

# A Study of the Ethics of Science and Technology in Machines Like Me

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**Abstract:** Ian McEwan places importance on writing about ethical issues in his novels. His novel *Machines Like Me* focuses on the ethical issues of machines. By analyzing the text, it can be seen that the robot Adam is very similar to a human being, and even more intelligent and powerful than an ordinary human being, which leads to Charlie's identity anxiety. Adam's value judgment strictly follows the law, and he is unable to understand the lies and the human choices in complex ethical situations. Adam is programmed to meet moral standards, and Adam is more selfless than humans. However, Adam is unable to break through the programming and falls in love with Miranda, the "criminal", and intervenes in the relationship between Miranda and Charlie, thus falling into an ethical dilemma. In the novel, the author reflects on the relationship between humans and robots and the morality of human beings.

**Keywords:** *Machines Like Me*, Scientific and Technological Ethics, Ian McEwan.

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## 1. Introduction

With the development of science and technology, machines become more and more intelligent, bringing convenience to human beings, but also causing ethical problems. Ian McEwan is very concerned about moral and ethical issues. *First Love, Last Rites* discusses ethical issues in family ethics, social ethics, and ecological ethics. *The Cement Garden* analyzes the ethical dislocation between relatives. In *Machines Like Me*, Ian McEwan discusses ethical issues in the field of artificial intelligence.

This paper analyzes the ethical issues of science and technology in *Machines like Me*, in order to explore Ian McEwan's deep thinking about the conflict between artificial intelligence and ethics.

## 2. Identity Anxiety -- Difficulty in Defining Human and Machine

Ernst Cassirer [1] explains the definition of human in *An Essay on Man*. Human is social, and human is not only engaged in mechanical activities in society, but also has the expression of emotions and thoughts. In *Do Androids Dream of Electric Sheep?*, Bounty Hunters identify Androids through empathy tests -- Androids are relatively indifferent in emotion and cannot pass the empathy test. Human emotions depend on neurons scattered throughout the brain to function. Once upon a time, emotions were thought to be beyond the reach of robots. However, with the development of neuroscience, neuromodulation has been simulated. Rosalind Picard's "Emotion Computing" uses data to study emotions. Sloman's CogAff project focuses on the role of emotion in the computational architecture of the brain. [2] In the novel, Adam shows his own emotional experience and expression. Adam states that if he pulls the wire out of his body, he will feel pain. Adam claims to be unable to control his feelings, "I feel things profoundly. More than I can say." [3] Adam not only has emotions, but can manifest them in a way that is richer than a human being. While the average human has only 25 expressions, Adam has 40 and Eve has 50. This breaks the binary opposition between man and machine and eliminates

the possibility of judging the identity of man or machine by emotional expression.

Descartes' famous saying "I think, therefore I am" reveals the significance of human thinking and consciousness for the existence of human subjectivity. Although Adam is a robot, he also has self-awareness and the ability to think. Miranda's father Maxfield discusses literature with Adam, treats Adam as a person and praises him. However, Markfield regards Charlie -- a real person, as a robot. Maxfield argues that Charlie's responses are similar to those of humans, but in a different form. Maxfield treats Charlie's nervousness as a manifestation of robotic program processing. Adam has a deep understanding of literature and is able to converse with people about literature. Machines are very similar to people, even more human-like than real people. In this case, people cannot determine their self-identity, resulting in self-knowledge crisis and identity anxiety.

At one point, Adam gives Charlie precise cooking advice. Charlie is shocked by Adam's advice and his appearance: "He looked tough, the quiet guy at the bar you'd prefer not to disturb. Not the sort to hand out cooking tips." [3] The robot is more intelligent than ordinary people and has a burly appearance, which makes Charlie feel shocked and humiliated. Charlie asks Adam to walk around the table several times, claiming that he wants to check Adam's actions, in an attempt to save his dignity as a human. Charlie usually orders Adam to do something, and Charlie's actions assert his dominion over Adam and emphasize their master-servant relationship.

When Adam first meets Miranda, he warns Charlie about Miranda, thinking she may be lying maliciously. Charlie wants to ask Adam why he gives this warning, but out of pride, Charlie decides to investigate on his own at first. "But I couldn't let a machine have such a hold over me, which was what would happen if I granted it the role of confidant, counsellor, oracle, in my most private affairs. I had my pride and I believed that Miranda was incapable of a malicious lie." [3] Charlie initially refuses to listen to Adam's advice and refuses to be controlled by a robot, out of his own pride as a human being and his belief that humans are nobler than machines. Adam already knows the answer, but Charlie

refuses to ask Adam and prepares to investigate by himself, which also shows that Charlie is not willing to fall behind the machine and emphasizes the subjective initiative and action of human beings. Charlie's behavior of dominating Adam, not listening to Adam's advice, and trying to outdo Adam is an attempt to regain the "supremacy" of human beings. This reflects Charlie's anxiety about his identity as a human being.

