

Animal and Human Hybrids: Exploring Genetic Manipulation and its Ethical Implications in Margaret Atwood's *Oryx and Crake*

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Abstract

Margaret Atwood's *Oryx and Crake* (2003) presents a dystopian future shaped by rapid advancements in genetic engineering and biotechnology. Central to the novel are genetically modified animal hybrids such as pigoons, rakunks, wolvogs, and snats, which challenge conventional understandings of species boundaries and raise profound ethical questions regarding scientific experimentation, human responsibility, and ecological sustainability. This paper examines the representation of animal hybrids in *Oryx and Crake* and analyzes their ethical implications through the lenses of bioethics, environmental ethics, and posthumanist theory. The study argues that Atwood uses hybrid animals not merely as speculative inventions but as critical tools for questioning humanity's pursuit of scientific progress without ethical restraint. Through these hybrid creatures, Atwood highlights the dangers of commodifying life, disrupting natural ecosystems, and blurring distinctions between humans and non-human animals.

Keywords: *technology; biotechnology; animal hybrids; genetic manipulation; ethical implications.*

The twenty-first century has witnessed unprecedented developments in biotechnology, genetic modification, and synthetic biology. While these innovations offer solutions to medical, agricultural, and environmental challenges, they also generate ethical concerns regarding the manipulation of living organisms. Margaret Atwood's *Oryx and Crake*, the first novel in the *MaddAddam* trilogy, explores these concerns through a speculative future where corporations dominate scientific research and genetic engineering has become commonplace. Margaret Atwood's dystopian novel *Oryx and Crake* presents a bleak future where genetic engineering has led to the creation of animal hybrids. These chimeric organisms serve as a reflection of humanity's unchecked pursuit of scientific advancement and the potential consequences of tampering with the natural world. The paper aims to analyze the portrayal of animal hybrids in *Oryx and Crake* and explore the ethical implications associated with genetic manipulation. It explores the concept of "playing God" through genetic manipulation, raising questions about the limits of scientific progress and the potential consequences of crossing ethical boundaries. The novel emphasizes the responsibility of scientists, corporations, and society as a whole to consider the long-term effects of genetic engineering on both the natural world and human society. Atwood, by using the animal hybrids in *Oryx and Crake*, contributes to a deeper understanding and offers valuable insights into the intersection of science, morality, and environmental stewardship in the context of a dystopian future.

In *Oryx and Crake*, Margaret Atwood paints a vivid picture of a world where science and corporate interests have blurred the lines between humans and animals. The novel delves into the lives of genetically engineered animal hybrids, highlighting the dangers and moral quandaries arising from unchecked technological progress. This paper will by examining the various animal hybrids depicted in the novel, will focus on the ethical implications surrounding their creation. The latest technologies help the scientists to interfere with the building blocks of nature by creating human-animal and animal-animal hybrids. Meddling with nature is an activity that the scientists in the novel do to fight their boredom, without realising the impacts it could have. The scientists do not realise the fine line that they cross in testing their abilities to create something and the question that arises is whether something like this should be created? This has been appropriately summed up in the lines by Dr. Ian Malcolm while debating against the genetically modified dinosaurs bred from the DNA traces found preserved in amber: "Yeah, yeah, but your scientists were so preoccupied with whether or not they could that they didn't stop to think if they should" (Crichton, *Jurassic Park* 1993).

Atwood tries to comment on the corporations and the scientists who use genetic science as a toy to make monetary benefits and thus warns that its repercussions would not be good. This research utilizes a qualitative analysis of *Oryx and Crake*, focusing on the descriptions and characteristics of the animal hybrids presented in the narrative. By examining the text closely, key themes and motifs regarding the animal hybrids and genetic engineering can be identified and analyzed. Additionally, this paper draws on relevant literary criticism and scholarly works to provide a comprehensive exploration of the subject matter.

