

The Secretary  
House of Representatives Standing Committee on  
Legal and Constitutional Affairs  
Parliament House  
CANBERRA ACT 2600

Dear Sir/Madam

I would like to submit the attached paper to the House of Representatives Standing Committee on Legal and Constitutional Affairs for its consideration in its 'Inquiry into the Scientific, Ethical and Regulatory Aspects of Human Cloning' for its consideration.

I have considered the Report of the Australian Health Ethics Committee (AHEC), which the Inquiry has been asked to review, and found that while it is a useful contribution to the cloning debate, it suffers from a number of serious flaws.

Please contact me if you require further information.

Yours sincerely

David Swanton  
*SWANTON Consulting*  
30 September 1999

**SUBMISSION TO THE  
HOUSE OF REPRESENTATIVES STANDING COMMITTEE ON  
LEGAL AND CONSTITUTIONAL AFFAIRS**

**INQUIRY INTO THE SCIENTIFIC, ETHICAL AND  
REGULATORY ASPECTS OF HUMAN CLONING**

30 September 1999

*Dr David Swanton*  
*SWANTON Consulting*  
*11 Lorne Place*  
*PALMERSTON ACT 2913*  
*AUSTRALIA*

**CONTENTS**

Summary of main points	3
1. Introduction	3
2. A review of aspects of the AHEC Report	4
2A Review of AHEC's Letter to the Minister and Chapter 1: response to the terms of reference	4
2B Review of AHEC's Chapter 2: scientific considerations	6
2C Review of AHEC's Chapter 3: ethical issues	7
2D Review of AHEC's Chapters 4 and 5: Australian and international legislation	8
2E Review of AHEC's Chapter 6: AHEC recommendations	9
3. Conclusions	10
4. Bibliography	11

## SUMMARY OF MAIN POINTS

The main points of this submission can be summarised as follows:

- this submission is mainly concerned with reproductive cloning of humans and not human tissue;
- the Report of the Australian Health Ethics Committee (AHEC) is not as objective, rigorous and robust in its analysis of reproductive human cloning as it could have been and it contains some serious flaws in its analysis;
- there is evidence that AHEC might not have conducted an ethical analysis of human cloning but instead determined community consensus on the issue;
- AHEC's methodology seems flawed:
  - ◊ there is an indication that it assumes that human cloning is ethically unacceptable before its study had begun; and
  - ◊ while AHEC has claimed cloning is unethical for some reasons, such as it involving asexual reproduction, it has not then shown that these reasons are ethically unacceptable in a way that is not genetic discrimination;
- AHEC notes that no support for human cloning was received in submissions to it—this is false as my earlier submission to AHEC should have been interpreted as a statement of arguments in favour of human cloning and a rebuttal of the major arguments against;
- key terms, such as human dignity, have not been defined in the AHEC Report, and the findings of other groups, such as UNESCO, have been accepted without critical analysis;
- absurd situations result if AHEC's findings are accepted, for example a simple change of a base pair in a DNA molecule (for example to effect the slightest change in eye colour) could mean the difference between whether a person (or process) is considered ethical or not; and
- in summary, the AHEC arguments against reproductive cloning of humans are specious arguments that can also be used against identical twins, IVF technology or adoption, or can be considered as genetic discrimination—thus these arguments can be considered invalid—the only sound, objective, non-discriminatory, argument taking a universal point of view against human cloning is that of safety; and when the safety of the technology has been resolved (to be as safe as for example IVF technology) no valid ethical argument would then remain against human cloning.

### 1. INTRODUCTION

1. This paper has been prepared as a submission to the Inquiry into the Scientific, Ethical and Regulatory Aspects of Human Cloning by the House of Representatives Standing Committee on Legal and Constitutional Affairs. The Committee has been asked to review the Report of the Australian Health Ethics Committee (AHEC) on 'Scientific, Ethical and Regulatory Considerations Relevant to Cloning of Human Beings', dated 16 December 1998. It should be noted that I made a submission to AHEC for its consideration at the time it produced its Report (my submission is available on request).

