

**ETHICAL ISSUES IN
REPRODUCTIVE MEDICINE:
A FORUM FOR CONFLICT ON
SOCIETAL VALUES**

MARGARET A. SOMERVILLE
AM, FRSC, A.U.A. (PHARM.), LL.B. (HONS.),
D.C.L., LL.D. (HONS.CAUS.)

**AMERICAN SOCIETY FOR REPRODUCTIVE MEDICINE
60TH ANNUAL MEETING**

**PHILADELPHIA, PENNSYLVANIA
OCTOBER 19, 2004**

Introduction

As, during the next 40 minutes or so, we explore some of the ethical issues raised by new rerogenetic technologies, I'd like you to keep in mind three matters that are captured in three questions:

First:

Would you want to be an embryo in 2004?

We should recall that we are all ex-embryos.

Personal identification with an issue is a **powerful tool** in recognizing ethical issues and making ethical decisions

: it gives us access to two important ways of “human knowing”

- **intuition**, especially **moral intuition**, and
- **emotional response** – we sometimes say in ethics that we **ignore our emotions at our ethical peril.**

but we need examined intuitions and examined emotions to guide us.

One way to view **reason** – a very important but not the only way of human knowing – is as a secondary verification mechanism of what we “know” from other sources such as intuition and emotion.

And second, what does “doing ethics” mean?

Ethics is about sorting out values’ conflicts – i.e. dealing with situations when not all values can be honoured.

How do we do that?

“Doing ethics”

1. Identify **ethically relevant facts**
: “good facts are essential for good ethics”
2. Identify **relevant values**
3. Identify any **values conflicts**
4. **Prioritize values**
5. **Justify prioritization**
– this is the essence of doing ethics.

Third,

What questions must we ask ourselves in deciding what is ethically required of us, **if we are to respect human life** in light of the possibilities opened up by the new **reprogenetic technologies**?

I: WHAT HAS CHANGED IN HUMAN REPRODUCTION?

FACTS : Let’s have a look, first, at the characteristics of human reproduction around fifty years ago:

- **Whether** and **when** a child was conceived was largely a matter of chance — subject, of course, to being able to eliminate that chance by not engaging in

sexual intercourse, or reducing it by much less effective contraception than is available today.

- **Where** it was conceived was always in a woman's body.
- **How** life was transmitted to the child was through sexual reproduction.
- **What genetic heritage** the child received was determined by the natural recombination of the genes carried in the female parent's ovum and the male parent's sperm.
- Those **genes** were received by the child in their natural or **unaltered** state.
- The **sex** of the child was a matter of **chance**.
- The **purpose** of the **transmission of life** was **reproduction**, whether or not that was desired.

And

- A child was **born naturally**

Every element in this list has now *changed*. We have developed the technological means to control:

- *When* human life is transmitted through contraception, especially oral contraceptives (“the pill”).
- *Where* it is transmitted through *in vitro fertilization* that allows the creation of embryos outside the body of a woman.
- *How* it is transmitted — there are alternatives now to sexual reproduction. Cloning is asexual replication; and in the future, embryos may be created from the union of two ova, two sperm, or, possibly, from the individual genes that make up a living human.
- *What* is transmitted — the embryo’s genetic heritage — can be altered through genetic manipulation and germ cell line intervention.
- *Whom* that altered heritage affects, in that genetic alterations can go beyond the immediate embryo. Altering an embryo’s germ cells means that all future descendants of that embryo will be altered in the same way — unless, of course, they are re-altered.
- The *sex* of the *child* is open to *choice* by the parents, or even others.

- The *purpose* with which human life is transmitted, now, is not only for reproduction, but also to make embryos to use them as a source of stem cells for making therapeutic products. That necessarily involves killing them. In other words, human life is transmitted with the primary intention of killing that life.