Atwood's use of multiple animal hybrids with reference to the latest technologies that help in making this a possibility can be seen as the criticism of such ongoing projects. This is in direct contrast with the evolutionary theories set forth by Charles Darwin and others, especially the concept of "evolution by natural selection". Atwood's representation of the animal hybrid is a speculation of what scientists are trying to do today, but this by all means is questionable as Darwin, in his book, *The Origin of Species* warns, "Any variation which is not inherited is unimportant for us" (14). Darwin while explaining the 'correlated variation', the unintentional variations that arise when any alteration is introduced into a specie writes:

... if man goes on selecting and thus augmenting, any peculiarity, he will almost certainly modify unintentionally other parts of the structure owing to the mysterious laws of correlation ... [because] [t]he results of the various, unknown, or but dimly understood laws of variation are infinitely complex and diversified. (*The Origin of Species* 14)

The attitude of the scientists working in the Compounds towards such grave and serious matters is clear from the words of the narrator when he says, "There's been a lot of fooling around in those days: create-an-animal was so much fun, said the guys doing it; it made you feel like God" (*Oryx and Crake* 51). Motivation behind such projects comes from the thought of power and money that will come along with any such project. There are mentions of multiple hybrids, both animal-animal and human-animal. Such hybrids have been termed "chimera" in the mythologies of all the regions. To create an ideal pet, a hybrid of skunk and raccoon named as "rakunk" has been created by the Compounds. There are many such hybrids namely, "wolvogs," "bobkittens," "snats," and "Pigoons". All these hybrids have been created out of curiosity, but the Pigeon project is different as it has been created by keeping in mind the need for vital human organs. These hybrids have been created to serve the human needs like the chimeras in the mythologies catered to the needs of their creators,

the Gods. The unintentional variations warned by Charles Darwin that come along with the genetic modifications have also been pointed out by Atwood through the use of animal hybrids. In the chapter 'Bottles', Snowman, while still up on his tree attempts to shoo away the wolvvogs that have surrounded his sleeping tree and the narration goes as:

That's the worst thing about wolvvogs: they still look like dogs, still behave like dogs, pricking up their ears, making playful puppy leaps and bounces, wagging their tails. They'll sucker you in, then go for you. It hasn't taken much to reverse fifty thousand years of man-canid interaction. (*Oryx and Crake* 108)

"Pigoons" are the genetically engineered pigs with human stem cells in them. In simple terms, it means that pigs with the cognitive abilities of human. Then there is "rakunk," a hybrid formed by slicing raccoon and a skunk; "wolvvogs" a splice between a wolf and a dog; "snat," a splice of snake and rat; "bobkittens," a genetic hybrid of bobcat and many more. Such interference with the natural structures—which have been created by thousands of years of evolution—definitely have repercussions as the new animal's hybrids would always have a very unpredictable temperament. The Pigoons, the project of genetically modified pigs, is officially called *sus multioganifer*, and its goal is to grow human-tissue organs in a transgenic pig host. The pigs have been engineered in such a way that they could grow five or six kidneys along with other vital human organs at a time. To achieve this, the pigs had to be spliced in with the human cells. In 2017, Juan Carlos Ispizua Belmonte, a professor of the Salk Institute's Gene Expression Laboratory along with his team successfully created a human-pig hybrid embryo, which while growing contained 0.001percent of human cells.

Though such projects are destroyed after studying their initial results, they surely come with many moral and ethical concerns. The method, the procedures, and the results of the aforementioned experiment have been discussed thoroughly in the website for National Geographic in the article titled, "Human-Pig Hybrid Created in the Lab". And in January 2022, first genetically modified heart from a pig has been successfully transplanted into a person (Reardon Sara. "First pig-to-human heart transplant: what can scientists learn?"). The aim of such an experiment is to provide for the human organs that are very scarcely available otherwise. Though the aim of the experiment seems to be quite genuine, it cannot escape the scrutiny on the moral and ethical grounds; therefore, such experiments have generally been criticised as being 'unnatural'. This has been explored by Sara Rigby in her article titled "Human-animal hybrids: Can We Justify the experiments?" in which she quotes what Dr.

