

DETAILED ANALYSIS OF CANADIAN BILL C-56:
ASSISTED HUMAN REPRODUCTION ACT

By

Dianne N. Irving, M.A., Ph.D.

Bethesda, MD

May 17, 2002

BRIEF SUMMARY OF MY CONCLUSIONS:

I have reviewed and submitted formal analyses on many national and international legislations on this and related issues [e.g., see my analysis of the Canadian CIHR stem cell report, the British House of Lords cloning bill, the U.S. human cloning bills, etc.]. Of all of the legislations that I have analyzed -- on the basis of the correct science used, the linguistic loopholes employed, and the "genre" of "ethics" assumed -- this Bill is probably the most problematic. Having only reviewed this Bill since May 17, 2002, I would make the following brief conclusions. [More detailed responses can be found in the body of the main text of the Bill.]

Because of the scientific and linguistic problems identified below (a partial list only), it is my recommendation that this Bill should not be passed, even with amendments. In fact, the Bill actually "restricts" very few unacceptable activities. Even the title of this Bill is deceptive, as in fact the Bill concerns far more than just "assisted reproduction". Scientific definitions used in the Bill that are relevant to, e.g., the field of human embryology should be obtained only from academically credentialed human embryologists and/or established human embryology textbooks, and those terms must be in concert with the terms approved of by the international Nomina Embryologica Committee. Particularly because of the use of contradictory "scientific" definitions, the use of erroneous "scientific" definitions (Section 3), the absence of necessary and relevant accurate scientific definitions, the application of those erroneous "scientific" definitions to both "Prohibited" (Section 5 - 9) and "Controlled" activities (Section 10 - 13), and the various linguistic loopholes which advance these problems and inadequacies, this Bill would in fact allow:

1. *In vitro* fertilization (IVF)
2. Almost all forms of human embryo research, including:
 - (a) IVF research
 - (b) Human embryonic stem cell research
 - (c) Cloning of human beings by means of all cloning techniques:
 - Somatic cell nuclear transfer (SCNT)
 - Germ line cell nuclear transfer (GLCNT)
 - Mitochondrial transfer
 - Parthenogenesis
 - Formation of chimeras, mosaics, hybrids
 - Pronuclei transfer
 - "Twinning" (e.g., blastomere separation and blastocyst splitting)
 - Any "demethylation" research involving the production of a human embryo (properly defined)
 - "Cloning through the generations", i.e., the use of DNA-recombinant gene transfer with pronuclei, germ line cells, gametes, embryos, etc. (eugenics)
- (3) Prenatal "selection" (eugenics)
- (4) Normative (i.e., non neutral) "bioethics"
- (5) Invalid procurement of "informed consent"

Nor, in my opinion, could this bill be morally supported by good Catholics because it would constitute *immediate material cooperation* in evil. [*Evangelium Vitae*, 68 – 77, especially 73 and 74; “The Principles Governing Cooperation”, in *Ethical Religious Directives for Catholic Health Care Services*, 1995, p. 29]. It is never morally acceptable to do evil in order to attain some good. The use of erroneous science, and linguistic loopholes which advance this erroneous science, is a direct violation of the natural law and therefore morally unacceptable. It would be morally acceptable to try to change *already existing* unjust laws, or to pass *new* laws which limit the injustice, but only by using *morally acceptable means*. The use of erroneous science and deceptive linguistic loopholes are not morally acceptable means.

COMMENTS ON SECTIONS 1-14, CANADIAN BILL C-56: ASSISTED HUMAN REPRODUCTION ACT

BILL C-56

RECOMMENDATION:

Her Excellency the Governor General recommends to the House of Commons the appropriation of public revenue under the circumstances, in the manner and for the purposes set out in a measure entitled “*An Act respecting assisted human reproduction*”. **[THIS ACT APPLIES TO FAR MORE THAN JUST “ASSISTED REPRODUCTION”. THE TITLE OF THIS BILL OUGHT TO BE CHANGED TO ACCURATELY REFLECT ALL OF THE CONTROVERSIAL ISSUES LUMPED TOGETHER UNDER THIS MISLEADING “TITLE”.]**

SUMMARY:

This enactment prohibits assisted reproduction procedures that are considered to be ethically **[DEPENDS ON WHICH “ETHICS” ONE IS USING.]** unacceptable. Other types of assisted reproduction procedures are prohibited unless carried out in accordance with a licence and the regulations, which will address health and safety concerns. The creation and use of embryos for research purposes is also addressed. A privacy regime governs the collection, use and disclosure of health reporting information.

The enactment creates the Assisted Human Reproduction Agency of Canada. The Agency will provide advice to the Minister of Health on the matters governed by the enactment. It will also be responsible for the issuance and review of licences, the collection and analysis of health reporting information, inspections and the enforcement of the enactment.

The enactment creates offences for contravention of the provisions of the enactment, the regulations made under it or the terms and conditions of a licence.

BILL C-56:

1st Session, 37th
Parliament,
49-50-51 Elizabeth II,
2001-2002

House of Commons of Canada

BILL C-56

An Act respecting assisted human reproduction

Her Majesty, by and with the advice and consent of the

Senate and House of Commons of Canada, enacts as follows:

SHORT TITLE

Short title

1. This Act may be cited as the *Assisted Human Reproduction Act*. [VERY MISLEADING TITLE.]

PRINCIPLES

Declaration

2. The Parliament of Canada recognizes and declares that

(a) the benefits [USE OF RISK/BENEFIT ANALYSIS = BIOETHICS UTILITARIANISM] of assisted human reproductive technologies and related research for individuals and for society in general can be most effectively secured by taking appropriate measures for the protection and promotion of human [“HUMAN” MUST INCLUDE THE HUMAN EMBRYO, DEFINED AS BEGINNING TO EXIST FROM PENETRATION (SEXUAL REPRODUCTION) OR AS THE IMMEDIATE PRODUCT OF A-SEXUAL REPRODUCTION.