And,

- At a more everyday and familiar level, is birth by vaginal delivery out, and are *Caesarean sections* in? There has recently been discussion of whether all Canadian women giving birth should be offered an *elective* Caesarean section — we're not talking about medically necessary C-sections here, but elective ones. My first reaction was shock and I denied that they should be offered. But on studying the matter — ethics and “informed consent” requirements — I thought otherwise. Recent medical research claims C-sections are better for mothers and babies. It remains to be seen whether that research holds up.

But in the meantime,

Who has the final say on the mode of delivery?

: The woman giving birth.

Interestingly the highest rate of elective C-sections is among young women doctors or those married to doctors or who have a doctor in their family.

In short, even “natural birth” is being technologized.

- But back now to the new technoscience birth situation, *what else might the future hold* with respect to rerogenetic technologies?

Gestation is the one situation where we are still dependent on “using a human”. We have not yet developed a safe and effective artificial uterus. Research on that is taking place, however, and, when an artificial uterus is developed (assuming that it will be), *the whole process of human reproduction* will be open to being carried out in a *technoscience environment*, rather than an *intimate human one*.

It goes without saying, that we have no idea what *impact* that would have *on the children* brought into the world in that way, including, very importantly, on the bonds between them, their parents and extended families.

We might, however, get an *idea of the scope of the change* that would occur by looking at what resulted from the creation of the Internet, although that latter change is likely to seem minor compared with that which would result from the complete technologization — and the associated dehumanization — of human reproduction.

The technologies that now make up the Internet had each been around for half a century—fax machines since the 1930s, modems and radio phones since the 1940s—before the Internet became a (virtual) reality. The revolution came when we finally figured out how to connect them. It was only when the communications and information technologies were *combined* that they had the *massive impact* on our world, including its *culture and values*, that we have witnessed.

The same is even more *likely to be true for* the impact of *reproductive technologies* in combination with *genetic technologies* — that is, *reprogenetics*.

Questions that will need to be addressed include:

If we believe in “**reproductive rights**” – do they include the right to **choose** not only which **children we don’t want**, but the **kind we do want**?

Does **parental love** become **conditional** on receiving a good “product”?

cf. the essence of parental love is that it is **unconditional**.

How would that affect **disabled people** with the same conditions and how we see them and they see themselves?

How does it affect all of us as we **age** and become or are seen as disabled?

What would be the impact on **society** and its **values**?

These questions show how what we decide is ethical or unethical in one area, here rerogenetics, can have major impact on what we see as ethical or unethical in other areas, at least if we are to be ethically consistent.

In particular, these new rerogenetic technoscience possibilities face us with **unprecedented questions** about what is required for **respect for human life**. We will look at some of them shortly. But first I want to explain, briefly, why what we do with these technologies matters well beyond the situation of their immediate use.

II. WHY DOES IT MATTER BEYOND THE ADULTS AND CHILDREN INVOLVED WHAT WE DO RE HUMAN REPRODUCTION?

Affects societal-cultural paradigm

“shared story”

- collection of principles, values, attitudes, beliefs, myths –

we buy into to form **“societal glue”**

Have always found our *most important values* as both individuals and a society by *focusing on two major events in each human life* —

birth and death

— *reprogenetics affects birth* in an *unprecedented* way

affects arguably our most important shared value

respect for each *individual life* and

respect for *human life in general*

III. RESPECT FOR HUMAN LIFE

1. WHAT IS REQUIRED?

- What does *respect for human life* require of us in the *21st century*?

That question translates to:

- What does *respect for human life* require of us in the *face of the new technoscience*?

Because the new technoscience allows us to intervene on life in ways not possible for any humans before us,

we can disrespect life in ways never before possible.

- *In past, we promoted*

respect for each individual human life and *respect for human life*,
in general, at *the societal level*.

Reprogenetics — is *challenging* even this “*old*” *form of respect for human life in new ways*.