Makenzie Graham, a researcher at Oxford Uehiro Centre for Practical Ethics has to say about such experiments. Dr. Graham says, "To me, the more serious ethical concern is: if we are creating creatures that have a higher moral status because of, say, higher cognitive capacity, they might be entitled to treatment that we're not giving them in a research context" (Rigby, Sarah).

This highlights the concerns that Darwin has already raised with the term "correlated variation". To achieve the aim of a human-pig hybrid, the pig embryo has to be introduced with a human stem cell, the cell that has the ability to develop into other cells, including the brain cells. Graham suggests that this can unintentionally introduce the human brain cells into a pig and thus can improve their cognitive capabilities (Rigby, Sarah). It will disturb the moral status that the animal has been granted hitherto because of their present cognitive capacities and can result in an animal that "like humans is self-conscious." Further, to kill or harm any such animal will definitely be an ethical concern. If such an animal ever ends into food, it would create a potential risk of cannibalism.

Atwood presents a post-apocalyptic setting, where only the Crakers have survived the catastrophe. There is no human being left except Jimmy—then referred to as Snowman, as he is figuratively melting away under the burden of his thoughts and memories of the pre-apocalyptic times. Crakers in the story are the hybrids created by Crake to replace humans, they are all amazingly attractive, all naked, all with different skin colours, but had the same green eyes, the eyes of Crake. They are herbivores and hence do not have to struggle for their survival. These creatures have no sexual jealousies and perform sex orgies, where a woman's turning blue at the abdomen would indicate her being ready for mating, and then the males would try to impress her by dancing around her with flowers in their hands and the woman would choose four flowers among the candidates, and finally, she and the chosen quartet would engage in orgy until she gets pregnant. Crake, their inventor, works for years to finally fulfil his dream of making a perfect species, which could replace the humans. Therefore, he replaces all the shortcomings of the humans with some alternate features, which he cautiously chooses from among the animals to create a post-human species. All the features: turning blue, giving presents to impress the female in mating season, involving in orgies, have been adopted from different animals. Crake explains this as, "Think of an adaptation, any adaptation, and some animal somewhere will have thought of it first" (*Oryx and Crake* 164).

Crake customises the Crakers according to his needs; he gives them all different colours and tries to remove any form of art from their brains.

Granting them perfect health, he gives them a kind of immortality in his own terms, as the Crakers have been designed in a way that they would die, without any cause at thirty years of age. Crake philosophically points out that immortality is just a concept. According to him, if one could edit out the fear, one would be immortal and this is what he does with the genetic engineering of the Crakers. He does his best to map out any form of art, such as singing from the brains of the Crakers, but could not completely succeed in this due to the complexities of the process and hence, the Crakers have been shown to be very fond of singing. The narrator says, “Crake hadn’t been able to eliminate dreams. We’re hard-wired for dreams, he’d said. He couldn’t get rid of the singing either. We’re hard-wired for singing. Singing and dreams were entwined” (*Oryx and Crake* 352). Atwood here tries to show the dominance of arts on the human consciousness.

Such ethical concerns have been cleverly portrayed by Atwood in the novel when the developers of the Pigoon project claim that none of the Pigoons would end up in any food form as “no one would want to eat an animal whose cells might be identical with at least some of their own” (*Oryx and Crake* 23, 24). But Jimmy has always been sceptical of their claims as the cafés often have bacon, ham sandwiches and pork pies on their menus. When Jimmy and his father go into the café at the OrganInc Farms — the place where Pigoons are being developed — the people “at nearby tables would make jokes in bad taste ... they would say, “Pigoon pie again ... Pigoon pancakes, pigoon popcorn ... Come on Jimmy, eat up!” (*Oryx and Crake* 24). Throughout the novel, Atwood has pointed out the moral concerns associated with any such experiment. Jimmy’s mother, who herself once used to work as a scientist for the Compounds, after realising their evil intentions gives up her job. And her reaction after she comes to know about the Pigoon project highlights the moral concerns that arise with such experimentations, and she tries to warn Jimmy’s father as:

“It’s wrong, the whole organization is wrong, it’s a moral cesspool ... Don’t you remember ... everything we wanted to do? Making life better for people — not just people with money. You used to be so ... you had ideals, then.”