-- THE BILL DOES NOT DISTINGUISH BETWEEN SEXUAL REPRODUCTION (E.G., NORMAL *IN VIVO* AND ARTIFICIAL *IN VITRO* FERTILIZATION), AND A-SEXUAL REPRODUCTION [E.G., ALL CLONING TECHNIQUES – “TWINNING” OR FISSION (I.E., BLASOMERE SEPARATION AND BLASTOCYST SPLITTING), SOMATIC CELL NUCLEAR TRANSFER (SCNT), GERM LINE NUCLEAR TRANSFER (GLNT), PARTHENOGENESIS, USE OF PRONUCLEI, ALL DEMETHYLATION EXPERIMENTS THAT COULD RESULT IN A VIABLE HUMAN ZYGOTE OR OLDER EMBRYO, DNA-RECOMBINANT GENE RESEARCH OR “THERAPY”, MITOCHONDRIAL CLONING, ETC.

-- ALL PROBLEMATIC TERMS IN THE ENGLISH VERSION SHOULD BE CAREFULLY CHECKED IN THE FRENCH VERSION.] health, safety, dignity and rights in the use of these technologies and in related research;

(b) the health and well-being of children born [THIS BILL WOULD NOT PROTECT UNBORN CHILDREN?] through the application of these technologies must be given priority in all decisions respecting their use;

(c) while all persons [NEVER TAKE THE DEFINITION OF “PERSON” FOR GRANTED. THE WRONG DEFINITION OF “PERSON” COULD NOW OR LATER EXCLUDE ANY AND ALL STAGES OF THE UNBORN HUMAN, YOUNG HUMAN CHILDREN, AND ADULT HUMAN BEINGS WHO ARE NOT ACTIVELY EXERCISING “RATIONAL ATTRIBUTES” AND/OR “SENTIENCE”. IT COULD INCLUDE NON-HUMAN ANIMALS, E.G., APES, DOGS, THE HIGHER PRIMATES, ETC., PACE PETER SINGER ET AL.] are affected by these technologies, women more than men are directly and significantly affected by their application;

(d) the principle of free and informed consent [ONE OF THE MOST SUCCESSFUL RESPONSES TO THIS BILL WOULD BE TO

CLEARLY INDICATE HOW WOMEN (AND MEN) ARE PRECLUDED FROM GIVING TRULY LEGALLY VALID “INFORMED AND FREE CONSENT” IF THEY ARE NOT PROVIDED THE ACCURATE SCIENTIFIC FACTS – AND THAT WOULD INCLUDE THE SCIENTIFICALLY ERRONEOUS “DEFINITIONS” USED IN THIS BILL, AS WELL AS THOSE ITEMS THAT SHOULD HAVE BEEN INCLUDED IN THE BILL BUT WERE NOT.] must be promoted and applied as a fundamental condition of the use of human reproductive technologies;

(e) trade in the reproductive capacities of women and men and the exploitation of children, women and men for commercial ends raise health and ethical [HOW DO THEY DEFINE “ETHICS”? AS I RECALL, IT IS IN TERMS OF BIOETHICS PRINCIPALISM (I.E., AUTONOMY, JUSTICE AND BENEFICENCE – AS THOSE TERMS ARE MIS-DEFINED IN THE BELMONT REPORT!] concerns that justify their prohibition; and

(f) human individuality [MANY “DELAYED PERSONHOOD” ARGUMENTS CLAIM THAT BEFORE “X” BIOLOGICAL MARKER EVENT THERE IS NO HUMAN “INDIVIDUAL” – AND THEREFORE THE HUMAN EMBRYO OR FETUS HAS A “REDUCED MORAL STATUS”.] and diversity, and the integrity of the human genome, must be preserved and protected.

INTERPRETATION AND APPLICATION

Definitions

3. The following definitions apply in this Act.

[-- NOTE, AS USUAL, THERE IS NO DEFINITION FOR A “HUMAN BEING” GIVEN, YET THE TERM IS USED THROUGHOUT THE BILL IN SELECTIVE WAYS. THIS BILL DOES DEFINE WHEN A HUMAN EMBRYO BEGINS, I.E., AFTER FERTILIZATION. THIS WOULD THUS ALLOW RESEARCH ON THE EMBRYO BEFORE THE FORMATION OF THE ZYGOTE (DISCUSSED BELOW).

-- THERE IS ALSO NO DEFINITION OF THE TECHNIQUE OF “CLONING” THAT THIS BILL IS SUPPOSED TO COVER. THIS IS A SERIOUS OMISSION. THE DEBATES HAVE BEEN FALSELY FRAMED ONLY IN TERMS OF: (a) A DISTINCTION BETWEEN “THERAPEUTIC” AND “REPRODUCTIVE” CLONING; AND, (b) THE USE OF SOMATIC CELL NUCLEAR TRANSFER (SCNT) TECHNIQUE ONLY.

(a) WHILE IT IS TRUE THAT THE DISTINCTION BETWEEN “THERAPEUTIC” AND “REPRODUCTIVE” CLONING IS A FALSE DISTINCTION – I.E., ONLY A DISTINCTION BETWEEN THE PURPOSES OR INTENTIONS OF THE RESEARCHERS WHO ARE PRODUCING THESE EMBRYOS – THAT IS NOT THE REALLY CRITICAL ISSUE.

(b) THE REALLY CRITICAL ISSUE IS THAT THERE ARE MANY FORMS OR TECHNIQUES OF CLONING – NOT JUST THE SCNT CLONING TECHNIQUE. ALL OF THESE CLONING TECHNIQUES COULD PRODUCE A NEW GENETICALLY UNIQUE LIVING HUMAN BEING. ALL OF THESE CLONING TECHNIQUES SHOULD BE BANNED AND PROHIBITED. THAT IS, SCNT IS ONLY ONE “FORM” OR TECHNIQUE OF HUMAN CLONING THAT SHOULD BE BANNED. IF A BILL DOES NOT INCLUDE ALL THE OTHER FORMS OF CLONING, THEN THE BILL DOES NOT APPLY TO IT.