- *Now* need *respect* in at least *three new ways*

- i) for *essence* of *human life*

human germ cell line — because we can change it,
the first humans to be able to do
so.

and

ii) for *transmission* of *human life*

e.g. through cloning

and

ii) for *earliest form of human life in vitro* — *human embryos*

- Note the importance of the language we use

language is never neutral in ethics

it affects what we see as ethical or unethical

and we may **consciously manipulate** it to have

one or other outcome

For instance, consider the difference between

owning life

and **holding it on trust**

e.g. **owning** favours patents on life forms

holding on trust does not

owning reflects an approach based on “**intense individualism**”

holding on trust means we must consider how

what we do with our life **affects others**

2. CHALLENGES TO RESPECT FOR HUMAN LIFE, IN GENERAL

Respect for human life has always required *respect for each individual life* and *respect for human life, in general*, at a *societal level*.

Even that traditional respect is being challenged by the new technologies, for example, by preimplantation genetic diagnosis (PGD) and pre-natal screening.

Individual parents-to-be are having embryos and fetuses genetically screened and discarding embryos or aborting fetuses that are genetically “defective”.

Whatever our view of the *ethics* of those decisions at the *individual level*, at a *societal level* they will have the effect of *wiping out certain groups of people*,

for example, Down’s syndrome children, achondroplastic (dwarf) children, or those who are profoundly deaf or manic-depressive.

Apart from a failure to respect the lives of the individuals involved, that would be to *eliminate two special subcultures* and *many of the most gifted and artistic people* in our societies.

And what other groups would be eliminated or perhaps just reduced in number?

In some cultures, one such group in the latter category would be women. In short, the *cumulative effect of individual decision making* is resulting in a situation that would *never be tolerated as public policy*.

We must directly, and honestly address the question:

Is this a “new eugenics”?

People who want to avoid or finesse this question will argue in response, however, that *individual choice* regarding the nature of one’s child is *not a eugenic decision*, rather eugenics is practiced only when a choice is made in relation to a group or class or by someone who is not the future parent. But is that simply sophistry?

3. RESPECT FOR IN VITRO HUMAN EMBRYOS...

Then we can ask: What does respect for *in vitro* human embryos require?

It is one matter to argue the ethics of using IVF for the purposes of having a child, quite another when the creation of *IVF embryos are for research* or for their use as *the source of stem cells* to make therapeutic products to benefit the rest of us.

Are human embryos human beings or human products?

Is *using an embryo* as an *object, commodity* or *product unethical*?

That depends on the respect owed to the human embryo, and that is linked to the *embryo’s moral status*.

There are three views on the moral status of a human embryo that represent a continuum from *permissiveness to prohibition*:

- The human embryo has *no moral status*, but is equivalent to say a skin cell.
- The human embryo has *moral status* and *deserves respect*, but *not (yet) the same respect as the rest of us* and, therefore, it may be used in ways that would not be ethically acceptable if applied to the rest of us — it is *potential human life*.

And,

- The human embryo is the *earliest stage of each human life* and *as such has the same moral status as the rest of us* — we are all ex-embryos. Therefore, its life must be respected and it must not be used simply as a product or a means to an end — it is *human life with potential*. As is true for all of us until we die, its life is in progress and is a process of becoming.

What we decide in relation to using human embryos can have an impact well beyond that situation.

- For example, if we can justify using human embryos to benefit the rest of us, can we, at the other end of the lifespan, also justify using unconscious, dying people — “*neo-morts*” — for the same purpose?

May we use them as *research subjects*, or for *physicians-in-training to practice* medical interventions, or even, by direct analogy to the use of embryos, as *organ* or tissue *donors*?

Or would that be a *failure to respect human life* and *human dignity*?

Many people who would allow the use of human embryos would recoil from using dying people in such ways.

Does that *difference* in reaction reflect valid *moral intuitions* that there is an ethical difference between these two situations?

Or is it, rather, a *failure to perceive* what is needed to respect human life and treat it ethically *when* we do *not personally identify* with it because it does not look like us, which is true of embryos but is not true of dying people?

- And *what* impact would using human embryos to make therapeutic products for the rest of us have *on our view of what it means to be human* and *the moral and ethical base of society*.