“Sure,” said Jimmy’s father in a tired voice. “I’ve still got them. I just can’t afford them.”

“Be that as it may, there’s research and there’s research. What you’re doing — this pig brain thing. You’re interfering with the building blocks of life. It’s immoral. It’s ... sacrilegious.”

“I don’t believe I’m hearing this! Who’ve you been listening to? You’re an educated person, you did this stuff yourself! It’s just proteins, you know that! There’s nothing sacred about cells and tissues ...” (*Oryx and Crake* 56, 57)

The genetic modifications have not only created a new kind of animal hybrid, but it also has significant impact on the temperament of the hybrid, which is completely unpredictable. Atwood tries to incite a feeling of uneasiness in the readers through the episode where Jimmy, for the first time, sees ChickiNobs and wolvogs. ChiciNob is the chicken alternative in which the parts of chicken are being grown in the labs. The wolvog is a wolf-dog splice, a genetically modified and terrifying creature.

At this point, Jimmy is terrified and for the first time thinks that “some line has been crossed, some boundary transgressed ... How much is too much, how far is too far?” (*Oryx and Crake* 206). Jimmy is shocked to see the results of such interventions of mankind in the evolutionary patterns, which are extremely dangerous and useless to humanity. Atwood cleverly hints at this in the guise of an explanation by Crake on such unnecessary experiments. Crake says, “Nature is to zoos as God is to churches ... Those walls and bars are there for a reason ... Not to keep us out, but to keep them [Nature and God] in. Mankind needs barriers in both cases” (*Oryx and Crake* 206). Humans, as seen throughout the history, have always tried to harness Nature. Hence, all the ongoing experiments in the novel are nothing but futile attempts of humans to achieve this unachievable aim.

One of the central ethical issues in *Oryx and Crake* is the commodification of living organisms. Animal hybrids are created primarily for profit rather than scientific necessity. Corporations treat animals as products that can be designed, modified, patented, and marketed. This commercialization reflects contemporary concerns regarding biotechnology industries that patent genes, genetically modified organisms, and biological processes. Atwood suggests that when life becomes a commodity, ethical considerations are subordinated to economic interests. The pigoons exemplify this problem. Their bodies are transformed into repositories of valuable organs, reducing living creatures to biological resources. Such practices raise questions about animal rights and the moral legitimacy of exploiting sentient beings for human benefit.

Conclusion:

The analysis reveals the presence of several animal hybrids in *Oryx and Crake*, including pigoons, rakunks, and wolvogs, among others. These creations are a manifestation of humanity's relentless pursuit of genetic perfection and commercial gain. The pigoons, for instance, serve as a source of transplantable organs, highlighting the commodification of living organisms and the ethical dilemmas surrounding their use. The rakunks and wolvogs, on the other hand, represent the blurring of species boundaries and the consequences of tampering with natural ecosystems. *Oryx and Crake* presents a cautionary tale about the ethical dilemmas and potential repercussions of genetic manipulation through the portrayal of animal hybrids. By examining the novel's animal hybrids and their roles in the narrative, this paper highlights the importance of responsible scientific research and the need for a comprehensive ethical framework to guide genetic engineering practices. Ultimately, Atwood's work serves as a thought-provoking critique of our contemporary society's obsession with technological advancement and the potential consequences of unchecked scientific progress.

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