2. This paper is primarily concerned with AHEC's comments on the reproductive cloning of human beings rather than the cloning of human tissue, although I do make some broad ethical statements pertaining to the latter. AHEC's Report is a useful contribution to the human cloning debate, but there are some serious flaws in its analysis, which I address in this paper. For comparative purposes, I use the same terminology AHEC used in their Report.

3. I am aware that AHEC, the Australian Academy of Science, UNESCO, and the Human Genome Organisation, condemn the reproductive cloning of human beings. Despite the standing of these bodies, I will contend that AHEC's conclusions with respect to reproductive cloning of human beings are flawed, and that any ban on reproductive cloning of human beings other than for safety reasons would be genetic discrimination and unethical in comparison with other methods of acquiring children, including sexual intercourse, in vitro fertilisation (IVF), particularly with donated sperm and eggs, and adoption.

4. Section 2 of this paper examines sequentially the validity of some of the arguments in the AHEC Report. Section 3 is a brief conclusion and Section 4 is a brief bibliography.

5. I am available to expand on my analysis if required.

## **2. A REVIEW OF ASPECTS OF THE AHEC REPORT**

### **2A Review of AHEC's Letter to the Minister and Chapter 1: response to the terms of reference**

6. The flawed nature of the AHEC Report is initially evident in the letter to the Minister for Health and Aged Care, Dr Wooldridge, on page ii, and also in paragraph 1.1. The letter notes that the 'Working Group chose not to conduct public consultation as so many International and National pronouncements from professional groups and community groups indicated a consensus of opinion on prohibiting the cloning of human beings'. The second term of reference of the AHEC inquiry requested that AHEC identify 'ethical considerations in approving the cloning of human beings'.

7. It thus seems that AHEC was prepared to accept the conclusions of these professional and community groups without further analysis. Although AHEC were only required to identify ethical considerations, any consequent recommendations are meaningless without appropriate analysis, a standard feature of modern ethics.

8. On this basis, one could suspect that the AHEC Report might not actually be a rigorous ethical analysis of cloning issues, but rather an a posteriori justification of a community view, i.e. that, for whatever reason, human cloning should be banned.

9. The possible acceptance of these groups' conclusions is a particular concern because public policy based on community values might not correlate with policy based on an objective ethical analysis of an issue. Objective ethical arguments are couched in logic and are able to be analysed and refuted; community consensus on the other hand is just a matter of establishing what the bulk of the community want, and is thus highly subjective. To illustrate this point, consider the right for women to vote. Two hundred years ago, overwhelming *community consensus* would have been that women having the right to vote was an absurd notion. However, many people would consider that the ethical validity of the right of women and men to vote should not change with time, and the *ethical arguments* for women's suffrage then are just as compelling as they are today.

10. Many people and governments already make the distinction between community consensus and what should be done, according to some ethical system. Rightly or wrongly, community consensus in Australia supports both the death penalty for horrific crimes and also voluntary euthanasia, but rightly or wrongly, these are not public policy. However, if community consensus is all that is required then there is no need for AHEC. One just needs to conduct a nationwide poll and act on the views of the majority.

11. Paragraph 1.1 quotes the statement from the Universal Declaration on the Human Genome and Human Rights, which says, ‘Practices which are contrary to human dignity, such as reproductive cloning of human beings, shall not be permitted’. This sentence in the first paragraph of Chapter 1 forms the basis for AHEC’s Recommendation 1, yet dignity (presumably defined as nobility of manner or style, nobleness, worthiness, but it is difficult to see its relevance in this context<sup>1</sup>) and human dignity are not defined in the AHEC Report. Nor has it been demonstrated that reproductive cloning would be contrary to human dignity, which surely should have been done if any significance is to be attached to the recommendations. It is unacceptable in an ethical study of human cloning that such a demonstration has not been undertaken.

