CSBQ Discussion paper

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On STEM CELL RESEARCH

INTRODUCTION

The growth of genetic knowledge, along with the bewitching hope for genetic therapies to resolve human defect and disease and damage, has proceeded at dazzling pace in the last decade. Like a rocket launch, the pace appears always to be increasing.

The venture into space has not occurred without a lot of thought. The journey into the microscopic world we call 'genetics' deserves no less – and especially so where stem cell research (SCR) is undertaken, for it involves tinkering with human life and human lives. What will be the result? Will researchers and the general populace alike find themselves on a fast ascent to new horizons? Or will the journey be a descent into depths from which it will be hard to be raised?

The following comments are intended as an overview of SCR and are offered to assist the reader's further consideration as the direction – ascent or descent – is yet to be decided.

A. WHAT ARE STEM CELLS?

Every human being begins his/her life as a one-cell human being. In a short time following formation/conception, this one cell divides into two, and those two into two more, and the process continues. Some days into this process of multiplication, the cells seem to make a decision about what to become – a heart, a spine, a finger, skin, and so on. A stem cell is one of these early, primary, cells that has the potential to develop into all types of body tissues.

B. WHY THE CURRENT EXCITEMENT OVER SCR?

As mentioned above, the potentiality of the stem cells gives rise to hopes for the development of genetic therapies that might prevent or rectify human genetic defects, or cure someone of diseases such as Parkinson's and Huntington's chorea or cystic fibrosis, or perhaps repair damage to people following a debilitating accident (eg, spinal cord, burns), or for growing sound organs to replace faulty ones, or that might effect running repairs on damaged organs. With regard to this last hope, the *Melbourne Age* (10/4/02) reported that a 74 year old Australian man intends to have his own (adult) stem cells from his bone marrow injected into the muscle of his heart in the hope of improving his heart function.

Obviously there is yet a lot to be learned before sure and safe treatments are designed, but it is bedazzling to think of the possibilities and benefits.

With such altruistic aims for such powerful medicinal tools as these stem cells appear to be, is there any real reason for words of caution or opposition?

C. VOICES IN THE DEBATE

Not unexpectedly, the public disclosure of the possible therapeutic power of stem cells has produced a public debate, with two main voices.

(i) OVERVIEWING THE CASE FOR EMBRYONIC SCR

On the one side is the voice of those who desire stem cell research to proceed almost unhindered, at least with few restrictions.

Motivations can only be the subject of surmising, for it would be unlikely, for example, that any researcher would admit to involvement from the simple desire to satisfy research-curiosity or that such research gives a notoriety they crave personally or funding that helps maintain employment and lifestyle. Nor should there be necessary suspicion of any researcher's openly-stated altruistic intentions that seek good medical benefits for humankind. Truly dedicated altruism is indeed praiseworthy.

Similarly, just as anyone seeks out a doctor to find relief from one ailment or another, it is reasonable for accident victims and burn victims and those suffering from one debilitating disease or another to promote research that might bring them relief and more fullsome life again. Quite obviously the Church, with people of good will, lends its voice to the call for good medicine, as part of its obedience to the command of God 'to have dominion' as people rejoice in all that God provides and to love one's neighbour.[1]

The common reasoning to the case for <u>embryonic</u> stem cell research, in summary, is as follows:

- ❖ It is more scientific, modern and useful to hold that conception of the new human being occurs at about 14 days after an egg is fertilized by a sperm.
- ❖ This claim is made on the view that the multiplying cells appear to have settled on what they will become as the process of implantation occurs, as well as recognizing that the opportunity for twinning of the embryo has passed.
- ❖ Some in the debate consider it useful to refer to theologians of past eras who held that 'ensoulment' occurred at the implantation stage only.
- ❖ Others present the previous point in more philosophical language, claiming that embryos have not yet achieved the capacities (eg, a brain, consciousness, awareness of surroundings, preferences, ability to love and plan) that earn respect and protection from society and the law.
- ❖ Research is intended only on surplus IVF embryos – they have been produced but remained unused, seemingly unwanted, 'leftovers'. When their 'use-by date' arrives, why simply dispose of them? Why not benefit humanity by using them in ways that crucial therapeutic knowledge is gained?

This last point has received the widest public promotion, to capture the emotional ground in the debate. It is interesting to note, however, that the chief voices in Australia promoting SCR are those of researchers from the Monash Institute, Sydney IVF, and BresaGen, and from prominent politicians. There is a large financial interest

[1] These divine injunctions (see Genesis 1:28, Leviticus 19:18b/Matthew 22:39) are not to be disjointed but are of a piece.

to be considered in SCR – hype does help a company's share prices and investment, just as it helps retain research funding, and this despite the reality that stem cell-based therapies do not (yet) exist. [2]

(ii) OVERVIEWING THE CASE AGAINST EMBRYONIC SCR

On the other side there are those who reflect on SCR without the rose-coloured spectacles of hype and promise, who see it is unwise to have an open-chequebook approach to SCR.

