

The Ambivalence of the Gene Trade in Octavia E. Butler's *Xenogenesis* Trilogy

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1. Introduction

Lilith's Brood, also known as the *Xenogenesis* trilogy, is a science fiction series of novels written by Octavia E. Butler, an African American science fiction writer who died in 2006. The story is set mostly on Earth, about 250 years after it had been devastated by a war caused by humans. An ecocritical approach is of interest since the novels deal with the harmful effects of the human race on the Earth, which has driven it nearly to destruction. A black woman, Lilith, is chosen by an extraterrestrial race named the Oankali to repopulate the Earth after interbreeding with the alien race. The first book in the trilogy, *Dawn*, tells the story of Lilith from the time when she is awakened by the Oankali until she returns to Earth to begin a new life there, while the second and the third parts are focused on two of the Lilith's descendants (Akin in the second novel, *Adulthood's Rites*, and Jodahs in the third, *Imago*) fruit of the interbreeding with the Oankali.

One of the most important aspects of the trilogy (and the one that will be the main subject of this paper) is genetic engineering. As Butler stated in an interview conducted by Charles H. Rowell: "If you are interested in science fiction, I hope you are also interested in science [...]. A science fiction story must have internal consistency and science" (55). With this principle in mind, Butler introduces genetic engineering as one of the major issues of the book, and her starting point is always a scientific approach. As the biologist Joan Slonczewski explains, "[a] science fiction writer can now propose alien interbreeding based on reasonable biological speculation, but few writers in fact develop the biological basis as soundly as Butler does" (3). Although developing a definition of science fiction is difficult and not a topic on which most authors agree, according to science fiction writer, Robert A. Heinlein, "a handy short definition of almost all science fiction might read: realistic speculation about possible future events, based solidly on adequate knowledge of the real world, past and present, and on a thorough understanding of the nature and significance of the scientific method" (52). Therefore, the idea that the speculation contained in a science fiction work is based on the facts of the real world today makes science fiction, in many cases, a perfect instrument for critiquing contemporary cultures and societies. To make a critique effective, however, the scientific foundations of any science fiction work must be accurate, and Butler is one of the science fiction authors whose work presents this accuracy most clearly. In this case, such elements are fundamental to the questions that she raises about the influence of interbreeding on the society she depicts and especially about the use of related technology today. Indeed, the *Xenogenesis* trilogy can be taken as a legitimate source in

discussing several scientific issues, among which genetic manipulation is one of the most significant in the book. This paper will cover some of the most controversial aspects of this subject that are considered in the *Xenogenesis* trilogy, as related to the use that the Oankali make of the DNA of different species.

Three aspects will be covered in this paper: the interbreeding with other species, the use of genetic manipulation to cure diseases, and the issue of whose property genetic information is. As will be shown, these three aspects are included in Butler's trilogy in how the Oankali behave in their attempt to improve the human race and all of Earth's living organisms in general. This behaviour, while presented as altruistic, is not very different in its motivations from how the human race behaves with respect to other species in our society. Therefore, this parallelism constitutes an excellent instrument to warn of the dangers of genetic manipulation today. The danger of genetic manipulation is, indeed, an important issue from an environmental point of view because, in the end, the objective is to transform nature to satisfy human necessities. Although it can be argued that this transformation can have its advantages, such as curing disease, the story Butler presents shows that the control of genetic manipulation by one of the species (the Oankali in Butler's work, the human race in our society) has an important and obviously harmful impact on the environment, as is clearly stated in Butler's work and will be described later in this paper.