-- EXAMPLES OF OTHER FORMS OF CLONING INCLUDE: NUCLEAR TRANSFER USING DIPLOID PRIMITIVE OR IMMATURE GERM LINE CELLS (CALLED GERM LINE CELL NUCLEAR TRANSFER, OR GLCNT); "TWINNING" WHICH IS CALLED "FISSION" (E.G., BLASOMERE SEPARATION AND BLASTOCYST SPLITTING – MUCH DESIRED WITHIN THE IVF INDUSTRY); PARTENOGENESIS; ANY DE-METHYLATION (DE-DIFFERENTIATION) EXPERIMENTS IN WHICH A NEW HUMAN EMBRYO IS FORMED; THE LATEST INTEREST IN USING INDIVIDUAL MALE AND/OR FEMALE PRONUCLEI (HUMAN OR NON-HUMAN) TO CLONE; DNA-RECOMBINANT GERM LINE GENE TRANSFER (AND PERHAPS SOMATIC CELL GENE TRANSFER IF THE GERM LINE CELLS BECOME TRANSFECTED TOO); AND MITOCHONDRIAL CLONING. ALL THESE FORMS OR TECHNIQUES OF CLONING SHOULD BE BANNED IF IT INVOLVES THE DESTRUCTION OF A LIVING HUMAN EMBRYO, OR IF IT INVOLVES NEGATIVE EUGENICS. NONE OF THESE CLONING TECHNIQUES ARE SPECIFICALLY MENTIONED IN THIS BILL, AND THUS THEY WOULD NOT BE PROHIBITED BY IT.]

-- AS DISCUSSED BELOW, IF SCNT IS MISDEFINED IN THIS OR ANY OTHER BILL OR REGULATION, THEN EVEN REAL SCNT CLONING WOULD NOT BE BANNED OR PROHIBITED.

``Agency"
« Agence »

#1 ``Agency" means the Assisted Human Reproduction Agency of Canada established by subsection 21(1).

``assisted reproduction
procedure"
« technique de
procréation assistée »

#2 ``assisted reproduction procedure" means any controlled activity referred to in section 10 [IF LANGUAGE OF A BILL DOES NOT SPECIFICALLY INCLUDE CERTAIN ITEMS, THEN THOSE ITEMS AND THE ACTIVITIES TO WHICH THEY REFER ARE NOT NOT NOT NOT NOT COVERED BY THE BILL. SIMILARLY, IF A TERM IS MISDEFINED IN A BILL, THEN THE REAL ACTIVITY AS ACCURATELY DEFINED IS ALSO NOT COVERED.

EXAMPLE: IF SOMATIC CELL NUCLEAR TRANSFER (SCNT) IS MISDEFINED IN THE BILL AS "PRODUCING AN EXACT GENETIC COPY OF THE DONOR", THEN THE BILL WOULD NOT APPLY TO THE REAL ACTIVITY OF SOMATIC CELL NUCLEAR TRANSFER. (THE PRODUCT OF SCNT IS NOT GENETICALLY IDENTICAL BECAUSE IT CONTAINS FOREIGN MITOCHONDRIAL DNA FROM THE ENUCLEATED OOCYTE, AND BECAUSE IT DOES NOT CONTAIN THE MITOCHONDRIAL DNA FROM THE DONOR CELL.)] that is performed for the purpose of creating a human being. [WHAT IF THERE IS SOME OTHER "PURPOSE"? IT WOULD NOT BE COVERED BY THIS BILL.]

``chimera"
« chimère »

#3 ``chimera" means [THE DEFINITION USED HERE IS A VERY RESTRICTED DEFINITION OF "CHIMERA", AND THUS OTHER KINDS OF HUMAN CHIMERA RESEARCH WOULD NOT BE COVERED BY THIS BILL.

-- ALSO, THE BILL DOES NOT INCLUDE ANY DEFINITION OF A "MOAIC", WHICH IS DIFFERENT FROM A "CHIMERA", THUS MOAIC RESEARCH WOULD NOT BE COVERED BY THIS BILL.

-- AND THE DEFINITION USED HERE OF A "CHIMERA" DOES NOT

ACCURATELY OR ADEQUATELY DISTINGUISH A CHIMERA FROM A HYBRID. THESE “ENTITIES” ARE OFTEN USED IN TRANSGENIC RESEARCH, USUALLY INVOLVING DNA-RECOMBINANT GENE TECHNIQUES – WHICH ARE USED FOR EUGENIC PURPOSES, ESPECIALLY IF THEY INVOLVE PRIMITIVE GERM LINE CELLS, MATURE GAMETES, OR EARLY EMBRYOS.]

(a) an embryo [QUESTIONABLE DEFINITION OF “EMBRYO” BELOW, AS IT IMPLIES A MULTI-CELLULAR ORGANISM. THUS IT WOULD NOT INCLUDE THE SINGLE-CELL HUMAN ZYGOTE/EMBRYO.

-- ESPECIALLY NOTE THE “EXCEPTION”, I.E., EMBRYOS IN A DEVELOPMENTALLY SUSPENDED STATE.

-- ALSO, DOES NOT SEEM TO INCLUDE THE EMBRYO BEFORE THE FORMATION OF THE SINGLE-CELL EMBRYO/ZYGOTE. A GREAT DEAL OF RESEARCH TAKES PLACE ON THE SINGLE-CELL EMBRYO BEFORE SYNGAMY, ESPECIALLY WITH THE MALE AND FEMALE PRONUCLEI. SUCH RESEARCH WOULD THEREFORE NOT BE EXCLUDED BY THIS BILL. NOR, IT SEEMS WOULD RESEARCH USING THE SINGLE-CELL EMBRYO/ZYGOTE.] into which a cell of any non-human life form has been introduced [THIS WOULD NOT INCLUDE AN EMBRYO INTO WHICH A CELL OF A HUMAN LIFE FORM HAS BEEN INTRODUCED, THEREFORE SUCH RESEARCH WOULD NOT BE COVERED BY THIS BILL.]; or

(b) an embryo [*IBID.*] that consists of cells of more than one embryo, foetus or human being.

“consent”
« *consentement* »

#4 “consent” means fully informed [THIS IS ONE ISSUE THAT NEEDS TO BE USED AND EMPHASIZED TO THE PUBLIC. IF THE DEFINITIONS USED IN THIS BILL, OR IN ANY LITERATURE/PRESENTATIONS GIVEN TO THE DONORS, ARE ERRONEOUS, OR DEFICIENT, THEN THIS PRECLUDES ANYONE FROM BEING “FULLY INFORMED”, AND THUS THEIR “INFORMED CONSENT” IS INVALID.] and freely given [THE OBVIOUS ISSUE HERE IS WHETHER CHILDREN, TEENAGERS, OR THE MENTALLY/PHYSICALLY INCOMPETENT CAN REALLY GIVE LEGALLY VALID INFORMED CONSENT IF THEY ARE SO COMPROMISED – I.E., THEY WOULD NOT BE TRULY “FREE”. THE ELEMENTS OF BOTH “INFORMATION” AND “FREE CONSENT” WOULD BE VERY SIGNIFICANTLY MISSING IN SOME ISSUES NOTED IN THIS BILL BELOW, E.G., OBTAINING “REPRODUCTIVE MATERIALS” FROM DONORS.] consent that is given in accordance with the applicable law governing consent.