Again, motivations can only be the subject of surmising, for it would be unlikely, for example, for someone opposing SCR to publicly admit their opposition sprang from a jealousy of some kind, or that they just wanted to win the debate or put the proud in their place. Nor, again, should there be a necessary suspicion of their openly-stated altruism as they comment.

As much as these voices are eager for good medicine to develop (hopefully) from SCR, their sounds of caution emanate because other important perspectives have been discarded in the debate.

The points of caution and/or opposition, and other perspectives, raised include:

- From observation, modern biology stipulates that human beings are conceived when an egg is fertilized by a sperm.[3] Additionally, for the purposes of coherent discussion, logic insists that the embryonic life existing on day 14 started on day 1. There is no point at which an embryo is 'non-human'. And the delayed ensoulment idea has died out in science, philosophy, and among the vast majority of theologians. It would appear these kind of arguments are raised to allow researchers to kill 'surplus' IVF embryos by the extraction of their stem cells "without feeling too queasy"[4] and keeps the door ajar for the deliberate production of "human embryos specifically for exploitation and destruction."[5]

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[2] The Prime Minister's recent backflip on SCR must have been some encouragement to those eager for SCR. On February 25, 2002, Mr Howard indicated his Cabinet's support for a ban on embryo experimentation; however, following the 4 April 2002 meeting of the Committee of Australian Governments, Mr Howard indicated he would support limited experimentation on surplus IVF embryos under strict conditions (including the required consent of parents; only IVF embryos produced prior to 5 April 2002 could be used; no human cloning). Mr Howard's reasoning was one of seeing no moral dilemma with experimentation on embryos who would die anyway. While his reasoning is not infallible, nevertheless it hardly seems likely that eager and vocal SCR researchers will appreciate the restrictions. Protection of business interests, retaining / increasing levels of research funding, and keeping the scientific-investigation door ajar will likely involve tugging at the public's heart-strings, as well as attempts to shame the legislators with comments, for example, about Australia becoming a genetics backwater instead of a leader on the world stage.

[3] In a letter to the *Forum* section of *The Bulletin* (26/4/02), Dr Robert Pollnitz, Consultant Paediatrician, writes: "About 22 hours after the sperm enters the egg, there is a defining moment when the 23 chromosomes of each fuse to form the full human complement of 46 chromosomes. This is syngamy, literally, the joining together of the spouses. This is when all the inherited characteristics of the new human life, everything from father's nose to mother's bent toes, are determined. Everyone of us spent the first hour of life as a single cell zygote. We share a common link of humanity with these tiny living beings."

[4] Father Dr Anthony Fisher OP, *The Bulletin*, April 30, 2002, p34.

[5] *Ibid.*

- The 'twinning argument' is no profound justification – "But lots of plants and animals reproduce by splitting. A few embryonic human beings do, too. We simply don't know whether we are dealing with one individual who gives rise to another, or two very Siamese twins who gradually separate. But what we can say for certain is that there is *at least one* human individual before twinning occurs."[6][emphasis in original]
- Defining who is and who is not human according to capacities has always been philosophical controversial – Which capacities count? And why? How is arbitrariness and/or biased preference avoided in this choosing? Is it indisputable that capacities are the definitive criteria which make human beings intrinsically worthy of respect?[7]
- Exploitation, by experimentation, of the 'unwanted' is hardly a sound ethic for the ennobling of any civilization, especially if you happen to be part of the declared 'unwanted'.
- The harvesting of stem cells from 5-7 day old human embryos results in the death of these embryos. Obviously, that is unacceptable to those who hold that human life worthy of respect and protection begins at conception. The destruction of human embryos hardly accords with the first principle of medicine and research, namely, 'Do no harm', nor with the 1947 Nuremberg Code on *Permissible Medical Experiments*, which, in reaction to the human rights violations in World War II Germany, states in essence,
    - "The protagonists of the practice of human experimentation justify their views on the basis that such experiments yield results for the good of society that are unprocurable by other methods or means of study. All agree, however, that certain basic principles must be observed in order to satisfy moral, ethical and legal concepts," including:
    - "The voluntary consent of the human subject is absolutely essential …
    - "The experiment should be so conducted as to avoid all unnecessary physical and mental suffering and injury …
    - "No experiment should be conducted where there is an a priori reason to believe that death or disabling injury will occur; except, perhaps, in those experiments where the experimental physicians also serve as subjects."[8]
- The argument that surplus IVF embryos would eventually experience a 'use-by date', be thawed and allowed to die, so they might as well be experimented on (ostensibly for the benefit of humanity) has a number of flaws, chiefly –
    - Since every person will die one day, the above argument offers *no protection to anyone* from (arbitrary) experimentation.

