

Chapter 3: Who Wants to Be Ethical?

Introduction

In the 2001 movie *Uprising*, a true story based on a group of resistance fighters struggling to survive in the 1943 Warsaw Ghetto, the main character, asks “Can a moral man maintain his moral code in an immoral world?” An apt question when facing the horrific choices such individuals faced. Choices with no easy answer: to cripple a dancer, but save her life, to risk one's life for another or to leave a fellow behind.¹

Thankfully most of us will never be faced with such life or death dilemmas, but the question remains relevant. In a topsy turvy world where others compromise their values in order to get ahead, how do we stay true to our values? How do we even know what our values are?

Ethics refers to the philosophical study of goodness, right action, meta-ethics and moral psychology. Although ethics and morality are often used interchangeably, we will distinguish the two. When we speak of ethics we will be referring to the underlying principles that justify and guide what ends we should seek and how we ought to make choices.² When we refer to Morality we will be discussing the system of rules that governs people's behavior in a particular society or group.³

In this chapter we will give a brief introduction of well known ethical theories, theories of moral development and touch on some of the ethical dilemmas that might be faced by computer scientists.

Ethical Theories

An ethical theory refers to a system incorporating principles and definitions for determining moral behavior. There are two main approaches to ethics: the first approach focuses on what we should aim towards; the second focuses on our actions. In short, one is focused on the ends and the other on the means. Despite the focus of each theory either on the good means or the good ends in principle, the practical application of these theories blurs the lines between the means and ends theories.

Ethical Ends Theories

These theories focus on determining what ends are good to pursue either by trying to break apart the components that make up the good life or by determining goods in and of themselves and assuming that striving for such intrinsic goods is a good end.

Hedonism

Hedonism is based upon the principle that people seek eudaemonia—pleasure. The most famous proponent of hedonism is the Greek philosopher Epicurus. According to Epicurean Ethics, the chief good that all of us seek is pleasure. However Epicurus clarifies that he does not mean the pleasures of sensuality, but rather the absence of pain in the body or trouble in the soul⁴. The chief evil that all of us avoid is pain. Under this system of ethics, the only reason someone would avoid pleasure is to seek some greater pleasure and the only reason someone would seek pain is to avoid a greater pain. When pleasure is framed as the ultimate good and pain the ultimate evil, individuals naturally seek the good and despise the evil. Therefore there is no need to determine what is good and evil, we instinctually know what is good and what is evil.⁵

Virtue Ethics

Aristotle is the originator of virtue ethics. As an ethical theory, Virtue Ethics concerns itself with seeking the good. In *Nicomachean Ethics*, Aristotle defines the ultimate good as happiness, which is obtained by leading a virtuous life. A virtuous life is characterized by virtuous action, which is cultivated through practice. Consistent practice leads to habit, which leads eventually to being a virtuous person.

As an early empiricist, it comes as no surprise that Aristotle's definition of virtue comes from observation. After observing that good health and strength can be created or destroyed by means of excess or deficiencies, Aristotle observes that all virtues work the same way. For each characteristic there is a spectrum between deficiency and excess. In the middle, the mean is where the virtue lies. Consider bravery. Bravery is the mean between being cowardly and rash. And so is true with all the virtues.⁶ Virtue ethics exemplifies the development and cultivation of virtuous character traits. Just as a musician might be attuned to certain rhythms and tones, a virtuous person is attuned to acting with virtue.

Utilitarianism

According to Jon Stuart Mill, in his work entitled *Utilitarianism*, an action is right to the extent that it tends to promote happiness and wrong to the extent it tends to promote the reverse of happiness. Happiness is equated to pleasures and unhappiness to pains. Mill expands on this by clarifying that there are different qualities of pleasure and pain. He seems to rely upon consensus experience in determining the hierarchy of pains and pleasures. Utilitarianism is focused on the good of all. Thus the general principle of Utilitarianism is typically stated as the greatest good for the greatest number.⁷

Means Based Ethical Theories

The means based Ethical theories concern themselves with right action. In each case these theories provide principles for determining what the right action is in a given state. In contrast to ends based approaches, these theories are not focused on determining a good end, but are focused on determining what is the right course of action. These theories focus on rules of conduct, duty and obligation.

