

FURTHER SUBMISSION of the CAROLINE CHISHOLM CENTRE FOR HEALTH ETHICS to the HOUSE OF REPRESENTATIVES STANDING COMMITTEE on LEGAL and CONSTITUTIONAL AFFAIRS on the SCIENTIFIC, ETHICAL AND REGULATORY CONSIDERATIONS RELEVANT TO THE CLONING OF HUMAN BEINGS

Dear Secretary,

After speaking at an International Conference on Pluripotent Stem Cells in France I submit as an exhibit a draft copy of my paper which will be published in the Conference Proceedings. I submit some of the main points I make in my paper. I trust I am not too late for this submission to be considered.

- The definition of an embryo must include organisation. So I suggest the following definition of a human embryo: a *living single-cell, or multicellular, organism which has the inherent **actual potential** to continue species specific, i.e. typical, human development, given a suitable environment.* This does not exclude frozen embryos nor embryos with abnormalities.
- Neither a single ES cell nor a clump of ES cells are the same organised entity as the ICM of the blastocyst from which they were derived.
- Without surrounding trophoblast cells a clump of ES cells could not form a viable organism to begin and continue typical human development.
- A crucial philosophical distinction is to be made between cells that change to *become a human embryo*, and an *embryo that develops* into a fetus and a child. At fertilisation egg and sperm *become* an embryo. The same applies to an egg following parthenogenetic activation.
- An entity is an embryo because of what it is with its actual potential, not because of what it may become. Once an embryo is disaggregated and loses its actual potential for typical development it ceases to exist even if some ES cells live on in culture and multiply.
- The *Infertility Treatment Authority* of Victoria has recently stated: 'For the purposes of the Infertility Treatment Act 1995, ES cells are neither gametes nor embryos.'

With my best wishes for your important work,

Yours sincerely,

Director