Jürgen Habermas in a new book, *The Future of Human Nature*, argues that *respect* for what he calls “*pre-personal human life*” is necessary to maintaining our ethical understanding of what it means to be human.

There is a long-established, widely-shared, *deep moral intuition* that human *embryos* are *not just things* or just cells like any other cell as some argue, and we *breach that moral intuition at our ethical peril*.

To do so would also mean that *we were all things* at one stage — because as mentioned before, we are all ex-embryos.

In that case, *when* did we *become persons*?

Are we only persons and *deserving of respect* because *others see us* as such?

Or should we be *respected just because* we are *human*?

The former is an *extrinsic concept* of *human dignity*, the latter an *intrinsic concept*.

Dignity that is attributed to us by others can be taken away by them. The same is not true of intrinsic dignity.

And there are perhaps some very surprising potential effects of our decisions about how to view and treat embryos. For instance it can be argued that some of the possibilities opened up by new reprogenetic technologies threaten the fundamental basis of democracy, that is, the necessary conditions for democracy, that we are all free and all equal. An embryo designed by someone is not equal to that someone - the designer - and not free because that depends on having a sense of the non-

contingency of our origins. Kierkegaard says that is necessary if we are to have the capacity to become ourselves which is the essence of freedom – the capacity to make and throughout life to re-make the self.

4. RESPECT FOR THE HUMAN GERM CELL LINE...

Yet another question we are the first humans to face is:

What does respect for the *essence of human life* — the *human germ cell line*, the genes that are passed on from generation to generation — *require of us?*

These genes are the product of 800 million years of evolution. We can now change that evolution in nano-seconds.

What must we, may we, and must we not do?

In changing an embryo's germ cell line, we change not only that embryo, but all of its descendents in like manner. Is it ever acceptable to do that?

Another way to ask the same question is:

What does the obligation to hold the human germ cell line on trust for future generations as the common heritage of humankind require of us?

Does it mean, as many people believe, that we must never intentionally change it, that alteration of the germ cell line is never justified?

What if we could eliminate a horrible disease by changing just one gene and we knew it was reasonably safe to do that?

Reasons matter ethically.

Do we object to intentionally *altering the human germ cell line* because we believe that it is *inherently wrong* to do so — that is, a purpose of doing good can never be a justification for interfering with it? A **principle based or deontological ethics** approach.

Or do we believe that *some interventions* might *be justifiable* — that is, it is not inherently wrong to intervene on the human germ cell line, but intervening is not presently justifiable, because it is too dangerous? A **utilitarian approach**.

Or do we fear that once intervention is allowed, no matter how much suffering we could eliminate through it, we *could not control the range of interventions* that would occur and many would be, at best, frivolous and others profoundly ethically unacceptable, for instance, intentionally disenchanting the intelligence of certain embryos? A “**slippery slope**” based objection.

It is important, here, to distinguish therapies that involve genetic interventions on *somatic cells* from *germ cell line interventions*.

Somatic cell genetic therapy only affects the genes of that embryo (or, indeed, any person who is treated with it) not the descendants of that embryo (or person).

It can be justified to treat serious disease, provided it has been shown to be reasonably safe and effective, which, it merits noting, has not yet been established. On the contrary, genetic therapies that have been used to date have resulted in very harmful consequences, including death.

5. RESPECT FOR THE TRANSMISSION OF HUMAN LIFE...

We must also consider, now, what is required for *respect for transmission of human life*.

In *the past* the only mode of transmission was *sexual reproduction*.

Now new modes of transmission include

cloning, which is *asexual replication*, not sexual reproduction;

having **more than two genetic parents**;

and, in the future could include making embryos — transmitting human life — through combining *two ova* or *two sperm*.

We should regard transmitting human life in these ways as *unethical* both

in terms of respect for the mode of transmission of human life

and from the *perspective of the rights and claims of the resulting child*.

Cloning can have one of two *purposes*:

- to create a child clone

— *human reproductive cloning*

: the vast majority of Canadians, for example,
believe this is inherently wrong

- to create therapeutic products

— *human therapeutic cloning*

: there is less unanimity on the ethical
acceptability of this

It is *ethically relevant* that *advances* in *therapeutic cloning* would *make reproductive cloning more feasible and likely*.