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6 *Ibid.*

7 Fisher, *The Bulletin*, (30/4/02) comments: "[E]very embryo is someone's child: try telling a woman grieving over a miscarriage that her embryo is worth less than a rat and is an ideal laboratory tool, as [the philosopher, Peter] Singer suggests."

8 Quoted from *FACTS Bulletin*, May 2002, a publication of the National Civic Council (SA), "Cloning and Embryo Experimentation Brief" by David Perrin, page 4.

- The line of moral distinction between intentional killing and being allowed to die is blurred.
- The argument indicates an attitude of approval to treat human life as a commodity, as if people were mere objects of investigation and manipulation, simply a means to an end, rather than as people being treated as ends in themselves.

❖ When parents alter their vocation from guardians and nurturers of children to being possessors of the power to dispose of them, it can only produce a world that is not a safe environment for children; surely parents need encouragement and guidance and assistance so that they may fulfil their vocation honourably, lovingly.

❖ There is an implicit presumption in promoting SCR that no experimentation will go wrong … at least, the possibility is not presented publicly by SCR promoters. What will happen to embryonic human beings for whom experimentation 'goes wrong', especially for those whose genetic aberration is not diagnosed and they come to term? Additionally, such a scenario would surely have lawyers rubbing their hands together.

❖ Considering the power of stem cells to grow into organs, what are the considerations given to situations such as a smoker seeking new lungs, or an alcoholic wanting a new liver, or an athlete wanting a second heart to help performances?

❖ Concern also is expressed about the diminishing financial resources for medicine's wide provision – will SCR and its benefits become the domain of the rich? And will a constant focus on SCR reduce proper appreciation of and investment considerations for other avenues of worthy research.

❖ <u>ADULT STEM CELL RESEARCH</u> – Opponents of embryonic stem cell usage promote the use of adult stem cells, which can be taken from children or adults without harming the person; another source is the placenta and the umbilical cord blood remaining in the (clamped) cord after a baby is born. Use of a person's own stem cells overcomes problems also with immune rejection and having to search for suitable donors.[9]

❖ Those entrusted to be society's legislators need to be reminded that the most appropriate stance for them toward the embryo is that government has a duty of guardianship.[10]

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[9] In the "Opinion" for the *Sydney Morning Herald* website (smh.com.au) on March 4, 2002, Dr Amin Abboud wrote: "Every day, scientists are publishing one striking find after another in adult stem cell research. In Taiwan adult stem cells have been used to treat blindness in one patient. A team at Harvard believes it can use adult stem cells from diabetics to try to cure their diabetes and are about to begin experiments …. A criticism of adult stem cells has been that they are not as versatile as embryonic stem cells. However, everyday research disproves this theory. In the MIT magazine *Technology Review*, Stephen Hall noted that, 'Recent animal studies emerging from academic labs have underscored the major take-home lesson about adult stem cells in the past year or so: these cells are much more biologically versatile, and capable of adopting many more cellular fates, than anyone previously thought.' … It sounds like the best place to be investing our limited health care budget."

[10] This was the position adopted by the Senate Select Committee on the human Embryo Experimentation Bill 1985 in the report entitled *Human Embryo Experimentation in Australia*, Recommendation 10, paragraph 3.42.

D. THEOLOGICAL CONSIDERATIONS

Already comments above reflect a number of important biblical emphases – for example, rejoicing in God who blesses people with abilities, interest and resources to discover good benefits for people in need, as well as honouring and protecting human life in whatever age or condition they might be as people who are as much a gift of God as anyone else.