“controlled activity”
« *activité réglementée* »

#5 “controlled activity” means an activity that may not be undertaken except in accordance with sections 10 to 12. [AS ALWAYS, IF SOMETHING IS NOT SPECIFICALLY INCLUDED IN SECTIONS 10 TO 12, THEN THIS BILL DOES NOT APPLY TO IT.]

“donor”
« *donneur* »

#6 “donor” means

(a) in relation to human reproductive material, the individual

[ONE WOULD HOPE THAT THE TERM “INDIVIDUAL” USED HERE INCLUDES THE INDIVIDUAL HUMAN EMBRYO – PRODUCED SEXUALLY OR A-SEXUALLY -- FROM WHICH STEM CELLS OR OTHER MOLECULES ARE DERIVED!] from whose body it was obtained, whether for consideration or not; and

(b) in relation to an *in vitro* embryo [THIS TERM “*IN VITRO* EMBRYO” WOULD PROBABLY NOT INCLUDE AN EMBRYO THAT IS STILL IN THE FROZEN STATE! NOTE AGAIN THE DEFINITION BELOW OF “EMBRYO”, WHICH WOULD NOT INCLUDE THE ORGANISM BEFORE THE FORMATION OF THE ZYGOTE.], a donor as defined in the regulations. [JUST HOW IS AN “*IN VITRO* EMBRYO” DEFINED IN THE REGULATIONS? AS YOU PROBABLY KNOW, THE ERRONEOUS SCIENCE USED AND CONCRETIZED IN FORMER “REGULATIONS”, “GUIDELINES”, “LAWS”, “REPORTS”, ETC., IS BEING PERPETUATED. SAME WITH DEFINITIONS IN THOSE DOCUMENTS OF “ETHICS”, ETC. IT IS LIKE *STARI DECISIS*; ONCE THE ERROR IS ACCEPTED IN THE LEGISLATION, THE COURTS ARE NOT REQUIRED TO CORRECT THE SCIENTIFIC OR ETHICAL ERRORS, BUT SIMPLY LEGALLY REQUIRED TO APPLY THIS AS “LEGAL PRECEDENT” – ERRORS AND ALL. MAJOR PROBLEM, THAT NO ONE IS ADDRESSING. EVERY “COMPROMISE” IN THE CORRECT SCIENCE OR IN THE ETHICS TAKES US BACKWARDS BECAUSE OF *STARI DECISIS*. NOW WE HAVE TO GO BACK AND CHALLENGE ALL THOSE DOCUMENTS, AND WHO IS WILLING TO DO THAT?]

``embryo"
« *embryon* »

#7 ``embryo" means a human organism during the first 56 days of its development following fertilization [NOTE THAT THIS DEFINITION WOULD NOT APPLY TO THE EMBRYO PRODUCED FROM THE TIME OF PENETRATION UNTIL AFTER THE FORMATION OF THE ZYGOTE, AND THUS THESE EMBRYOS COULD BE USED IN ANY RESEARCH. O’RAHILLY DEFINES THE “EMBRYO” AS BEGINNING BEFORE SYNGAMY (SYNGAMY REFERS TO THE CROSSING-OVER OF THE MATERNAL AND PATERNAL CHROMOSOMES), I.E., WITH THE FORMATION OF THE TWO PRONUCLLEI. CARLSON DEFINES THE “EMBRYO” AS BEGINNING AT THE FUSION OF THE SPERM AND OOCYTE (OR, PENETRATION).] or creation [CAUTION AS TO JUST HOW LONG AFTER THE “CREATION” OF THE ZYGOTE IS MEANT HERE FOR A-SEXUAL REPRODUCTION, I.E., HOW LONG A TIME PERIOD IS “FOLLOWING” CREATION? AND THE TERM “CREATION” ITSELF SHOULD NOT BE ALLOWED TO BE USED HERE.], excluding [ALWAYS ALWAYS ALWAYS CHECK THE “EXCLUSIONS” AND “EXCEPTIONS”. HERE, THE BILL EXCLUDES PROTECTION FOR THE EMBRYO DURING ANY SUSPENSION OF ITS GROWTH – WHICH COULD REFER TO THE EMBRYO IN A FROZEN STATE, OR ALSO TO AN EMBRYO IN AN *IN VITRO* MEDIUM CONTAINING INGREDIENTS WHICH WOULD SUSPEND GROWTH. IN SUCH CIRCUMSTANCES THIS BILL WOULD NOT APPLY TO THAT RESEARCH.] any time during which its development has been suspended, and includes any cell derived from such an organism [THIS IS SCIENTIFICALLY ERRONEOUS. A

TOTIPOTENT CELL OF AN EARLY EMBRYO IS NOT AN EMBRYO! IT IS A CELL. PERIOD. IT MIGHT COULD POSSIBLY PERHAPS MAYBE BE REVERTED TO A NEW HUMAN EMBRYO IF IF IF IF IF REGULATION KICKS IN AND IF IF IF IF REGULATION IS SUCCESSFUL. BUT FOR THEM TO DEFINE A TOTIPOTENT CELL OF AN EMBRYO AS AN EMBRYO IS RIDICULOUS. CAN'T IMAGINE WHAT THEY MEAN OR WHY THEY ARE DOING THIS.] that is used for the purpose of creating a human being. [WHAT IF THERE ARE OTHER PURPOSES? THEY WOULD NOT BE COVERED BY THIS BILL.]

``foetus"
« *foetus* »

#8 ``foetus" means a human organism during the period of its development beginning on the fifty-seventh day following fertilization or creation, excluding any time during which its development has been suspended, and ending at birth. [NO, BECAUSE OF "FOLLOWING FERTILIZATION".]

