

Impact of Christian Ethics on Biotechnological Resilience within the 21st Century

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ABSTRACT

Research into varying forms of scientific research and study involves a variety of different ethical and social perspectives in order to comprehensively understand the limits and boundaries the research can be implemented into general public usage. Within the field of biotechnology, there is an abundance of diverse responses due to its ability to alter a being's body both presently and within future generations, most of which emerging from religious denominations. Christian sects have shown a certain hesitancy towards scientific advancement and ideologies that violate their own beliefs, a pattern which has been illustrated since the 16 and 17th centuries with the introduction of the Scientific Revolution. However, different Christian branches may view the implementation of biotechnology with a more beneficial perspective than others, which is why it is important to understand whether the continued advancement of biotechnology is resilient against the ethical values of Christianity within contemporary society. The need of biotechnological advancement to develop resiliency towards the negative connotations Christian communities hold may see it fit to decrease over time due to an increasing popularity to view science as an ability to aid humans in different illnesses within younger generations. However, opportunities for Christian communities to learn scientific concepts is still important since efforts to successfully introduce the advantages of biotechnology may be obsolete if religious communities wish to adhere to their own beliefs.

Impact of Christian Ethics on Biotechnological Resilience

Science is a never-ending subject of advancement, whether it be in the field of chemistry, physics, biology, or technology. The first period of major scientific advancement occurred during the 16th and 17th centuries, when people began to embrace scientific theory in an era called the Scientific Revolution (Grant, 1962). This period allowed for the advancement of many subjects in science, as well as for scientists and mathematicians such as Issac Newton, Nicolaus Copernicus, and Galileo Galilei to further their knowledge in physics and astronomy, particularly the heliocentric belief, which is a concept that the Solar System revolves around the Sun, rather than the Earth itself (Danielson & Graney, 2014). This belief greatly contrasted with that of the Catholic Church's previous scientific assumption, as they believed in the geocentric theory—or the concept that the Earth is the “immoveable center” around which both the universe and the heavens rotate around (Wallace, 1983, p. 156). This contrast in opinion led to rising conflict among those of the Church and those who embraced scientific reasoning, and while acceptance of these new scientific developments have been generally supported by Christian communities within the 21st century, there are still topics of debate that originate from this subject. Most prominently emerging from this is the development of biological technology, which is a widely debated topic within scientific and religious communities due to its ability to aid and modify people's bodies in ways that were previously unattainable (Rheeder, 2014). As such, different Christian branches may seek to mitigate its implementation—especially within their own religious communities—due to the breach in ethics that they consider to be harmful towards humanity (Watling, 2006). Thus, the following question must be addressed: To what extent, if at all, are the advancements of biotechnology resilient against the ethical values of Christianity within the 21st century? While many Christians question the ethical and philosophical values of the advancement of biotechnologies and concepts, the development of these devices continue to advance, thus displaying

how the formation of biotechnology is resilient against the negative connotations Christian branches may associate with it.

