

The stem cell divide essay sample



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Bellomo's "The Stem Cell Divide: The Facts, the Fiction, and the Fear Driving the Greatest Scientific, Political, and Religious Debate of Our Time," is a fresh and quite comprehensive survey of the contemporary state of both stem cell research, proper, and the political, religious, and ethical debates which surround the issue of stem cells and medical research associated with stem cells. Bellomo adopts a conversational style in his writing, at least as much as is possible when dealing with a complex and cutting-edge issue such as stem cell research.

With the current state of stem cell research varying both in acuity — and in some cases — authenticity around the world at the present time, Bellemo has his work cut out for him simply in regard to establishing a cogent and reliable appraisal of where stem cell research is now in the present day world — and where it is likely to go in the future. In order to even grapple, partially, with the latter consideration which obviously eludes any definite conclusion, Bellemo is tasked with addressing the political and ethical, as well as economic and scientific, angles of stem cell research.

Due to his comprehensive approach, even a reader who has but scant interest in stem cell research will likely find themselves being brought deeper and deeper into the issue as they peruse Bellomo's carefully weighed opinions which are balanced out by solid research in both history and science. As Bellemo points out in his introduction, "The Stem Cell Divide covers items that only a very recent book can capture, describing events that will reverberate for decades" (Bellomo, 2006, p.); since there is no doubt that this is, indeed, the case, it seems that Bellemo feels an urgency to relate his material in as comprehensive a fashion as can be mustered against his

sprawling, many-headed topic. For example, when describing the intricate mechanics of stem cells, Bellemo avoids taxing scientific terminology and instead opts for a metaphor: that of glass-blowing, to illustrate in a very immediate and welcome fashion, certain necessary scientific principles which otherwise might elude the average reader's grasp:

Just as with the molten glass fresh out of the furnace, human embryonic stem cells are pure potential with a minimum of form. Fresh, almost liquid glass can be turned into anything desired. The cells at this state are very similar in that they could potentially, with the right chemical prods, become anything wished for—liver, cells, bone-cells, any sort of tissue found in the human body (Bellomo, 2006, p. 32)

With that highly-effective image and fascinating hint of medical promises of the future intact, Bellemo is able to proceed to a length and detailed examination of what can realistically be expected from stem cell research as well as what kind of real hurdles will have to be passed in order to even strive for hoped-for breakthroughs and treatments. He is quite smart to immediately state his personal belief about the future of stem cell research: “ cell research has been let out of its plastic T-flask.

Whether we agree with the result or shun it as a product of science that has gone out of control, it will happen. The only question is: When? ” (Bellomo, 2006, p. 3) but Bellomo does not conclude that breakthroughs and medical treatments will result without difficult struggle both scientific and cultural. Bellomo points out the opponents of stem cell research and resistance to stem cell research and treatments is liable to come not only from the

political right but from liberals, also, and from within the scientific community itself.

As he says, it would “ be naive to assume that these opponents will come solely from the religious right” (Bellomo 203) and he concludes that “ In fact, there are many cases involving genetic tampering that spawned protests on the left[...]These include experiments on gene splicing to produce mold-resistant strawberries or to create square tomatoes” (Bellomo 203).

Because stem cell technology and research represents a sort of “ quantum leap” in both thinking and potential application of medical technologies and treatments, the consequences of stem cell research and technology are impossible to foresee, but, as Bellomo points out, one thing is certain” that stem cells represent a sea-change in thinking and in future medical technologies. He defines stem cell research and technology as “ disruptive technology,” (Bellomo, 2006, p. 198) and notes that “ Stem cell research is a classic example of disruptive technology[... a technology is disruptive when it ends up providing a radically new technological innovation, product, or service that overturns the existing dominant one” (Bellomo, 2006, p. 198). Since the end-result of any disruptive technology in the near-term is a certain degree of chaos and because stem cell research is presently in its early stages, Bellomo’s summation of the current state of stem cell research is one which paints a picture of flux, opportunity, and radical debate. The key issues that he identifies as potentially destructive to stem cell research are political, cultural, and to some extent , scientific.

Reading between the lines of his very cogent and comprehensive study, one begins to see that — for Bellomo — even the impediments to stem cell research as they presently exist are not significant enough to outweigh the inevitable evolution of this new branch of medical technology. Although Bellomo does go into some detail regarding the therapeutic capacities of stem cell technology in application — even including case-studies which reflect both failures and successes — he is careful to stay away from associating stem cell research with treatments which are not grounded in viable scientific realities.

There is no degree to which Bellomo could be accused of idealizing either the true medical and scientific dimensions of stem cell research or the gritty, emotional, and ethical debates which currently surround the research and technology. Bellomo's perspective seems to be that of a realistic "modernist" rather than a doe-eyed futurist or a narrow eyed traditionalists — his perspective is fresh and highly comprehensible, informing his complex study of a complex issue with conversational simplicity and raising important issues that will certainly define humanity's future.