Organs, Survey Says,” (Ottawa: PricewaterhouseCoopers, 2001) online: Price Waterhouse Coopers <[www.pwcglobal.com/servlet](http://www.pwcglobal.com/servlet)> (date accessed: 22 July 2002).
35. Canada, Health Canada, *Benchmark Survey on Awareness and Knowledge Levels of Assisted Human Reproduction*. (Ottawa: Pollara Research and Earncliffe Research and Communications, 2001) at 14:2.
36. In four Environics surveys from 1995, 1997, 1999 and 2000, the percentage of individuals who strongly agreed biotechnology was being properly regulated today fell from 8 to 6% and the number who somewhat agreed fell from 40% to 33%. A significant jump in those who somewhat disagreed with this statement was observed from 19% to 28% and an even stronger jump was observed in those who strongly disagreed, from 13% to 26%. Canada, Canadian Biotechnology Advisory Committee, *Secondary Analysis of Public Opinion Research Regarding Genetically Modified Food and Related Biotechnology Issues*. (Ottawa: Environics Communications, 2001) at 20. Though recent research by Pollara and Earncliffe (2001) noted a marked increase in public confidence in the Federal Government, they admitted the results are likely a reflection of the “generalized ‘halo effect’ after September 11 than gauge actual performance in biotechnology.” An overwhelming 87% of Canadians think that government regulation should be increased. *Fifth Wave*, *supra* note 2 at 27, 32.
37. *Ibid.* at 28-29. In an earlier survey, focus group research determined that although few could say whether the government was regulating effectively, the “first instinct of some respondents was that it might not be.” Canada, Biotechnology Assistant Deputy Minister Coordinating Committee, *Public Opinion Research into Biotechnology Issues, Fourth Wave*. (Ottawa: Pollara Research and Earncliffe Research and Communications, May 2001) at 46. Executive summary available online: Canadian Biotechnology Strategy <<http://biotech.gc.ca/docs/engdoc/4Wavexec-e.pdf>> (date accessed: 24 July 2002) [*Fourth Wave*]. For a comparative analysis of patent processes in Canada and other jurisdictions, see Steven B. Garland and Jeremy E. Want, “The Canadian Patent System: An Appropriate Balance Between the Rights of the Public and the Patentee” (1999) 16 *C. I. P. Rev.* 43.
38. “Addressing the Issue of Public Concern” *National Post* (7 June 2002) AD2.
39. Celeste Condit, “What is ‘public opinion’ about genetics?” (2001) 2 *Nature Reviews Genetics* 811 at 813.
40. Judy Steed “Caution the law with GMO’s in Europe—yet biotech research is believed to be an important engine of economic growth” *The Toronto Star* (10 June 2002) D02. See also The Hon. Justice Noëlle Lenoir, “The Ethics of Biotechnology” (2000) 4 *Journal of BioLaw and Business* 122; Mary R. Anderlik & Mark A Rothstein, “Privacy and Confidentiality of Genetic Information: What Rules for the New Science” (2001) 2 *Annu. Rev. Genom. Hum. Genet.* 401 at 408.

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