2. Genetic exchange and interbreeding between different species

The Oankali are an alien race that seems to be able to manipulate the DNA of the different species that they find in their travels through the universe. They refer to this manipulation as "trade." Trade can be defined as the voluntary, often asymmetrical exchange of goods or services. The voluntary aspect of trade is crucial from an Oankali point of view because, as they propose it, trade is supposed to constitute an agreement between the two parties. The Oankali need to collect the genetic information of the different species to evolve, and through the same process, they transform and change the species with which they exchange this information. Thus, such an exchange, according to the Oankali, produces a relationship that is positive for both species. "We serve the ship's need and it serves ours" (35), affirm the Oankali in describing their relationship with their spaceship, which is a living being that they have developed to help them travel through space. This relationship could be understood as symbiotic because, according to the Oankali, it is a relationship between different living beings that depend on each other. However, this symbiotic relationship does not appear to be perfect in the trilogy. The tendency of the Oankali to omit part of the truth will be treated later in this paper, but for now, we can note that in their description of trade, they forget (probably intentionally) to highlight that trade is often asymmetrical. Indeed, throughout the book, it is not clear how the spaceship benefits from the relationship, if at all. Even Akin, who is half human and half Oankali, asks himself at one moment, "What do we do for them, really? (...) they could travel without us" (441). This statement shows that the benefit for the Oankali is clear in this relationship (they gain the ability to travel), while it is not so clear what the benefit is

for the spaceship, although the Oankali claim that there is one, defining the relationship as symbiotic. In the end, the Oankali are the ones who control this relationship. The Oankali are the ones who know how to manipulate the DNA, “a language that they have a special gift for” (169), and they are the ones who identify the benefits for the different species. The same problem arises when this species exchanges DNA with humans. It is clear that humans are not able to manage their existence on Earth alone because they have almost destroyed it. The reason put forward is the hierarchical nature of human beings. The competitive nature of humanity, according to the Oankali, has led to the human race’s self-destruction. Therefore, the solution is genetic exchange with the Oankali, including interbreeding to create a new hybrid species that is supposed to repopulate the Earth. This exchange will be positive for the Oankali because of their need for genetic information. If the Oankali are to be trusted, it will also be positive for humans because the new species will not inherit their hierarchical nature and will be better able to relate to the environment and others.

However, this exchange, which is again defined as trade, does not appear as a fair trade. Molly Wallace has studied the *Xenogenesis* trilogy from an economic point of view (108-112). Considering that genetic exchange is defined by the Oankali as trade, it can be compared with commercial trade. Based on this comparison, Wallace asserts that the trading happening is unfair because of the predominant position of the Oankali in the exchange. As mentioned above, in our society, trade often is completely asymmetrical because the two parties to the trade agreement often do not enjoy the same level of power, especially when different countries are involved. Therefore, one of the countries can impose conditions on the other. For instance, developed countries usually dictate conditions to developing countries. This dynamic has led to the development of several organizations that have tried to develop the concept of “fair trade” as a way of improving the conditions in developing countries. Just as Wallace states, the kind of exchange performed by the Oankali, where one party has absolute control over the conditions, cannot be considered fair. Furthermore, it also could be added that the Oankali are attempting to eliminate the hierarchical elements of human nature only in order to establish another completely hierarchical relationship in which they enjoy superiority over the human race. Therefore, the trade that occurs in the novel is hierarchical trade, as is manifest in most economic relationships nowadays, with associated injustices occurring globally.

This hierarchical relationship could be acceptable if it were assumed that the Oankali were in the possession of the absolute truth and were not looking to benefit themselves. However, there are several aspects of the book that make this statement doubtful at best. The interbreeding between the human race and the Oankali is undertaken by a neutral sex, the Ooloi, who are essentially the genetic engineers that perform the cross-breeding between the races. The neutral condition of the Ooloi is not accidental: it would seem to legitimize its intervention in reproduction as one not for sexual pleasure but rather for the purpose of improving the species. Removing the sexual aspect of reproduction by introducing a neutral referee seems to make reproduction aseptic from the Ooloi point of view, providing additional proof of the altruistic nature of

the Oankali. However, these referees are ultimately Oankalis following their own rules. Moreover, in *Imago*, it can be seen that the Ooloi enjoy the “interesting taste” (564) of the genes of the different organisms. This suggests that there is some component of pleasure involved in the process for the Ooloi, not total neutrality. Moreover, sexual pleasure for human mates is provided by the Ooloi following the Ooloi rules for sex. These rules include the impossibility for humans to obtain pleasure directly. Pleasure is only mediated by the Ooloi, being further proof of the hierarchical relationship established between the Oankali and the human race, which is similar to that between the human race and the rest of Earth’s species today.