Implications on Religious Belief

While the development of biotechnological devices would prove to be useful within the 21st century, its progress could be impeded within smaller religious groups if they believe its implementation would interfere with their relationship with God. As biotechnology continues to advance—especially cloning techniques such as germline genetic engineering technologies or reproductive devices—people who have stricter Christian ideologies may become insecure in their faith, as they feel that engaging with these technologies might weaken their ability to attain salvation. For instance, Michael Afolabi, a doctor who focuses on science, medicine, and ethics at the Biokuryous Research Group, argues that the participation in the “creation of ‘altered beings’” from the viewpoint of Christianity may prevent salvation from being achieved to both participants and the creations alike (Afolabi, 2019, p. 54). Because of the possibility of its interference with God, Afolabi elucidates that this hesitance enables some Christian branches to become unwilling to encourage the practice of biotechnology, as they feel that it goes beyond God’s own order. This is further exemplified by Corina Delkeskamp-Hayes, a religious philosopher at the International Studies in Philosophy and Medicine, who examined the Christian viewpoint of human germline genetic engineering and found that while traditional Protestant Christians believed that biotechnology would increase “human power over nature,” thus decreasing God’s role in the nature of life, Orthodox Christians were more inclined to believe that genetic modification had the same ethical impacts as normal medicine (Delkeskamp-Hayes, 2012, p. 219). This difference in ethical perspectives illustrates the possible moral obligations various denominations hold, as some branches may believe that it is their role to spread resistance towards genetic engineering to not detract from human’s original role as genetic reproducers rather than genetic modifiers. Additionally, John Evans, a professor in the Department of Sociology at the University of California San Diego, and Kathy Hudson, a microbiologist and deputy director for science at the National Institute of Health, find within their case study that groups such as fundamentalists, extreme traditionalist Catholics, and evangelicals are more opposed to the use of the technology than religious groups that are more liberal in their beliefs (Evans & Hudson, 2007). Evans and Hudson agree with Delkeskamp-Hayes’ assertion, as both studies conclude that the ethical opinion’s that Christian’s hold regarding the usage of biotechnology vary significantly depending on their religious affiliations. In contrast to Evans and Hudson’s conclusion, microbiologist Vasodavan Kalidasan and geneticist Kunitaa Theva Das, from the Department of Biomedical Sciences in the University Sains Malaysia Kepala Batas and the University of California Davis respectively, articulate that Christians see the human genome as an “identity document” that separates animals from humans as well as connects them to Christ (Kalidasan & Das, 2022, p. 3199). Because of this, some view the possibility of genetic modification as something to be generally wary of, although they are willing to accept its implementation as long as it benefits humanity rather than vain uses. This argument is further supported by Shuhaimi Ishak and Sayed Haneef from the International Islamic University in Malaysia, both of whom study religion, in which they assert that some people within traditional Catholic communities see reproductive aids “such as donor gametes...gestational surrogacy, and cloning” as something that encourages sexual activity (Ishak & Sayed, 2014). However, the authors also elucidate that the usage of the devices can be justified by Christians if it is “by reason of medical necessity” to help counter infertility, which is scientifically defined as a disease (Ishak & Haneef, 2014, p. 409). Yet, further acceptance within religious sects would be provided if the use of reproductive aids would stay within the moral ideals of marriage. Moreover, topic of age must be a factor to address within religious groups as well, as sociologists Kyle Longest and Christian Smith state that younger groups of people had a stronger agreement “in science and [religious] compatibility,” most likely due to the combination of New Age or non-Western spiritual traditions alongside “fundamentalist Christian doctrine[s],” which enables an individual or group to have more complex set of beliefs in regards to science’s role in religion (Longest & Smith, 2011, p. 846). From this, it can be deduced that emerging adults hold beliefs that are contradictory to that of their traditional religion, particularly

within Christian branches, which may suggest that new social factors and attitudes positively affect religion's relationship with science, rather than mitigate its usage. With most of the Christian influence being confined to their own religious branches and social niches, the ability of biotechnological development and implementation appears resilient on a largely public scale against negative retaliation by stricter religious values, as the concerns raised by Christian ethics generally apply to their own religious beliefs rather than to the public.