12. Paragraph 1.6 notes that there is an international consensus against human cloning. While many groups have indicated that human cloning is unacceptable, this could be because these groups have indicated human cloning is currently unacceptable because it is untested, untried, and therefore not safe<sup>2</sup>. There is however, little comment or analysis on the anti-cloning conclusions presented in the AHEC Report.

13. Paragraph 1.8 states that the safety of the somatic cell nuclear transfer technique is an argument against human cloning by this process. This is a legitimate ethical argument against human cloning (in so far as human safety is an ethical issue) but only so long as cloning is unsafe. If the cloning technology is safe, then the only consequential difference between a child produced from IVF and one produced from human cloning will be their genotype, and any discrimination on that basis alone would be unacceptable. Any genetic discrimination is just as unethical as discrimination on the basis of a person’s colour, sex, race, marital status or sexual preference.

14. Paragraph 1.9 notes that human cloning could be used by infertile couples who wish to have a child. However, it then seems to dismiss the procedure with the statement ‘Such a procedure is, *however*, prohibited by State legislation and the NHMRC Ethical Guidelines’ [*italics are mine*]. One might not be surprised that an AHEC ethics study would dismiss a procedure which is likely to be one of the most likely practical reasons for the production of clones, and about which AHEC makes a recommendation, because guidelines from the National Health and Medical Research Council (NHMRC), AHEC’s parent body, prohibit it.

15. In a 14 January 1998 press release, the Minister for Health and Family Services, Dr Michael Wooldridge, in foreshadowing the AHEC inquiry, asked AHEC to provide him ‘with advice on the potential and need for further pronouncement or possible legislation regarding human cloning’. The methodological problem in the Report is that AHEC should have considered what was ethically correct, and proposed legislative changes, rather than accepting legislation as an unchanging constraint.

16. Even if AHEC remedied its methodological flaws, there is evidence that the AHEC conclusions were nonetheless a *fait accompli*. In the very same press release, the AHEC Chairman announced ‘The Australian Health Ethics Committee has already determined that human cloning is unethical and in the NHMRC’s ethical guidelines on assisted reproductive technology released in November 1996 after considerable public consultation, recommended that human cloning be prohibited’. It would be difficult indeed for AHEC to conclude anything other than that human cloning is unethical, given that it had already concluded thus before it had commenced its study. That this is the case is disappointing.

---

<sup>1</sup> A definition for human dignity has been extracted from UNESCO—‘the inherent dignity...of all members of the human family’—but this definition would appear to be circular.

<sup>2</sup> The technology can be considered as ‘safe’ if it does not cause injury or danger to humans, although with any aspect of human life there are always risks and benefits that must be considered, assessed and managed.

17. Paragraph 1.15 indicates that AHEC did not identify any support for the cloning of human beings in Australia during the development of its Report. On the contrary, my submission to AHEC (acknowledged in the AHEC Report) listed many advantages of human cloning and soundly rebutted the most common arguments against human cloning<sup>3</sup>. The arguments against human cloning were mainly on the basis that they could be applied with equal vigour to identical twins, IVF or adoption and are thus unethical unless the intention is also to ban identical twins, IVF and adoption. I concluded that ‘the case against human cloning is weaker than its many advocates would admit’ and encouraged that ‘the debate on human cloning should continue, but in a civilised society it must be free of subjectivity and zealous appeals to people’s emotions and fears’. There was no logical, scientific or ethical reason, other than safety, to apply a ban on human cloning.

18. Paragraph 1.19 notes that the Commonwealth Government is already in strong agreement with the UNESCO declaration banning human cloning. Given the above analysis, it is predictable that AHEC recommended that the Commonwealth Government reaffirm its support for the UNESCO declaration (Recommendation 1). It is relevant therefore to analyse the UNESCO declaration, though AHEC does not (paragraphs 5.1–5.3 do not do this). The UNESCO declaration is based on:

- cloning calling ‘into question the uniqueness of every human being’—this argument is invalid because identical twins are necessarily more identical and less ‘unique’ than human clones (identical twins must have the same mitochondrial DNA, this is not the case for human clones) but we do not ban identical twins; and
- cloning interfering ‘with the nature of *another being* which is morally objectionable’—this argument is also invalid as IVF, particularly with donated sperm and eggs (for example from Nobel Prize winners) also interferes with the nature of another being, but it is permissible.