Therefore, it emerges that the Oankali are not as different from humans as they appear at the beginning. They cannot lie, but we soon learn that they can say half-truths. Lilith finds out that the Oankali have a stock of genetic human material to use for experiments, and they also control her reproduction, selecting Joseph as the perfect mate for her and trying to make her believe that she is making a free choice. Ultimately, the Oankali are “manipulative as hell,” as Lilith admits (42). They also admit that they are going to transform Earth in a way that does away with living beings as we know them, transforming them in the Oankali way (440-443). Interestingly, this is not very different from what we humans are doing in our complete transformation of our ecosystems. Genetic manipulation, as understood by the Oankali, will not lead to self-destruction as the actions of the human race have nearly done at the beginning of the book, but it is very clear that in the end, the transformation that the Oankali defend will be as harmful as the ones that the human race has always practiced and has often spearheaded in recent years. That this transformation of nature will lead to its destruction is, most likely, the aspect of the book that raises the most doubts about the Oankali’s intentions. The Oankali recognise that when they finish their task on Earth, our planet will be left behind as a completely stripped, barren rock: “what was left behind [...] would be small, cold, and as lifeless as the moon” (365). In this case, the parallelism is literal, and the environmental issue is evident, as Butler is illustrating the possible danger of continuing to transform nature for our benefit, using, on most occasions, similar arguments as the Oankali’s – namely, our supposed superiority over other species.

3. Genetic manipulation as a cure for diseases

Another controversial aspect of genetic manipulation is the capacity of the Oankali to cure genetic predispositions toward certain diseases in humans. Especially important is the beauty they find in cancer; it provides them with further information about cell reproduction in the human species. According to the Oankali, humans have “a talent for cancer,” and cancer is “beautiful” (23, 31). Slonczewski affirms that “Butler is one of the few science fiction writers to explore the positive potential of bad genes” (3). The author considers Butler to be ahead of biological advances because after the books were written, biologists found that “genetic variants which seem defective under current conditions may confer benefits when conditions change; for example, a rare defect in the structure of white blood cells confers immunity to AIDS” (Slonczewski 3).

However, this ability to cure diseases also gives the Oankali the opportunity to determine who deserves to be cured. Cures are provided only to those who follow the Oankali's rules. As Priscilla Wald states, "They promise health, longevity and harmony in exchange for the future of the human species" (1908). According to the Hippocratic Oath, one of the ethical tenets of the medical profession is as follows: "In every house where I come I will enter only for the good of my patients, keeping myself far from all intentional ill-doing and all seduction." That means that somebody with the ability to cure a disease must always seek to benefit his patient, not putting his own benefit first. However, because the Oankali are using the principles of trade when curing a disease, which is certainly unfair, the cure that they offer does not preserve this part of the doctor-patient relationship. The problem is that humans lose their ability to choose if they want to participate in this exchange. The ones who are offering the cure, the Oankali, are choosing who the patients are and how they must be cured so that they can be part of the future that the Oankali are promising. Those who do not want to be part of this future, in which a new hybrid species will be created, will lose their capacity to reproduce. Indeed, those who decide not to join the utopian community being created by the Oankali are seen as sick and are therefore sterilized so that this sickness will not spread (445-450).

Butler is very concerned with the idea of sterilization to avoid propagating sickness. Not only does this issue appear in this trilogy, but it is also part of her short story "The Evening and the Morning and the Night." In this story, Butler creates a disease, DGD (Duryea-Gode disease), which causes those infected with it to harm themselves and people around them. Because the disease is hereditary, the story invites discussion about the necessity of sterilizing the people suffering from it. The tale presents a scenario in which DGD patients have been traditionally confined and their reproduction controlled. In this sense, the debate about how far we can go with genetic manipulation and if one can determine who deserves to reproduce is a main concern in Butler's work. It is important to note that the endings of the two stories are quite similar. In the *Xenogenesis* trilogy, at the end of the second book, *Adulthood Rites*, the humans who do not accept interbreeding with the Oankali are allowed to reproduce, but on the condition that they will be exiled to a new colony on Mars (508-517). In *Imago*, even Jodahs admits that "settlements of fertile Humans would be found and the people in it collected" (621) using an expression very similar that the humans use now regarding other species considered as inferiors. In "The Evening and the Morning and the Night" the patients with DGD are not sterilized, but they are confined in a program called Dilg. It is likely that this facet of Butler's work is not as related to her concern regarding genetic manipulation as it is to the treatment of some minorities whose reproduction has been historically limited or who have been extracted from their living places and confined. As Rachel Stein points out, in the United States and other Western countries, policies of sterilization and birth control "such as Depo-provera shots and Norplant devices, and family size limits" have been forced on women belonging to minorities (black women mostly) for economic reasons such as "wise use of environmental resources and creating proper home environments" (212-213). Stein's paper comments on the concern that the Committee of Woman, Population and the Environment has expressed about the use of sterilization policies in the Third World. The