Biotechnological Aid to Communities

With the continued rise of biotechnology being promoted and produced by the scientific community, a rise of discussion will occur as to how these technologies impact the population as a whole in regard to their ethics and guidelines, which Christian communities may be able to help directly with their viewpoints on what is considered to be immoral. John Davis, a Presbyterian Professor of Ethics of Duke University, discusses the moral and ethical implications of research on genetics and technologies for those of the Evangelical Christian ideologies and concludes that the usage of genetic engineering may come with several ethical drawbacks that might not be considered by scientists or politicians (Davis, 2004). As this may negatively impact the general population if not handled correctly, people who view ethics from a biblical perspective may be able to help lead both present and future debates of the form these technologies should take (Davis, 2004). Even if some Christians may hold a negative viewpoint of biotechnologies, their perspectives may prove valuable towards guiding the usage of the technologies in a way that would benefit the public. Disagreement to this viewpoint, however, emerges from Russell DiSilvestro, a professor in the Department of Philosophy at Sacramento State University, wherein he examines whether the ethics of Christianity prove to be valid “grounds for prohibiting” the use of human germline engineering (DiSilvestro, 2012, p. 201). When analyzing defenses that claim that genome engineering plays the role of God, causes genetic intervention, and is generally self-defeating, he was able to disqualify the arguments by claiming that they would have no scientific or political validity (DiSilvestro, 2012). However, he still advises that this is not a pass for germline engineering to occur, but rather only that the three arguments he looked at proved to be unsuccessful in their cases, not as a whole. DiSilvestro demonstrates that while some Christians may hold a negative belief against the use of biotechnological usage, the arguments made by them would have no significant effect in terms of preventing its implementation. In continuation of DiSilvestro’s conclusion, Maria Lastochkina of the Russian Academy of Sciences argues that while some Christians fear that genetic engineering would manipulate the human genome to be “unidentifiable” from God's original creation, the usage may prove to have benefits in terms of “the spiritual identity of those involved in the practice,” as it would allow for a deeper understanding of both physical and mental development within a person (Lastochkina, 2012, p. 165). The argument by Lastochkina reinforces that of DiSilvestro, as she concludes that while the implementation of germline genetic engineering may cause apprehension for those who follow Christian ideologies due to ethical concerns, the usage of it crosses no ethical barriers and may even be beneficial as long as it does not cross the definition of the human species. Despite this agreement of viewpoints, Davis is further supported by Doctor Guitele Rahill and her colleagues in the College of Behavioral and Community Sciences and other esteemed universities, as they investigate the different ways that the Haitians were resilient after the 2010 hurricane and found that there were several different ways in which people went about with their own form of resilience (Rahill et al., 2016). One form in particular involved the people relying on their religion and praying to their god for help in their times of need and felt that even though their current conditions were bad, their god would provide for them (Rahill et al., 2016). The findings of Rahill and her colleagues display how people are willing to depend on a higher power—whether that be a god or a government figure—for help in their lives if they are facing an issue that is generally considered to be large-scale. While the continuance in their ideologies may help them to cope with certain issues, if there was a blind acceptance to stricter religious values, it might impede on the person’s ability to adapt, which can be seen if a person or religious community was unwilling to acknowledge the possible advantages of biotechnology, thus limiting its overall use. Even apartheid leader and South African president Nelson Mandela—in his book written while in prison—claims that it is often the role of a majority authority to break down the psyche of the minority, thus increasing the likelihood of blind acceptance

towards unhelpful or outdated ideologies and lessening resilience and lack of adaptability towards certain changes that may be beneficial for the individual or environment as a whole (Mandela, 1994). As such, it is important to consider different perspectives and concepts when questioning the ethical implementation of biotechnologies on local and widespread societies, as it allows for a discussion of what can be deemed as morally objectionable, yet a lack of credibility or reasoning to support stricter beliefs, especially within more traditional Christian communities, may lead to an automatic refutation towards technologies and policies that could be beneficial.

Discussion

With the continuing rise of biotechnological devices such as reproductive assistance or germline genetic engineering among humans, there must be an evaluation of the extent to which the development of these devices is impeded by the ideologies of Christian communities, as well as the extent to which the technology and scientific community is resilient against the possibly negative connotations associated with the science. Research by scientific professors such as bioethicists Michael Reiss indicates that scientific worldviews and concepts are unlikely to take precedence over an individual's religious values on the topic of creationism and human's role within life, which then decreases the desire to understand the benefits of scientific notions within religious communities (Reiss, 2009). While the perspective of some traditional Christian denominations still maintains negative stances in regard to the implementation of biotechnology, which then spread to the general public, more contemporary Christians view biotechnology as a form of science that has the ability to aid humans in different illnesses. Thus, the need of biotechnological advancement to develop resiliency towards the negative connotations Christian communities hold may see it fit to decrease over time. However, increased opportunities for Christian communities to learn more about the scientific concepts and advantages that emerge with the development of biotechnologies is still important, as the efforts to display the helpfulness of biotechnology may become null if the religious community wishes to adhere to their stricter ethical ideologies.

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