19. UNESCO have also produced a paper, ‘Reproductive Human Cloning: Ethical Questions’, that quotes the Pontifical Academy for Life, which stated in 1997 that ‘At the level of human rights, the possibility of human cloning represents a violation of the two fundamental principles on which all human rights are based: the principle of equality among human beings and the principle of non-discrimination.’ This argument is invalid as nobody is proposing that human clones are not the equal of others or should be discriminated against. Human clones should have the same rights as everybody else, and because they do, arguments against them (such as from the Pontifical Academy of Life) lack substance. To forbid human clones, and prohibit those who wish to parent human clones from doing so, can be perceived as mandating that these people are not the equal of others.

## **2B Review of AHEC’s Chapter 2: scientific considerations**

20. Chapter 2 provides a useful overview of scientific considerations of human cloning. However, it still seems flavoured by a bias against human cloning. Paragraph 2.1 notes that scientists universally disavow human cloning as unjustifiable and unethical. As noted above, if a technology is unsafe (human cloning is currently untested and untried) then it can be considered unethical for that reason. The question that should be asked is what the ethical status of human cloning should be if the technology were shown to be as safe, for example, as IVF technology. If human cloning were shown to be safe next year, why should it then not be permitted?

21. AHEC’s analytical bias is apparent from paragraphs 2.29–2.31. It quotes a submission from a leading medical geneticist: ‘*we cannot imagine circumstances where reproductive cloning of humans is necessary for medical reasons*’. That AHEC italicised that quote possibly

---

<sup>3</sup> See Swanton, D. J. 1998, *Human cloning, beyond the hype*, Australian Rationalist, vol. 47, pp. 22–27.

indicates that AHEC attached special significance to it, presumably as a basis for arguing against human cloning. But it is a very poor example. There are no medical reasons for eating chocolates, driving cars, using IVF technology or adoption, but none of these are banned. Even AHEC realises there are biological and social reasons, other than medical reasons, for human cloning (see paragraph 2.30, and also paragraph 3.13). That there might not be any medical reasons is in essence irrelevant.

## **2C Review of AHEC's Chapter 3: ethical issues**

22. The examination of ethical issues in Chapter 3 of the AHEC Report is also tainted by the reasoning against human cloning noted above in the analysis of Chapters 1 and 2.

23. Paragraphs 3.2–3.3 consider the ways to reason about the ethics of human cloning. An examination of the consequences of a proposal is important, but it is unacceptable that a proposal should be 'rejected for what it is *in itself*', whatever its consequences'. Often reasons of the latter type are subjective, do not lend themselves to refutation, and cannot then be considered ethical. Racists, for example, could claim that Asian immigration is unnatural (whatever that means) and is therefore wrong *in itself*. Such a position does not permit refutation and should not be considered ethical. Anybody could argue that anything they dislike is wrong in itself, but it would be arbitrary and subjective to do so.

24. AHEC considers the ethical significance of the objectives sought through human cloning and the circumstances in which it takes place in paragraphs 3.8–3.27. After AHEC notes the benefits, it considers some arguments against reproductive cloning of human beings. In brief, the significant arguments are:

- that a human clone of a person 'would not be a descendent of that person in the normal sense' (paragraph 3.13);
- it is inappropriate to bring a child into the world outside the usual social setting of a family involving a mother or father (paragraph 3.16);
- a cloned child could be a means to an end (paragraph 3.20); and
- a cloned child would be able to be compared to its alter ego (the person from which it is cloned (paragraph 3.27)).

25. The first argument is weak. An adopted person, or one produced through IVF technology (particularly if produced using donor sperm or eggs), or through a surrogate agreement, is also not a descendent of its recipient social parent or legal guardian in the normal sense. But we do not ban children who are adopted or produced through IVF technology.