``gene"
« *gène* »

#9 ``gene" includes a nucleotide sequence, and an artificially created gene or nucleotide sequence. [KEEP IN MIND THAT THERE ARE RNA NUCLEOTIDE SEQUENCES, AND DNA NUCLEOTIDE SEQUENCES – BOTH COULD BE DEFINED AS "GENETIC MATERIAL"! MANY OF THE VIRUS THEY USE IN DNA-RECOMBINANT RESEARCH ARE RNA VIRUSES, AND IF THEIR "GENOME" IS INCORPORATED INTO A HUMAN SPERM, OOCYTE OR EMBRYO, THAT RNA GENETIC MATERIAL WILL THUS BE INCORPORATED INTO THE EMBRYO'S OWN PRIMITIVE GERM LINE CELLS, AND PASSED DOWN THROUGH THE GENERATIONS (EUGENICS). SO NEED TO BE AWARE OF BOTH RNA AND DNA AS "GENETIC MATERIAL". REMEMBER TOO THAT "GENETIC MATERIAL" APPLIES TO DNA OR RNA INSIDE THE NUCLEUS IN THE CHROMOSOMES, AS WELL AS TO DNA OR RNA OUTSIDE THE NUCLEUS IN THE CYTOPLASM, ESPECIALLY MITOCHONDRIAL DNA. THERE IS GREAT INTEREST IN DOING MITOCHONDRIAL DNA RESEARCH NOW, AS THERE ARE MANY DEADLY HUMAN DISEASES WHICH ARE CAUSED BY ERRORS IN THE MITOCHONDRIAL DNA. MANY INTERNATIONAL WEB SITES CAN BE FOUND ON MITOCHONDRIAL DNA-CAUSED DISEASES IN HUMANS.]

``genome"
« *génom*e »

#10 ``genome" means the totality of the deoxyribonucleic acid sequence of a particular cell. [THIS SHOULD INCLUDE BOTH NUCLEAR AND MITOCHONDRIAL DNA. AS DEFINED HERE, IT WOULD NOT INCLUDE ANY RNA, ESPECIALLY THAT OF NON-HUMAN ENTITIES IN WHICH RNA IS THEIR ONLY KIND OF GENETIC MATERIAL. NOTE TOO THAT THE GENOME PROJECT DID NOT INCLUDE MAPPING OF MITOCHONDRIAL DNA, NOR OF THE "NONSENSE" DNA FOUND IN THE INTRON SECTION OF A CHROMOSOME. IS THIS INTRON-DNA INCLUDED IN THIS DEFINITION?]

``health reporting
information"
« *renseigneme nt médical*
»

#11 ``health reporting information" means information provided under this Act respecting [I HOPE PEOPLE KNOW WHAT THEY ARE DOING BY GIVING THE GOVERNMENT AND UNKNOWN OTHERS ALL OF THIS GENETIC AND REPRODUCTIVE INFORMATION! ASSURANCES MADE TODAY CAN CHANGE DRASTICALLY TOMORROW (NOTE THE PRIVACY CHANGES HERE IN THE U.S. AFTER SEPT. 11; QUITE DRASTIC CHANGES.)

(a) the identity, personal characteristics, genetic information and medical history of donors of human reproductive material and *in vitro* embryos, persons who have undergone assisted reproduction procedures and persons who were conceived by means of those procedures; and

(b) the custody of donated human reproductive materials and *in vitro* embryos and the uses that are made of them.

``human clone"
« *clone humain* »

#12 ``human clone" means an embryo [NOTE PROBLEM WITH THIS DEFINITION, ABOVE.] that, as a result of the manipulation of human reproductive material or an *in vitro* embryo [NOTE PROBLEM WITH THIS DEFINITION, BELOW.], contains the same nuclear deoxyribonucleic acid as is found in the cell of a living or deceased human being, foetus or other embryo. [THEY HAVE RESTRICTED THIS DEFINITION TO AN EMBRYO CONTAINING "THE SAME NUCLEAR DNA". THIS IS AN INCOMPLETE DEFINITION OF "SCNT". WHILE IT IS TRUE THAT IN SCNT THE PRODUCT CONTAINS THE "SAME NUCLEAR DNA" AS THE DONOR, THE PRODUCT ALSO CONTAINS THE MITOCHONDRIAL DNA OF THE ENUCLEATED OOCYTE AND DOES NOT CONTAIN THE MITOCHONDRIAL DNA OF THE DONOR. THEREFORE THIS BILL WOULD ACTUALLY ALLOW REAL SCNT BECAUSE IT DOES NOT INCLUDE IN ITS DEFINITION THE PRESENCE OR LACK OF MITOCHONDRIAL DNA IN THE PRODUCT OF SCNT.

-- IT WOULD NOT APPLY TO THE HUMAN EMBRYOS PRODUCED BY MOST OF THE OTHER CLONING TECHNIQUES LISTED AT THE BEGINNING OF THIS COMMENTARY.

-- IT WOULD ALSO NOT INCLUDE A HUMAN EMBRYO PRODUCED BY DNA-RECOMBINANT GENE TECHNIQUES IN WHICH FOREIGN RNA GENETIC MATERIAL IS INTRODUCED INTO THE EMBRYO CLONED.

-- TO WHAT DOES "OR OTHER EMBRYO" REFER? DOES IT REFER TO A NON-HUMAN EMBRYO, OR TO A CHIMERA OR MOSAIC, ETC.??]

``human reproductive material"
« *matériel reproductif humain* »

#13 ``human reproductive material" means a sperm, ovum or other human cell or a human gene, and includes a part of any of them. [I THINK THIS DOES APPLY TO PRONUCLEI.]

``hybrid"
« *hybride* »

#14 ``hybrid" means [SOME OF THESE DEFINITIONS OVERLAP WITH THEIR DEFINITION OF A CHIMERA (ABOVE); NO DEFINITION OR DISCUSSION OF HUMAN "MOSAICS".]

(a) a human ovum that has been fertilized by a sperm of a non-human life form;

(b) an ovum of a non-human life form that has been fertilized by a human sperm; [PERHAPS THEY DON'T REALIZE THIS, BUT THIS WOULD PRECLUDE THE USE OF THE "HAMSTER TEST", ONE OF THE MOST COMMON TESTS FOR MALE INFERTILITY. IN THIS TEST, A HAMSTER OOCYTE IS FERTILIZED BY A HUMAN SPERM – THUS CREATING A HUMAN/ANIMAL CHIMERA! THIS MALE INFERTILITY TEST IS USUALLY STATED AS AN "EXCEPTION" IN MANY INTERNATIONAL GUIDELINES FOR HUMAN EMBRYO RESEARCH!]