It is, I propose, *inherently wrong to transmit human life to a child other than by sexual reproduction*, and, even on a utilitarian analysis, the risks and harms

— especially to our sense of what it means to be human and to the meaning attached to passing on human life to the next generation in the way it was passed on to us, to say nothing of physical risks —

far outweigh any benefits of such a dehumanized, technological approach to doing so.

Reproductive cloning is ethically *wrong vis à vis the children* produced, because:

children have a right to their own *unique ticket* in the great *genetic lottery* of the passing on of life;

a right not to be an intentionally created as a *copy* of someone else;

a right *not to be designed* by *another human*;

and

a right not to be placed at *serious risks of illness, disability and premature death*.

Reproductive cloning transgresses all of these rights.

- **Therapeutic cloning** involves creating embryos in order to use them for research or to create therapeutic products. Transmitting human life for this

purpose is one of the *basic ethical* issues in *human embryo stem cell research*:

What are the ethics of transmitting human life, either through sexual reproduction or asexual replication (cloning), with the *intention of killing the embryo* by taking its stem cells, and doing so *to make therapeutic products*?

Creating embryos only for research raises ethical issues in addition to those raised by using so-called “spare” embryos “left over” from IVF (which is itself ethically controversial), because it involves the transmission of human life with no intention of giving the embryo any chance to live and, in many cases, with the intention of using it as a product.

As we can see from this example, our *most intimate connections as humans with other humans* — those who give us life, itself — are *put on trial by rerogenetics*.

III. THE BIG PICTURE

1. TRUE NATURE OF THE REPROGENETICS DEBATE

Debate is really over

*two distinct views of human life and
what it means to be human*

i) ON ONE SIDE UTILITARIAN VIEW

- *Utilitarians include:*

- libertarians* (conservatives — state should keep out of private affairs)

- biotech industry* (“market place” ethics)

- liberals* (intense individualists)

- If the “*goods*” sought,

- especially for individuals

- and goods include profit, “progress”, respect for personal autonomy —

- are *important*, cannot be obtained in a *less ethically sensitive*

- way, and *outweigh* the *risks and harms*, then the risks and

- harms can be justified.

- For example, re *embryo stem cell research*:
 - utilitarians stress that human stem cells have the *potential* for *great therapeutic benefits*.
 - that is, goods outweigh harms, therefore, it is *ethical to proceed* with *embryo stem cell research*
 - this is a “*pure science*” or “*gene machine*” view of *human life*
 - we are *highly complex biological machines*
 - embryos less complex* ones, which makes them *useful* to us in *repairing* and *prolonging our lives* as the more complex ones.
 - human life itself has *no intrinsic value*
 - has *instrumental* value
 - worth of each life depends on its quality and balance of pain and pleasure
 - embryo* suffers *no pain*
 - used to *relieve suffering* of many *other people*

- Or re *genetic enhancement of embryos* or *cloning*:

Whose child is it anyway?

My child

“intense” physical and moral individualism

no one else’s business especially not the state’s to interfere with
through law

“absolute right to reproductive freedom”

- collaborative non-coital reproduction

ii) ON THE OTHER SIDE

intrinsic value of human life view

- People who take this view are *not necessarily religious*
although some are — as, indeed, are some utilitarians.
- They believe we must *not do* that which is *inherently wrong*

— *ends do not always justify the means*

- Believe we are *more than gene machines*

a “more” that I try to capture in the term “*human spirit*”

by which I mean the intangible, invisible, immeasurable reality that we experience and that gives meaning to life and makes it worth living — that deeply intuitive sense of relatedness or connectedness to other people, to all that is living, to the world and the universe in which we live.

The transmission of life is fundamental to establishing that sense of connectedness – in contemplating it we can experience connectedness to the people through whom life traveled to us and to those for whom life traveled from us. That also connects us to both the past and the future.