Further considerations include:

- A key biblical concept is that everything is "gifted". That means that each person is given by God to creation and to other people, and that human beings have a natural dignity by fact of creation and in spite of their personal condition. Being from God implies that each person is known by Him, one in whom He invests His life; human life is not a human construct. God is the Giver and human beings are only receivers, made in God's image (Gen 1:26) not their own, made for humility, love, service (see Gal 6:2 – 'burden-bearing' people are born of their burden-bearing God; see also Rom 12:1-2, 9)
- The true human characteristic, therefore, is unconditional love for others, flowing from God's redeeming love to human beings (see Exodus 20:2-7; Leviticus 19:18; 1 John 4:13-21, esp v19; conversely, self-mastery is idolatry), unto eternal life. Love is only ever other-thinking and never self-directed … that is the 'place', the being, the nature, of love – what it is. Life is not merely about private ethics and concerns (see also 1 Corinthians 12 – though this reference is to those who are the Body of Christ, nevertheless its truth is in harmony with the creaturely responsibility of every human being to look beyond self; when God creates, He commands the creature <u>according to</u> its being. God is glorified as people honour the dignity of others in their relating to and treatment of them; so, it is living that occurs for the common good.
- Such theological reflections could give the impression that embryonic stem cell research, if done for the common good and from altruistic motives, is sanctioned. The ubiquitous sinful corruption of creation in every way, especially in the human preference for itself and what is false and counterfeit over against the trueness of everything in the beginning and which is restored in Christ's gracious and saving work, urges people to follow their own agendas to the exclusion of God's will – a case of being fooled by the diabolical will which commands people <u>against</u> their true being in Christ. Therefore, people can find themselves ignoring the clear will of God: eg, "You shall not kill" (Exodus 20:13), "do justice [with/for all]" (Micah 6:8), "be humble" (see Philippians 2:3-4), "be merciful and life-sustaining" (Luke 10:25-37; see also Colossians 3:2-3, 5a, 12).
- Additionally, God's command (Genesis 1:28; Genesis 2:15) speaks of dominion and discovery (note the conceptual connection to being authorised), not domination and exploitation (note the conceptual connection to using power). God's command is limited to rulership over creation; it is not referring to mastery over people. It is a gifted authority and selfless stewardship and servanthood, as God's vice-regents.
- An important aspect of such truly-spirited living is self-control. This is a form of love; that is, it is love in self-control form (Gal 5:22-23, where the word 'fruit' is in the singular form). This matter reflects on speaking against human hubris;

researchers need to have a concern for people and the effects of their research on people (whether those people are in embryonic form or adult form). A key to understanding 'self-control' is the concept of Honour (Rom 12:9-10; cf also the Good Samaritan who left his own agendas and fears behind to live out for the unidentifiable near-to-death man the love that he was. That is, the Good Samaritan was 'walking love', we might say).

- The tower of Babel incident (Genesis 11) declares the result of human hubris which would be a law unto itself. But all people are accountable to God (see Matt 25:14-30) – so is science, both at the Last Day, and before Last Day, in its effects on world. Good science is happy to have limits – eg, people are not mere means to end but ends in selves. Each person, made by God, is intrinsically valuable, worthy of our respect and protection, and irreplaceable. This helps humanity avoid living by Functionalism (ie, people only have value as long as all their functions are working reasonably) and Instrumentality (ie, people are seen as means to an end) and Utilitarianism (ie, deciding ethics by pragmatism, weighing up what is the most good at that moment … but forgetting so much else of the "big picture" and other purposes and concerns). Further, there is no technological imperative – "What can be done must be done".
- People do well to rejoice in the wonderful, rich, diverse creation. It is cause for praise of the Creator (see, eg, Psalm 8 and 139:13-14)
- Racism and classism and stigmatising people have never been accepted teaching of God's people or of common justice (even though sinful humans have all too often failed the teaching of Love), and rejected too is the Theory of Evolution, as it promotes the view that humans have no innate value, only an ascribed one, arbitrarily decided, with the inference that humans are only the current end products of an unfeeling process [such that people would ask, Why worry too much about ethical treatment of others?]. Nor is life in this world about constructing all that is pleasurable and eliminating all that pains people (= Utopianism).
- Human beings are finite, fallible, and subject to degeneration. Because of sin's utter infecting of life, we will not live forever on this earth, despite how powerful SCR might prove to be. How wonderful that God has eternal life for all believers beyond the grave and Last Day!

E. CONCLUSION

A headlong rush into SCR is tempting, given to promise of cures and restorative treatments. But it is obvious that hasty and thoughtless pursuit of therapies will create unnecessary problems, when further time and debate offers a way through.

From the Christian perspective, considering the newness – the trueness – of life recovered for humanity by Jesus Christ in His selfless saving work for the world, in order that we may all love the Lord with our whole being and our neighbour as ourselves (Matthew 22:39), it is a worthy task for all people of good will to infect the public debate with God's goodness and trueness.

The ageless divine wisdom is an injunction worth hearing and living by:

"Speak up for the people who have no voice,

for the rights of all the down-and-outers.
Speak out for justice!
Stand up for the poor and destitute!”

(Proverbs 31:8-9, Peterson version)