26. In fact, cloning a person might produce an ethically more acceptable alternative. For example, if a couple, one of whom carries a gene for a particular unhealthy genetic condition, wanted to produce a child genetically related to at least one of them, then cloning the parent without the defective gene would provide a way of producing a healthier child than that produced through sexual intercourse. Surely this is the ethically preferable alternative to knowingly producing a child with a serious genetic defect, which would seem to be an act contrary to human dignity (however this term is defined, it is hard to imagine a scenario where the production of a healthier child could be considered unethical). In this case therefore, human cloning can be considered as a more ethical act and an act of greater human dignity than the usual sexual alternative.

27. The second argument would mean that single people would not be permitted to parent a child. Without examining the ethical considerations in full, we do not ban single people from

raising children or being parents now, so why would we do so for human clones. The AHEC argument is discrimination against single parents and families that do not fit a particular societal stereotype.

28. The third argument, that a cloned child is a means to an end, is irrelevant. Everybody who intentionally conceives a child does so for a reason, whether it is to raise a child to love and nurture, propagate their genes, support themselves in their old age, bear a child on a significant date (for example 1 January 2000), conform to peer or parental pressure, or mistakenly help save a marriage. People can already use IVF with a donated sperm and egg to produce offspring that might have particular characteristics, such as high intelligence or outstanding sporting ability. It is discrimination to apply the ‘means to an end’ argument against human clones when it can be applied with equal vigour to other similar child-raising scenarios, but is not.

29. The fourth argument against cloning is also flawed. That a clone could be compared to its alter ego is not an argument against cloning. The argument suggests that unnecessary pressure to succeed might be placed on a cloned child of a person. This would be no different to the pressure that might be placed on the sexual offspring of two people, who might be successful academics, politicians, actors, sportspeople etc. This is not an argument against cloning; rather it is an argument against placing unnecessary and unwarranted pressure on an individual. AHEC realises (paragraph 2.4) that behavioural and phenotypic characteristics of clones are not identical to their alter ego, so this argument against human clones also has no basis in science.

30. Paragraphs 3.28–3.29 discussed the ethical significance of cloning ‘in itself’. The AHEC Report quotes Leon Kass, who apparently objects to human cloning because it involves asexual reproduction ‘*[a]sexual reproduction confounds all normal understanding of father, mother, sibling, grandparents, etc. and all moral relations tied thereto*’. Not only is it difficult to imagine that the cloning situation could confound a person of reasonable intelligence, but what also needs to be proved (and it has not been done) that is if something confounds, then it is necessarily ethically unacceptable. Although opponents of human cloning might claim that asexual reproduction is wrong ‘in itself’, this is a subjective position and cannot be supported, in much the same way as someone arguing that a pizza cooked in a microwave oven (opposed to a convection oven) of IVF technology is wrong ‘in itself’.

31. As an example, consider if a widowed mother were to marry her late-husband’s brother and have children with him. Stepsiblings would then also be cousins (the normal understanding of siblings has changed), but that this might confound some and be unusual does not compel us to seek to ban such a scenario. IVF technology using donated sperm and adoption are situations in which we need to consider both biological parents and legal guardians, and we do not consider these unethical.

32. It seems clear that the arguments against human cloning are without substance, except for the first argument in paragraph 3.27, that ‘because of the risks, at the very least it would be premature to permit this technique in human reproductive programs’. This is the safety reason that nobody should deny. But as noted earlier, if human cloning was soon shown to be safe, then it should be permitted, as there would be no sound ethical or scientific reasons against it.

## **2D Review of AHEC’s Chapters 4 and 5: Australian and international legislation**

33. Perhaps a single reference to paragraph 5.14 would effectively encapsulate the predilection against human cloning in the AHEC Report. AHEC report that the National Bioethics Advisory Committee (NBAC) in the United States made recommendations prohibiting ‘anyone from attempting to create a child through somatic cell nuclear transfer cloning on the grounds that it is



morally unacceptable because current scientific information indicates that the technique is not safe to use in humans at this point in time'. AHEC however dismisses the NBAC view, saying 'clearly, the issue of safety rather than ethical judgement was uppermost in the formulation of this recommendation'. AHEC seems to be patronising NBAC (who have disagreed with AHEC) by claiming that the NBAC recommendation could not really be considered as an ethical one—despite NBAC couching its recommendation in terms of moral acceptability!