work that Butler (an African American writer) has published displays her concern about this issue. Butler's concern with the limitation of reproduction is directly linked with the core theme of this essay, as one of the main concerns regarding genetic manipulation is its use as a tool for the selection of genetic features in human reproduction. If these features can be chosen, one concern is the possibility of racial selection. As genetic manipulation can be directly related with this selection, it is important to observe how these two concerns are interrelated in Butler's trilogy.

Returning to the ability of the Oankali to cure diseases, we should note another ethical aspect of the question that deserves to be considered. This aspect is more related to genetic manipulation and whether the possibility of curing a disease justifies the alteration of and experimentation with genetic information. Aside from the question of the ownership of genetic information, which will be debated in the next section of this paper, another important question arises. It is true that after the genetic manipulation performed by the Oankali, a new, healthier and longer life is possible for humans. However, at the same time, the human species will be severely altered. In fact, Butler exaggerates this alteration to the point that humans will be extinct as we know them and a new hybrid species will replace them. The question here is whether this is ethically admissible: if nature can be transformed into something completely different if the transformation is performed with good intentions. As stated above, it is not clear in the trilogy that the new species is a considerable improvement over the human race and that the fate of the Earth will be very different from what it has been in the hands of humanity at the beginning of the trilogy. It seems that in the end, the changes only benefit those who control the manipulation process, the Oankali, because they need the genetic trade to evolve as a species. This excuse is the same as the one given by humans to justify scientific advances even if they are unnatural, that is, it is for the sake of our improvement in terms of longer lives or a better quality of life, no matter what are the consequences for our environment or for other species. This situation finds a parallel with the use of genetic manipulation to improve the productivity of the harvest. On the face of it, the intentions of the providers of the technology can be seen as praiseworthy. However, to develop these new transgenic species, the farmers of some countries, e.g. in Central America, depend on the owners of the technology to obtain the needed transgenic seeds that are not produced by nature. Therefore, the initial good intentions are eclipsed by the search for commercial benefits. The same is true in the case of the Oankali.

4. The property of the genetic information

One of the most important issues that appear in the *Xenogenesis* trilogy is the subject of genetic information as property. From the beginning of the first novel, the Oankali take possession of the genetic heritage of human beings and use that information in whatever ways they consider appropriate. They cure diseases and prolong the duration of human life, but they also determine the conditions under which humans can reproduce, forcing them to interbreed. Moreover, it is mentioned (224) that the Oankali have the option of cloning the humans that they have on their ship, changing their behavior,

although there is no evidence in the trilogy that the Oankali make use of this opportunity.