(c) a human ovum into which the nucleus of a cell of a non-human life form has been introduced;

(d) an ovum of a non-human life form into which the nucleus of a human cell has been introduced; or

(e) a human ovum or an ovum of a non-human life form that otherwise contains haploid sets of chromosomes from both a human being and a non-human life form. [WOULD NOT INCLUDE DIPLOID SETS OF CHROMOSOMES FROM BOTH A HUMAN BEING OR FROM A NON-HUMAN LIFE FORM. WOULD ALSO NOT INCLUDE HAPLOID OR DIPLOID SETS OF CHROMOSOMES FROM TWO DIFFERENT HUMAN BEINGS.]

``in vitro embryo"
« *embryon in vitro* »

#15 ``*in vitro embryo*" means an embryo that exists outside the body of a human being. [WOULD NOT INCLUDE IVF-PRODUCED OR CLONED HUMAN EMBRYOS IMPLANTED IN THE BODY OF NON-HUMAN SURROGATES (E.G., APES).

``licence"
« *autorisation* »

#16 ``*licence*" means a licence issued in respect of a controlled activity or premises [WHAT ARE "PREMISES"? WHAT KIND OF DEFINITIONS ARE THERE?] under section 40.

``Minister"
« *ministre* »

#17 ``*Minister*" means the Minister of Health.

``ovum"
« *ovule* »

#18 ``*ovum*" means a human ovum, whether mature or not. [SHOULD STATE, "WHETHER DIPLOID OR HAPLOID". NOTE: THERE IS REALLY NO SUCH THING AS A HAPLOID OVUM, BECAUSE THE SECONDARY OOCYTE REMAINS DIPLOID UNLESS AND UNTIL IT IS FERTILIZED BY A SPERM! THAT IS, UNLESS THE SECONDARY OOCYTE IS FERTILIZED, IT REMAINS DIPLOID, AND THEREFORE COULD BE CLONED.]

``sperm"
« *spermatozoï de* »

#19 ``*sperm*" means a human sperm, whether mature or not. [SHOULD STATE, "WHETHER DIPLOID OR HAPLOID", RATHER THAN "WHETHER MATURE OR NOT". SPERM REMAIN DIPLOID UNTIL AFTER PUBERTY AND BEYOND. BEFORE PUBERTY THESE GERM CELLS ARE STILL DIPLOID (AND THEREFORE CAN BE CLONED).]

``surrogate mother"
« *mère porteuse* »

#20 ``*surrogate mother*" means a female person [DON'T LAUGH, BUT THE SUDDEN USE OF THE TERM "PERSON" HERE SHOULD BE CLARIFIED. E.G., SINGER *ET AL* DEFINE THE HIGHER PRIMATES, INCLUDING APES, ORANGUTANGS, ETC., AS "PERSONS", AND THERE HAS BEEN CONCERN FOR MANY YEARS ABOUT RESEARCH IN WHICH THESE NON-HUMANS COULD BE USED AS "SURROGATES" FOR INCUBATING HUMAN EMBRYOS, OR HUMAN/ANIMAL CHIMERAS, ETC. A REPORT OF SUCH RESEARCH BY THE ACTUAL SCIENTIFIC INVESTIGATOR CAN BE FOUND IN JAY KATZ'S CLASSIC 1972 TEXT, *HUMAN EXPERIMENTATION*.] who carries an embryo or foetus derived from the genes of a donor or donors with the intention of surrendering the child at birth to a donor or another person [SO, HOW IS THIS "PERSON" DEFINED, TOO?].

Her Majesty bound

4. This Act is binding on Her Majesty in right of Canada or a province.

PROHIBITED ACTIVITIES

[ALL OF THE PROBLEMATIC TERMS ABOVE MUST NOW BE TRACED THROUGHOUT THE REST OF THIS BILL, AS WELL AS IN THEIR REGULATIONS, ETC. – AND SUCH ERRONEOUS TERMS MUST BE CHANGED WHEREEVER THEY ARE USED. I WILL NOT REPEAT MY COMMENTS FROM ABOVE, BUT SIMPLY MARK PLACES WHICH NEED ATTENTION WITH A TRIPLE ASTERIK ***, INDICATING THAT THE ISSUE HAS BEEN ADDRESSED ABOVE

(ESPECIALLY IN THE “DEFINITIONS” SECTION).]

- Prohibited procedures
5. (1) No person shall knowingly
- (a) create a *** human clone *** [USING ANY CLONING TECHNIQUE!], or transplant a human clone [WHAT ABOUT TRANSPLANTING A NON-HUMAN CLONE?] into a human being [WHAT ABOUT INTO A NON-HUMAN ANIMAL?];
- (b) create an *** *in vitro* embryo *** for any purpose other than creating a human being [SO, IT IS PERMITTED TO CLONE HUMAN EMBRYOS FOR “THERAPEUTIC” AND “REPRODUCTIVE” PURPOSES, AND USE ANY AND ALL CLONING TECHNIQUES] or improving or providing instruction in assisted reproduction procedures [SO, HUMAN EMBRYO RESEARCH, HUMAN CLONING RESEARCH, AND IVF RESEARCH – IN WHICH LIVING HUMAN BEINGS ARE DESTROYED – IS PERMITTED.];
- (c) for the purpose of creating a human being [I.E., FOR USE IN BOTH “THERAPEUTIC” AND “REPRODUCTIVE” RESEARCH?], create an *** embryo*** from a cell or part of a cell taken from an embryo or foetus or transplant an ***embryo*** so created into a human being;
- (d) maintain an ***embryo*** outside the body of a woman after the fourteenth day of its development [TOTALLY ARBITRARY MARKER THAT OUGHT NOT TO BE ALLOWED] following ***fertilization or creation***, excluding any time during which its development has been ***suspended***;
- (e) for the ***purpose of creating a human being***, perform any procedure or provide, prescribe or administer any thing that would ensure or increase the probability that an embryo will be of a particular sex, or that would identify the sex of an *** *in vitro* embryo***, except to prevent [I.E., KILL?], diagnose or treat a sex-linked disorder or disease;
- (f) alter the ***genome*** of a cell of a human being or *** *in vitro* embryo*** such that the alteration is capable of being transmitted to descendants; [ESPECIALLY RELEVANT FOR DNA-RECOMBINANT GENE TRANSFER TECHNIQUES, AND “TRANSGENIC” EXPERIMENTS USING HUMANS.
- IT IS ASSUMED THAT SOMATIC CELL GENE THERAPY (USING RECOMBINANT TECHNIQUES) INSERTS THE FOREIGN GENE (WHICH COULD BE DNA OR RNA) ONLY INTO SOMATIC CELLS, AND THAT GERM LINE CELLS ARE NOT AFFECTED. HOWEVER, THIS HAS NOT BEEN SCIENTIFICALLY PROVEN, TO MY KNOWLEDGE, AND IT IS STILL POSSIBLE THAT SOME FOREIGN GENETIC MATERIAL COULD FIND ITS WAY TO A PATIENT’S GERM LINE CELLS. IF THIS DOES HAPPEN, THEN WE ARE ALSO REALLY TALKING ABOUT GERM LINE GENE THERAPY AS WELL.
- GERM LINE GENE THERAPY IS DEFINITELY, BY DEFINITION, EUGENIC, AND SO DEFINED AS EUGENIC IN THE CURRENT HUMAN MOLECULAR GENETICS TEXTBOOKS. THIS IS WHAT I CALL “CLONING THROUGH