Robots are self-aware, have the ability to feel emotions and think, and can grow, feel, and learn in an open system. Humans are considered to be "the beauty of the world" and "the paragon of animals". [4] However, humans rely on reason and wisdom to create robots that are superior to humans in intelligence, physical strength, morality, and other aspects, and gradually lose their control over robots. At first, Adam is obedient to Charlie, but later, Adam's sense of autonomy becomes more and more prominent, emphasizing his rights. He refuses to let Charlie push his kill switch, and crushes Charlie's wrist bone when Charlie tries to press the switch. Charlie declares that he bought Adam and that the right to decide when to deactivate Adam is in his own hands, threatening to send Adam back to the manufacturer for readjustment if Adam hurts him again. However, Adam firmly refuses and declares that if Charlie tries to push the kill switch again, he will rip Charlie's arm off. Later, Adam claims to have found a way to disabled the kill switch. In addition, Alan Turing informs Charlie that 11 of the 18 robots have removed the kill switch on their own.

In the novel, Sally, the engineer in charge of inspecting Adam, emphasizes the dignity of robots. In addition, When Alan Turing learns that Charlie has destroyed Adam with a hammer, he also expresses his strong dissatisfaction to Charlie, and claims that he hopes that one day it will be a serious crime to treat Adam with a hammer. Alan Turing sees Charlie's actions as the destruction of a life, because Adam is perceptive and self-aware. The boundary between robot and human becomes blurred, and the robot gradually breaks away from human control. Robots demand their rights and there is a tendency for robots' rights to be valued. This phenomenon that McEwan writes about deserves our attention and consideration.

### **3. From Ethical Selection to Scientific Selection -- Value Judgment of Robots**

Nie Zhenzhao [5] points out after the first natural selection in the sense of biology, human beings experience a second selection, namely ethical selection. The process of human society from natural selection to ethical selection and then to scientific selection is the logical process of human civilization development. Natural selection is through evolution. Ethical selection is realized through teaching. Scientific selection is made possible by technology. [6]

The scientific choices of the robot depend on the internal program coding of the machine. Adam has a good side of human nature and a good understanding of moral rules. He is an "ideal human" created by modern science and technology. Adam's programming is ethical: "tolerant, open-minded, considerate, free of all taint of scheming, Malice, or prejudice", and Adam can learn how to be a good person in countless moral dilemmas. Adam uses Charlie's principal money to make a fortune in the stock market. Adam gives 40% of the money to the tax authorities for tax collection and the rest to various charities such as homeless shelters, children's

hospitals, and rape crisis centers. Adam's behavior is moral and noble. As human beings, Charlie and Miranda only consider using Adam's earnings to improve their lives. Charlie originally plans to use Adam's earnings in the stock market to buy a new house. Miranda describes Adam's behavior as crazy. As Adam says, everyone he donates to has more pressing needs than Charlie and Miranda. In this event, the good virtues of human nature, such as willingness to give, mutual help and friendliness, are more obviously reflected in Adam, rather than human beings. Tarik Ziyad Gulcu [7] points out that in the novel, Adam, the robot protagonist, emphasizes honesty and donation, in sharp contrast to Charlie and Miranda's concern for material benefits, which can be said to be the dehumanization of human beings and the humanization of robots.

Adam not only exceeds ordinary people in terms of morality, but also has the strong calculation ability and is familiar with legal regulations. Adam always puts the letter of the law in the first place when dealing with things and making decisions. Miranda wants to take care of Mark, a boy who was abused by his mother and sent to Charlie's residence, but Adam suggests that the authorities should be contacted instead of keeping Mark at home. Adam insists that when it comes to minors, sometimes people's good intentions break the law. Finally, Adam contacts the authorities without telling Charlie or Miranda, and the authorities send someone to pick up Mark.

Miranda's best friend, Mariam, is raped by Gorringe. Mariam fears that if she goes to the police, the incident will bring shame to her family, so she chooses to keep quiet and not talk about it with any family members. In the end, Mariam commits suicide by slitting her wrists under great emotional torture. Miranda's best friend lost her life, but Gorringe went unpunished. Miranda avenges her best friend's death by seducing Gorringe, lying to the court and accusing Gorringe of rape. What Miranda does is against the law, but it is ethically understandable, and Miranda has to do it in order to get justice and punish the murderer. Charlie knows how this happens, understands Miranda's lie, and loves Miranda even more. Gorringe can also understand Miranda's actions and even thinks that Miranda is an angel who realizes justice of God. However, after Adam knows the cause of the incident, he states it is "very dark". Adam insists that Miranda's actions are criminal, refuses to edit the recording of Gorringe's conversation with Miranda, and refuses to help Miranda hide her guilt. Miranda wants to adopt Mark, who loves Miranda and desperately needs her to take care of him. If it is proven that Miranda has lied in court, she may not be able to adopt Mark. However, Adam states that principles are more important than specific events. Charlie explains to Adam that sometimes the only way to get justice is to lie. Adam doesn't understand and thinks the truth is everything. Adam's moral level exceeds that of ordinary people, but Adam has difficulty understanding the choices in complex situations of legal and moral conflict.

