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Silver, Lee M. (1997). REMAKING EDEN: How Genetic Engineering and Cloning Will Transform the American Family. New York: HarperCollins Publishers.

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In the book, "Remaking Eden", the author, Lee M. Silver, focuses on the biomedical field of reproduction and genetics and the details of highly technologically advanced and unconventional reproducing practices. The book further delves into the no longer conceptual and fictional ideas of cloning and genetic engineering. Each of these processes are analysed by Silver in great detail, taking into account the various ethical implications of the procedures. The perspectives of fellow scientists and biomedical professionals are also explained alongside the views of specific religious doctrine. Perspectives from both extreme sides were evident as some views rejected the idea of contemporary reproductive technologies, while other views were in accordance with the concepts of germinal choice technology and human enhancement. The significance of 'reprogenetics' is that it is coined from the words reproductive biology and genetics (p. 17). Silver argues that the future of a family has much to benefit from reprogenetic practices. He also describes the influence of such technologies on the family structure and function, shedding light on whether or not it would have any detrimental effects.

One of the key facts the book states is that reproduction is no longer reliant solely on sexual intercourse (p. 73) and can take place through many other procedures in the numerous different cases of infertility. Silver suggests that artificial insemination (AI) is less advanced in comparison to other more progressive technologies (p. 77). He explains that artificial insemination can occur by the way of the husband's sperm or a donor's sperm (DI or Donor

Insemination) in situations with single mothers or lesbian couples including egg donors for women who are infertile. Another technique discussed is IVF or In Vitro Fertilization, which is carried out differently than AI. During IVF, the egg and sperm are fused together then placed within the women's body, whereas in AI, either the egg or sperm is inseminated. Silver mentions that IVF was advantageous to many infertility cases, and studies of IVF have led to another essential procedure called Intra-Cytoplasmic Sperm Injection or ICSI. The book explains that this component of IVF assisted in fusing the egg and sperm together manually when they were naturally incapable of doing so. Not only did Silver dissertate research for female infertility, but he also included options for men as well. One such option was Round Spermatid Nucleus Injections or ROSNI, where infertile men's differentiated spermatids were merged into the egg cytoplasm. In situations where there is no nuclei production, the use of foster testes becomes available as an option (pp. 76-86). The last of the key components of reproduction without sexual intercourse is cryopreservation. Silver states that the embryo in this phase is frozen and can be used efficiently when convenience is met as it is less stressful for women and they don't have to go through the manual process of taking out the eggs multiple times (p. 92). According to Silver, these procedures have become increasingly popular overtime.

Silver's strong belief in the future of cloning is evident through the tone and phrases used in the book. He ensures that the cloning of Dolly the sheep in 1997 marks a huge step in history, which paved the way for research towards cloning humans (p. 107). Especially since primates such as monkeys were also cloned shortly after this, Silver suggested that we were closer than ever to cloning humans as well. Silver explains the process and functions of cloning through the transfer of the nuclei, which is due to the exact same genetic DNA as the original tissue donor. He explains that cloning may seem like a controversial topic, however, it may be of assistance to

many infertility concerns and stem cell research. In one case, bone marrow transplant was deemed essential for the survival of a cancer patient. He also discusses that fertility aided cloning can conceivably provide children to single mothers or fathers with a surrogate, including homosexual and heterosexual couples.

Silver examines genetic engineering while exploring the ethical aspects and processes of having children without diseases, proving the latter to be life threating. He claims that genetic engineering is a form of positive eugenics as it is a means of reducing potential diseases from emerging. Nonetheless, Silver states that there have also been speculations of engineering specific traits, behaviours and looks. There are many ethical concerns regarding each of these reproduction processes of AI, IVF and ROSNI techniques, which all oppose natural processes. Also, cloning and genetic engineering is seen as ethically wrong, because the cloning of the original donor may have detrimental consequences for the newborn when he or she realizes she is not unique. Genetic engineering through embryo screening technologies (p. 257) is also seen as negative because it can be used to acquire desired traits in children leading to discrimination between children of families who cannot afford such procedures. Silver refers to these future discriminatory practices by explaining those in terms of GenRich, genetically engineered individuals, and the opposite, GenPoor. These concerns are shown by the many perspectives of biomedical professionals that Silver discusses. Some of these scientists completely agree with these technologies, while others are completely opposed. Silver mentions in many areas about the Catholic Church and the Vatican being completely against cloning, genetic engineering, and even some forms of surrogate practices and IVF.

Silver analyzes the issues with the cloning process, which can lead to complication of family structures in the future. For example, the birthing mother or tissue donor is in fact the

genetic twin of the child, making the grandmother and grandfather of the child the actual biological mother and father of the clone (p. 156). As for the family structure of genetic engineered individuals, the families would be eliminated of any undesired traits and would assume to be the supposed ideal family.

The intentions of the author is to convey the importance of cloning and how it may be utilized to correct the many mistakes of natural reproduction. Throughout the book, the author uses many examples and explanations in an attempt to convince and persuade the reader of the benefits of reprogenetics for the future of family life. The publication of this book in 1997 was closer to the times of major discoveries, such as the cloning of Dolly. The genuine interest in the main theme is evident through the tone of enthusiasm, due to the time of publishing. The book is very well versed and it is abundant in detail regarding genetics and reproduction, as it is relevant to the present day scientific community.

Large portions of the text were not quite objective as the author stressed the advantages of reprogenetics. Some areas suggested that the author seemed to be overstressing specific issues. Such as using various examples to prove that cloning is the future of families. Although the author includes ethical issues, he always goes back to defending the techniques and further emphasizing that cloning is the best option. Even though it may seem like a solution to many family problems, reprogenetics may not be appealing for everyone, as every individual has their own perspectives and morals. Another limitation, linking the overstressing of specific issues is the blatant disregard for religious beliefs, which is another reason why this book is far from objective. The author, in many instances, states that the fear of cloning and reprogenetics is due to religious beliefs. He then goes on to say that religious beliefs regarding cloning and genetic engineering are not credible in this day and age. For these reasons the book cannot cater to a

wider range of people, being one of its greatest limitations. Some helpful suggestions in order to acquire more readers is to stay more objective and to try to understand the viewpoints of people on either side of the spectrum, those who are pro-reprogenetics and those that have opposing standpoints. Changing the emphasis throughout the book would also be effective, making it more welcoming to newcomers to such advanced topics.

The specific audience for this book is the scientific community and people who are pro-reprogenetics or regardless of viewpoint, take a great interest in genetics. As well, couples or singles thinking about starting a family, but have issues with infertility, may be drawn to the information about family structure within the book.

In “Remaking Eden”, the techniques of human cloning, genetic engineering, and other advanced reproductive measures were discussed in detail. Silver expresses a positive outlook on reprogenetics throughout the book, in consideration of the future of fertility and family structures. Silver’s title conveys the idea that the advancements in science are leading the future of reproduction towards a man-made Eden.