## **2E Review of AHEC's Chapter 6: AHEC recommendations**

34. A problem with the AHEC recommendations is that they are not based on a non-discriminatory, logical, methodologically sound analysis of the issues. I have stated that an argument against human cloning is invalid if it can be generally applied with equal vigour in other similar circumstances, i.e. one must be able to take a more universal point of view of an issue, and should be able in most circumstances to apply this to other similar situations. Many arguments in the AHEC report are invalid for this reason. For example, the UNESCO declaration, which Recommendation 1 supports, is based on human cloning calling into question the uniqueness of human beings. The basis for the UNESCO argument was not examined in the AHEC Report. If it were examined, it would be clear that the argument is invalid as identical twins are more identical and thus less unique than human clones, and we do not ban identical twins.

35. Furthermore, human dignity is not defined, and the subjective nature of any assessment based on human dignity is not discussed. Aside from human safety aspects of somatic cell nuclear transfer technology, there are no valid arguments against reproductive cloning. It is straightforward to reject Recommendation 1.

36. Recommendations 2 and 3 refer to the NHMRC's 'Ethical guidelines on assisted reproductive technology' and in particular Sections 6 and 11 of these guidelines. I only wish to comment against Section 11 of these guidelines. Section 11.2 states that culturing an embryo in vitro for more than 14 days is unethical. Women routinely abort foetuses older than 14 days, and occasionally up to 20 weeks. The reason for limiting this period to only 14 days is unclear, and if it is the destruction of embryos after 14 days that is ethically unacceptable, then abortions after this time should be similarly regarded, but they are not. Non-sentient, brain-dead humans are routinely removed from life support, so a good case needs to be made why a criterion other than sentience should be used in developing a timeframe in which embryos can be used. If not, an ethical and policy inconsistency exists.

37. AHEC notes that three States have legislation prohibiting the cloning of human beings. The legislation in these States seems unduly restrictive and serves only to prevent human therapeutic cloning and research on embryonic stem cells; research which is being pursued in order to prevent illness and cure disease. In order that benefits might flow from medical research, efforts should be made to repeal the legislation in these States.

38. Section 11.3 notes that experimentation to produce two or more genetically identical individuals is unethical. This is unacceptable genetic discrimination. It specifically singles out genetically identical individuals, implying that only individuals who are genetically different are ethically acceptable. Consider if scientists were to alter base pairs in DNA so that numerous individuals were produced with slightly different eye colours. It is difficult to comprehend how changing eye colours would change the ethical acceptability of a process, person or anything else. Should it not be that a person is judged by who they are, and not by their colour, sex, race or genome?

39. To continue this examination of genetic discrimination, what would occur if a couple were to immigrate to Australia and bear a child who was a clone of one of them (where the clone was implanted in the woman's uterus before she arrived in Australia)? The AHEC Report condemns human cloning. How should this child then be treated? Logically, and sensibly, it should be loved as any other child, no matter how it was produced.

40. However, if the AHEC Report were to be accepted as basis for government policy, then this child would realise that the government considers that he or she is unethical; was produced by a process contrary to human dignity; should be confounded by who his or her parents are; realises that he or she is not a descendent of its parents in the normal sense and is a means to an end; should worry about his or her alter ego; and has less worth as a human being. I do not want to tell any child that it is so disadvantaged and the focus of such obvious community and government contempt, because I do not believe it is true. Nobody would believe this statement. Yet the arguments against cloning propose that that is the situation. These AHEC arguments are essentially the same as those used against IVF technology when it was in its infancy, and they are as flawed and irrelevant now as they were then.