THE GENERATIONS”, BECAUSE ANY FOREIGN MATERIALS CAN BE PASSED DOWN THROUGH THE GENERATIONS IF HUMAN GERM CELLS, EARLY HUMAN EMBRYOS OR EVEN HUMAN SOMATIC CELLS (*IN VIVO* TREATMENTS GONE BAD) ARE TRANSFIXED. THIS IS WHY GENE “THERAPY” SHOULD BE CLASSIFIED AS A CLONING TECHNIQUE.]

(g) transplant a sperm, ovum, embryo or foetus of a non-human life form into a human being; [WOULD NOT INCLUDE TRANSPLANTING HUMAN OR NON-HUMAN PRONUCLEI INTO A HUMAN BEING – AND ONE EXAMPLE OF A HUMAN BEING IS THE SINGLE-CELL HUMAN ZYGOTE, OR EVEN THE EMBRYO BEFORE THE FORMATION OF THE ZYGOTE.]

(h) for the ***purpose of creating a human being***, make use of any human reproductive material or an *** *in vitro* embryo*** that is or was transplanted into a non-human life form; [YES, E.G., AN APE.]

(i) create a ***chimera***, or transplant a chimera into either a human being or a non-human life form; or [WHAT ABOUT USING A MOSAIC, ONE THAT IS HUMAN/HUMAN, OR HUMAN/ANIMAL?]

(j) create a ***hybrid*** for the purpose of reproduction [BUT IT’S OK TO CREATE A HYBRID FOR THE PURPOSE OF RESEARCH?], or transplant a hybrid into either a human being or a non-human life form.

Offers	(2) No person shall offer to do, or advertise the doing of, anything prohibited by this section. [BUT IT’S OK IF NOT EXPLICITLY STATED IN HIS BILL. THIS IS WHERE THE “ERRORS” ABOVE SLIP IN.]
Payment for prohibited act	(3) No person shall pay or offer to pay consideration to any person for doing anything prohibited by this section.
Payment for surrogacy	6. (1) No person shall pay consideration to a female person [COULD REFER TO A FEMALE APE] to become a surrogate mother, offer to pay such consideration or advertise that it will be paid.
Acting as intermediary	(2) No person shall accept consideration for arranging for the services of a surrogate mother, offer to make such an arrangement for consideration or advertise the arranging of such services.
Payment to intermediaries	(3) No person shall pay consideration to another person to arrange for the services of a surrogate mother, offer to pay such consideration or advertise the payment of it.
Minors as surrogates	(4) No person shall counsel or induce a female person to become a surrogate mother, or perform any medical procedure to assist a female person to become a surrogate mother, knowing or having reason to believe that the female person is under 18 years of age. [IMPORTANT ISSUE HERE IS ABILITY TO GIVE INFORMED CONSENT, OR FOR FAMILY/FRIENDS, ETC. TO GIVE PROXY CONSENT, OR FOR CHILD TO GIVE “ASSENT” (A DUBIOUS TERM).]
Purchase of gametes	7. (1) No person shall purchase, offer to purchase or advertise for the purchase of sperm or ova from a donor or a person acting on behalf of a donor.
Purchase or sale of embryos	(2) No person shall (a) purchase, offer to purchase or advertise for the purchase of an ***

in vitro embryo***; or

(b) sell, offer for sale or advertise for sale an *** *in vitro* embryo***.