Some authors have seen a parallel between this use of genetic heritage and some controversial cases that have emerged in recent years. Cole considers there to be a close relationship between the behaviour of the Oankali and “the imperialism of the *Human Genome Project* (HGP)” (186). The HGP was organized to map the human genome by collecting samples of DNA from different groups of human beings, especially groups that were considered at risk of extinction (like some indigenous groups). Due to the controversy, especially when the US Secretary of Commerce tried to file a patent for the genetic information of a black woman because it was widely used to cure leukaemia, the HGP reduced its activity, although in recent years, there have been serious attempts to revive it. According to Cole, the mercantilist use of genetic information about human beings is not very different from what the Oankali do in *Dawn* for their own purposes. In a similar way, Wald draws a parallel between the ethical dilemma of the Oankali’s behavior and the case of Henrietta Lacks, an African American woman who was diagnosed with cervical cancer in 1951 and whose cells (the HeLa cells) provided “new opportunities for research as well as important medical advances” (1908). Wald connects the ethical questions raised by this case, which concerned the confidentiality of genetic information and ownership of the benefits obtained from such information, with the position of the Oankali in their efforts to cure cancer; although they claim to do it for the benefit of humanity, it also appears that the real objective is their own benefit. On the other hand, Schwab argues that there is a fundamental difference between the Oankali’s behaviour and the behaviour of the HGP scientists because “life, for the Oankali, is a common property that cannot be owned” (225). With this statement, Schwab argues that the Oankali’s motivations are completely pure; they are trying to preserve life and improve the condition of the Earth’s, which has been severely damaged by human beings.

However, the novel provides support for Cole’s and Wald’s thesis. The Oankali’s behaviour does not significantly differ from present human attitudes toward DNA. We might debate the nobility of the Oankali’s ends, but even if they are noble, there is no justification for their way of proceeding. Although they constantly defend the idea of trading, it is clear that in genetic manipulation, instead of both parties agreeing and benefiting, not all humans have agreed to this trade, and the Oankali are punishing those who do not agree with retirement, sterilization and expulsion from the Earth. This behaviour toward human beings, and this lack of respect for their free will, raises serious doubts about the relationships that they maintain with other living beings. Their relationship with the spaceship, which seems so idyllic at the beginning, may be ruled by the same principles that are at play in their relationship with humans. This idea is reinforced by Akin’s doubts about the necessity of trade to the ship itself, which is considered a living being. Therefore, in the end, the Oankali’s behavior does not differ from that of the HGP members because it lies at the narrow border between the quest to improve the species and their goal of securing benefits for themselves. Ultimately, what is important is that they are doing this without the consent of those who own the genes; the experiments are performed using their bodies and their genetic heritage. As the Oankali affirm, “[t]here’s no way for them except the way we offer” (200). It is apparent that the

Oankali have a deep need to interact with the genetic information of the other species, not only for pleasure but also to improve as a species. They are also unaware of the impact they can have on the species they interact with. They believe that they have the truth and, hidden behind the shield of mutual benefit, it is they who make all decisions regarding the use of genetic information. Therefore, their behaviour can be compared with that of the HGP because it is difficult to see the border between the economic benefits and the improvement of the species. Although the benefit is not one of economics for the Oankali, the line cannot be drawn between the benefits they obtain from the genetic information of other species and the benefits that human beings will obtain to determine if there is a symbiotic relationship of a relationship based on the domain, one a species over the other.

5. Conclusions

Genetic manipulation is one of the main science-related issues addressed in the *Xenogenesis* trilogy. Here, the Oankali's behaviour has been analyzed from three points of view and compared with contemporary human behaviour. We have considered interbreeding with other species and the creation of new ones, the use of genetic engineering to cure diseases and the acknowledgement of DNA information as property when it is used for research or other objectives. The behaviour of the Oankali is presented at the beginning of the novel as completely altruistic, but a further analysis of their way of proceeding raises many ethical questions that make their position seem very similar to that of human beings at this time. This idea is reinforced by the presence of Akin as the main character in *Adulthood Rites*; he has important doubts about the intentions of the Oankali and procedures that they use. The idea is also supported to some extent through Lilith's behaviour until she is completely seduced by the Oankali. Moreover, the character of Jodahs in *Imago* is somewhat manipulative, and he seems strongly oriented toward the search for pleasure. This constitutes another example of Butler's exploration of the issue of genetic manipulation, and it is what makes the analysis of science fiction writers like Butler so interesting: the capability of raising current scientific questions using fictitious scenarios. The advantage of raising these questions using fiction is that it allows different perspectives on where these scientific advances are leading us, and to bring discussion about them to a general audience. Thus Butler's work exceeds the narrow limitations of expert discourse, even as its scientific basis lends full legitimacy to the ideas she presents in her books.

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