41. My analysis supports the view that there is no sound, objective, non-discriminatory, universalisable, non-safety reason to argue against reproductive human cloning. I would therefore recommend that AHEC's Recommendation 4 be adopted and expanded to encourage people to discuss all issues concerned with human cloning, not just those relating to the production of cloned embryos.

### 3. CONCLUSIONS

42. The AHEC Report does not seem to be as rigorous and objective in its consideration of reproductive human cloning issues as it could have been. Its methodology is flawed, and its conclusions seemingly predetermined. Some of its arguments against reproductive human cloning are invalid in an ethical sense, as they can be applied with equal vigour to other similar scenarios that are considered ethically acceptable. Some key terms are not defined.

43. Recommendation 1 should not be supported, as it is genetic discrimination. Similar guidelines and regulation applying to other artificial reproductive technologies such as IVF should also apply to human cloning. Consequences arising from rejecting Recommendation 1, such as reconciling it with Australia's support for the UNESCO declaration, will need to be considered. Recommendations 2 and 3 should not be supported; any State legislation on human embryos should not restrict research aimed at benefiting humans, and the NHMRC guidelines should be amended make them logically consistent with other polices. As noted above, Recommendation 4 should be amended to ensure that debate should occur not only on the therapeutic benefits of cloning techniques, but also on human reproductive cloning.

44. So how should a government act on these recommendations? With regard to human tissue cloning, Dr Gregory Stock, a USA biophysicist, states 'what real-world dangers do we face that might warrant so premature a repudiation of the therapeutic possibilities inherent in these scientific breakthroughs?'. With regard to human reproductive cloning, what is so abhorrent about it that would be an imperative duty for a government to regulate against it, considering the arguments I have presented? In the absence of compelling reasons for regulation, there is no case for regulating against human reproductive cloning.

45. There are more important ethical issues arising from gene technology than those that AHEC was asked to consider, such as how genetic information will be used, and the implications that flow from this. It is these matters, and not relatively straightforward ones such as the ethics

of asexually producing humans with a particular genome, that should be the focus of future AHEC and government activity.

#### 4. BIBLIOGRAPHY

1. Australian Academy of Science, 1999, 'On Human Cloning, a position statement', Australian Academy of Science, 4 Feb.
2. Australian Health Ethics Committee, 1998, 'Scientific, Ethical and Regulatory Considerations Relevant to Cloning of Human Beings', [www.health.gov.au/nhmrc/ethics/clone.pdf](http://www.health.gov.au/nhmrc/ethics/clone.pdf), (accessed 8 Feb. 1999), originally published 16 Dec.
3. Deltapoint inc. 1998, 'Why Clone Human Embryos', [cac.psu.edu/~gsg109/qs/em01003.html](http://cac.psu.edu/~gsg109/qs/em01003.html), (accessed 20 Jan 1998).
4. Human Genome Organisation, 1999, 'Statement on cloning', Media release, 29 Mar.
5. McCarthy, D. 1999, 'Persons and their copies', *Australian Rationalist*, vol. 50, pp. 20–26.
6. Mill, J. S. 1985, *On Liberty*, Penguin, Harmondsworth.
7. Pence, G. E. 1998, *Who's afraid of human cloning*, Rowman & Littlefield, Maryland.
8. Stock, G. 1997, [www.hotwired.com/synapse/braintennis/97/37/index0a.html](http://www.hotwired.com/synapse/braintennis/97/37/index0a.html) (accessed 11 May 1998) originally published 9 July.
9. Swanton, D. J. 1998, 'Human cloning, beyond the hype', *Australian Rationalist*, vol. 47, pp. 22–27.
10. UNESCO 1998, 'Reproductive Human Cloning: Ethical Questions', [www.unesco.org/opi/eng/bio98/](http://www.unesco.org/opi/eng/bio98/), (accessed 1 Aug 1998).
11. Wooldridge, M. 1998, press release, 14 Jan.

David Swanton  
*SWANTON Consulting*  
Canberra