Purchase of other reproductive material	(3) No person shall purchase, offer to purchase or advertise for the purchase of a human cell or gene from a donor or a person acting on behalf of a donor, with the intention of using the gene or cell to create a human being or of making it available for that purpose.
Exchanges included	(4) In this section, ``purchase" or ``sell" includes to acquire or dispose of in exchange for property or services.
Use of reproductive material without consent	8. (1) No person shall make use of ***human reproductive material*** for the purpose of creating an embryo unless the donor of the material has given written consent [ASSUMING THAT THIS "CONSENT" IS "INFORMED" PROPERLY], in accordance with the regulations, to its use for that purpose. [I DON'T THINK THERE IS ANYTHING IN THIS BILL THAT ADDRESSES THE ISSUE RAISED AGAIN THIS WEEK CONCERNING THE PATENTING OF HUMAN CHIMERAS, MOLECULES, ETC. PERHAPS THERE SHOULD BE SOMETHING STATED ABOUT PATENTS IN THIS BILL, AND IT SHOULD BE INCLUDED IN THE SECTIONS DEALING WITH "INFORMED CONSENT".]
Posthumous use without consent	(2) No person shall remove ***human reproductive material*** from a donor's body after the donor's death for the ***purpose of creating an embryo*** unless the donor of the material has given written ["INFORMED"?] consent, in accordance with the regulations, to its removal for that purpose. [ALSO, SAME ISSUE ABOUT PATENTING.]
Use of <i>in vitro</i> embryo without consent	(3) No person shall make use of an *** <i>in vitro</i> embryo*** for any purpose unless the donor has given written ["INFORMED"?] consent, in accordance with the regulations, to its use for that purpose.
Gametes obtained from minor	9. No person shall obtain any sperm or ovum from a donor under 18 years of age [NOTE: THE PRIMITIVE GERM LINE CELLS BEGIN TO BE FORMED IN THE EARLY EMBRYO ABOUT 2 ½ - 3 WEEKS AFTER FERTILIZATION(LATE BLASTOCYST – EARLY TRILAMINAR STAGE EMBRYO). SO ONE COULD CONCEIVABLY RETRIEVE THEM FROM LATE HUMAN BLASTOCYSTS (E.G., IVF OR CLONED HUMAN EMBRYOS) AND EMBRYOS/FETUSES (E.G., ABORTED). ONE COULD CLONE THESE EARLY GERM LINE CELLS BECAUSE THEY ARE DIPLOID; OR ONE COULD MATURE THEM TO THE HAPLOID STATE AND USE THEM IN FERTILIZATION (ESPECIALLY OF CONCERN IS THEIR USE IN RECOMBINANT "THERAPY" AND "RESEARCH".], or use any sperm or ovum so obtained [OF SERIOUS CONCERN IS THE HARVESTING OF GERM LINE CELLS, SPERM, AND OOCYTES FROM DECEASED HUMAN BEINGS (OF ALL AGES AND OF BOTH SEXES), AND ALSO FROM HOSPITAL PATIENTS (OF ALL AGES AND OF BOTH SEXES). IN THE 1994 NIH HUMAN EMBRYO RESEARCH REPORT AND MINUTES, THE RESEARCHERS ON THE PANEL WERE QUITE EXPLICIT ABOUT HOW DIFFICULT THESE "BIOLOGICAL MATERIALS" WERE TO OBTAIN, AND THEY PRESENTED A LONG INTERESTING LIST OF POSSIBLE SOURCES. THIS INCLUDED, E.G., USING THE OOCYTES FROM OVARIES REMOVED FROM FEMALE PATIENTS UNDERGOING HYSTERECTOMIES, MEN UNDERGOING VASECTOMIES, CHILDREN UNDERGOING SURGERY, ETC. I KNOW OF WOMEN WHO WERE ASKED TO SIGN CONSENT FORMS FOR THE "EXPERIMENTAL USE" OF THEIR "DISCARDED ORGANS AND TISSUES" (WHICH COULD INCLUDE OVARIES), AND ASKED TO SIGN WHILE UNDER SEDATION. IF THEY HAD KNOWN THAT

THEIR OOCYTES WOULD BE CLONED, OR MATURED FOR USE IN IVF TO CREATE RESEARCH EMBRYOS, ETC., THEY WOULD NEVER HAVE SIGNED THOSE "CONSENT" FORMS. THIS NEEDS TO BE INVESTIGATED. THIS IS A GROSS VIOLATION OF TRUE "INFORMED CONSENT". THE SAME NIH REPORT ALSO MENTIONED THE HARVESTING OF ALL THESE "REPRODUCTIVE MATERIALS" FROM DEAD HUMAN CADAVERS OBTAINED FROM THIS COUNTRY AND ABROAD.], except for the purpose of preserving the sperm or ovum or for the ***purpose of creating a human being*** that the person reasonably believes will be raised by the donor.

CONTROLLED ACTIVITIES

Use of human reproductive material	10. (1) No person shall, except in accordance with the regulations and a licence, alter, manipulate or treat any ***human reproductive material*** for the purpose of creating an ***embryo***.
Use of <i>in vitro</i> embryo	(2) No person shall, except in accordance with the regulations and a licence, alter, manipulate, treat or make any use of an *** <i>in vitro</i> embryo***.
Keeping and handling gametes and embryos	(3) No person shall, except in accordance with the regulations and a licence, obtain, store, transfer, destroy, import or export <ul style="list-style-type: none"> (a) a sperm or ovum, or any part of one, for the purpose of creating an ***embryo***; or (b) an *** <i>in vitro</i> embryo***, for any purpose.
Transgenics [NOTE: THIS INVOLVES DNA-RECOMBINANT GENE TRANSFER = EUGENICS]	11. (1) No person shall, *except* in accordance with the regulations and a licence, combine any part or any proportion of the ***human genome*** specified in the regulations with any part of the ***genome*** of a species *specified* in the regulations.
Definitions	(2) The following definitions apply in this section.
``human genome" « <i>g�nome humain</i> »	``human genome" means the totality of the ***deoxyribonucleic acid*** sequence of the human species.
``species" « <i>esp�ce</i> »	``species" means any taxonomic classification of non-human life. [HOW ABOUT A TAXONOMIC CLASSIFICATION OF A HUMAN LIFE?]
Reimbursement of expenditures	12. (1) No person shall, except in accordance with the regulations and a licence, <ul style="list-style-type: none"> (a) reimburse a donor for an expenditure incurred in the course of donating sperm or an ovum; (b) reimburse any person for an expenditure incurred in the maintenance or transport of an *** <i>in vitro</i> embryo***; or (c) reimburse a surrogate mother for an expenditure incurred by her in relation to her surrogacy.
Receipts	(2) No person shall reimburse an expenditure referred to in subsection (1) unless a receipt is provided to that person for the expenditure.
Use of premises	13. No person who is licensed to undertake a controlled activity shall undertake it in any premises except in accordance with a licence permitting the use of the premises for that controlled activity.

PRIVACY AND ACCESS TO INFORMATION

[THIS ENTIRE SECTION SHOULD BE SCRUTINIZED FOR POSSIBLE VIOLATIONS OF "INFORMED" AND "FREE CONSENT". THIS ISSUE IS BEING PRESSED IN THE COURTS NOW IN CASES INVOLVING ABORTION PROCEDURES AND ABORTIFACIENTS. IT SHOULD ALSO BE PRESSED IN CASES INVOLVING LACK OF VALID INFORMED CONSENT IN THESE RESEARCH ISSUES, ESPECIALLY RE DONATIONS OF "REPRODUCTIVE MATERIALS, AND PATENTS.]