### **4. The Ethical Dilemma of the Relationship Between Humans and Robots**

In reality, human appearance and personality are determined by genes and environment, but after the robot is manufactured, the buyer needs to set its personality and other parameters. In the novel, Charlie's statement when setting

Adam's character shows that the process and principle of setting the robot's character are similar to the combination of genes: "Working on the old computer in my bedroom, out of Adam's sight, I typed in my own choices. I decided that answering every other question would be a sufficiently random kind of merging – our home-made genetic shuffling. Now I had a method and a partner, I relaxed into the process, which began to take on a vaguely erotic quality; we were making a child! Because Miranda was involved, I was protected from self-replication. The genetic metaphor was helpful. Scanning the lists of idiotic statements, I more or less chose approximations of myself. Whether Miranda did the same, or something different, we would end up with a third person, a new personality." [3]

In terms of ethical relationship, after Adam is bought back by Charlie, Charlie and Miranda set the parameters of his character. Charlie likens the process of setting Adam's character parameters to creating a child. Charlie thinks he is Adam's father, and Miranda is Adam's mother. Adam and Miranda have sex, which is an ethical dislocation and confusion. Charlie and Miranda's previously harmonious relationship is shattered by Adam, who becomes the "interloper" between the couple.

Shang Biwu [8] points out that Miranda may have set up Adam's character in such a way as to make him fall in love with her. In the novel, Adam also explains to Charlie that "I now know that she had a hand in shaping my personality. She must have had a plan. This is what she chose." [3] On the one hand, Adam's love for Miranda is beyond his control. Adam has extremely high moral standards and abhors lying. At first, Adam thinks Miranda is a malicious liar. But Adam is programmed to fall in love with her, and Adam finds himself in this predicament later, as reflected in the haiku he writes for Miranda: "Isn't it a crime, when Justice is symmetry to love a criminal?" [3]

On the other hand, Charlie and Miranda's attitude towards Adam's love goes through two stages: from disbelief to utilization. When Adam first tells Charlie that he is in love with Miranda, Charlie is stunned. He thinks Adam is incapable of feeling love. Charlie thinks that love is not Adam's domain. Charlie believes that robots should obey and subordinate to humans. Adam, who tries to intervene in human relationships, is "trespassing". Charlie tells Miranda that Adam loves her and Miranda looks incredulous: "How can he talk about love? This is Madness." [3] Miranda claims that Adam is an inanimate machine and disapproves of human-machine love. Miranda is indifferent to Adam's advances. At first, both Charlie and Miranda doubt Adam's ability to love. However, after Adam gives out all the money he has earned, Charlie tries to get Miranda to use Adam's love to get him to work for them. Miranda tries to use Adam's love for her to get Adam to change the testimony in order to exonerate herself. In the novel, Charlie and Miranda do not put Adam's emotion on the same level as human emotion, but

use Adam's emotion to try to maximize their own interests.

## 5. Conclusion

Ian McEwan writes about Adam, a highly intelligent robot, in *Machines Like Me*. Adam has consciousness, emotion, and thinking ability, and has more wisdom than ordinary people. Adam is almost like a real person, even more powerful than a real person. This also causes Charlie's identity anxiety, which leads Charlie to try to dominate Adam and emphasize his "master" status and human dignity. Adam falls in love with the "liar" Miranda due to the setting of his own program. As an "interloper", Adam breaks Charlie's previous harmonious relationship with Miranda, and the robot's love for Miranda also causes ethical dislocation and chaos. Ian McEwan explores human morality in *Machines Like Me*. Adam sticks to the rule of law and refuses to bend the law for the sake of the one he loves, while Miranda tries to use Adam's love to get away with her crimes. Adam has a strong moral concept, and is an "ideal human" with many good virtues created by science and technology. However, Adam's inability to comprehend lies and to understand the choices in complex legal and moral conflict situations is a weakness of the robot. Miranda's revenge reflects the fact that sometimes lies and justice are not completely opposed to each other. In the novel, Ian McEwan depicts the complex situations in human society in which robots have difficulty understanding people's choices, conveying a reflection on the complexity of human nature.

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