- Believe that we have to be *concerned about societal values* as well as individual rights, and how individual choices affect those values
 - balances individualism and rejects “intense” individualism
- Believe that we must decide what *holding the cultural-societal paradigm on trust for present and future*

generations requires of us and what “*memes*” — units of deep cultural information — we want to pass on to future generations.

- Believe that some things – life itself, especially *human life* — need to be regarded as “*secular sacred*”.

as not to be disposed over, as a thing or commodity, by others

And that all of these considerations mean that we *should not use human embryos* just as *products*; that *holding* the human *germ cell line on trust* for future generations means that we must *not tamper with* it; and that *human life* should only be *transmitted* by *sexual reproduction*, that is, cloning or modes of reproduction other than using the gametes of man and woman should be prohibited.

2. THREE “WORLD VIEWS” COMPETING AS BASIS FOR NEW SOCIETAL PARADIGM

- “*pure*” *science* view
- “*pure*” *mystery* view

- *science-spirit* view

i) “PURE SCIENCE” VIEW

- we are highly complex biological machines
 “*gene machines*”
- *rational, logical, cognitive* capacities
 our most valued features
- intensely *individualistic*, liberal, *post-modern*, personal rights based
- *uncomfortable* with *uncertainty*
- seeks *certainty* through *science*
 everything can be explained eventually by science
- *seeks* a sense of *control*
- *no* room for *mystery*

ii) “PURE MYSTERY” VIEW

- often associated with
 fundamentalist religious beliefs
 whether, for example, Islamic or Christian

- *conservative, traditional*, protection of *community*
- *literal (logos) reading* of *symbolic discourse (mythos)*
- *uncomfortable* with *uncertainty*
- seeks *certainty* through *religion*
- seeks a sense of *control*
- often *no room* for *science*

— is not so much a rejection of science as of modernity which science strongly represents, although Karen Armstrong in “*The Battle for God*” argues that the powerful rejection of modernity by the fundamentalists that we’ve witnessed recently is really a struggle to accommodate it.

— it is an identity based social movement that is a “counter movement” in that is in “opponent mode” to liberalizing IBSMs.

Note similarities in approach and process of “gene machine” and “pure mystery” views, but have opposite substantive content.

iii) “SCIENCE — SPIRIT” VIEW

contrasts with both the other two views and, interestingly, in each case in the same way.

- *excited* by *new science*
 - increases sense of wonder and awe
- “more” to humans than their genes
 - *human spirit* dimension
- *comfortable* with *uncertainty*
 - requires drawing lines in “grey areas”
- accept much we *cannot control*
- room for *science and mystery*

Results in

- experiencing science as *deepening* our sense of *wonder* and *awe*
- notion of “*secular sacred*”
- “*space for spirit*” — requires protection
- *mystery* in human life and death
 - even if it is only a human mystery
- “mystery of the Unknown”

CONCLUSION

Reprogenetic technologies raise questions no other humans before us have ever had to face, about our individual and collective values in relation to respect for human life, its essence and its transmission, and what it means to be human. Deciding what we will and will not do with this technology is a major test of our values, because it faces us directly with deciding whether we are prepared to say:

“Much as I want to avoid illness and suffering for myself, those I love and humans in general, there are some things that it is inherently wrong to do in trying to achieve that, and I will not do those things.”

The burning question is, can we find the *moral will* and *political consensus* to adopt a stance that recognizes that to preserve some of the moral, ethical and values realities that are essential to living a fully human life, in some circumstances we have to say no

- even at *personal cost* to ourselves and others in failure to relieve *suffering*
- at the cost of *less* rapid “*progress*” in *science*
- at *economic cost* and
- at *political cost*

If we believe that it would be a *hollow victory* for *science and technology* to *march forward without* the accompanying *ethics and values*, we must take *great care* in *deciding* about the *ethics of using* new reprogenetic technoscience. It is and will continue to be an unprecedented precedent-setting context in relation to some of our most important personal and collective values.