Divine command theory

Divine command theory is based on the axiom that what God's wills is what is right. What is ethical is what God commands. To the extent that one's actions align with God's commands, one's actions are right. To the extent that they go against what God commands, those actions are wrong. ⁸

Formalism

Under the general doctrine of formalism, truth can be obtained by following a series of mathematical/logical proofs. The most widely recognized form of formal ethics is Kant's Categorical Imperative. Under this principle one should act on the maxim which he could will to be universal law. This principle is oft misunderstood because it is not viewed as a logical principle. When Kant speaks of the maxim that one could will to be universal, he means this in a logical sense. Take for instance the act of lying. Perhaps what you want to do in a particular moment is to lie because it is convenient. If we make that maxim universal, then everyone would lie whenever they found it to be convenient. Pretty soon, you wouldn't trust what anyone said because they very likely could be lying. If one cannot trust another's utterance as true, the result is that there is no reason to speak to another and therefore no utterances made. In a world with no utterances, lying would be impossible. Thus, the logical conclusion of this maxim would lead to something nonsensical, which makes lying a wrong action. ⁹

Contractualism

A contractualist theory of ethics suggests that human beings agree upon what is right and what is wrong. In Rawls' theory of justice he proposes this sort of ethical theory. Under his theory what is right is what everyone would deem right from the hypothetical position he calls the original position. In the original position none of the agents know what socioeconomic, religious, ethnic or gender they would be born into. Thus, the theory goes that in such position one would only agree to actions that are acceptable to the least advantaged class because one could easily be in the least advantaged class.

Moral Psychology

Moral psychology is a particular branch of psychology that studies moral development. Moral development can refer to the development of individuals as they grow and experience the world or it can refer to human moral development.

Humanity's Moral Development

That humanity as a whole is evolving is a rather accepted notion. In fact, the U.S. Supreme Court relies on the axiom that our standards of decency evolve as our society progresses and matures when making determinations regarding what constitutes cruel and unusual punishment.¹¹ When discussing progress as a society, we are often referring to a certain refinement of prevailing moral approach over time, the same that occurs in the individual development.

Evolutionary Biologists such as Marc D. Hauser the author of "Moral Minds" suggest that human beings are hard wired for ethical behavior. In human history those who engaged in ethical behavior were more likely to survive to reproduce than those who did not engage in such behaviors. Therefore over time the genes that were associated with what we now refer to as "ethical" behavior were passed on and came to occur in the gene pool as an advantageous adaptation.¹²

Individual Moral Development

Moral psychologists studying individuals believe that we all go through stages of moral development as we grow up and experience the world. According to one such psychologist, Lawrence Kohlberg, there are six stages of moral development.¹³

- Stage 1. Obedience and Punishment Orientation. The child/individual is good in order to avoid being punished. If a person is punished, they must have done wrong.
- Stage 2. Individualism and Exchange. At this stage children recognize that there is not just one right view that is handed down by the authorities. Different individuals have different viewpoints.
- Stage 3. Good Interpersonal Relationships. The child/individual is good in order to be seen as being a good person by others. Therefore, answers relate to the approval of others.
- Stage 4. Maintaining the Social Order. The child/individual becomes aware of the wider rules of society so judgments concern obeying the rules in order to uphold the law and to avoid guilt.

- Stage 5. Social Contract and Individual Rights. The child/individual becomes aware that while rules/laws might exist for the good of the greatest number, there are times when they will work against the interest of particular individuals.

The issues are not always clear cut. For example, in Heinz's dilemma the protection of life is more important than breaking the law against stealing.

- Stage 6. Universal Principles. People at this stage have developed their own set of moral guidelines which may or may not fit the law. The principles apply to everyone.

According to Kohlberg, individuals progress through these stages as they age. However, many people never progress past stage 4.

Ethical Dilemmas in Computer Science

Although all persons in all fields can face ethical dilemmas at work, the number of dilemmas faced by computing professionals at work is poised to increase as computers are tasked with greater and more important duties in the world.

As computer automation increases and expands into transportation, medicine, weapons technologies, banking, security, distribution and the like, the risks of negative consequences increase and we, as society, care more about what those machines are up to than we did when they were simply delivering up static pages of information. What choices should be programmed in? What choices should an artificial intelligence be allowed to make? When has an artificial intelligence agent reached a level of reliability that it can make decisions without human oversight? What kinds of safeguards should there be? How secure does this need to be? Who should have access to this information? Do we need to disclose the specifics of this system to our users/the public? Is it ok to keep our algorithm proprietary? Is it ok to disclose confidential information to law enforcement or to the World Health Organization?

These choices have obvious ethical weight to them and will likely be pondered over by managers, CEOs, law makers and the public, so why talk about ethics with undergraduate computer science students, who, may be years away from any of these roles?

Most of us believe that we are good people and that we would do the right thing. We believe that unethical behavior is only caused by evil people. We also dismiss behaviors that don't seem that bad by comparison or because we are focused on something else,

like a deadline. The result of this is that a lot of unethical things happen because people are not thinking about ethics in the moment.

Below are two seemingly simple computing choices that at first glance appear to have no ethical weight to them, but in actuality do play a part in ethical decision making.

Scenario 1

For the most part people like choices and customization options. This helps them to express their personality through the items they use. Including customization options as a software feature may not seem like an ethical dilemma, but what options are offered, how many options and what defaults are programmed can actually be an ethical choice.

As we learn more about the brain, we have come to find that certain fonts, colors or layouts have a large impact on how we interact with a program. Some colors effect our stress and emotional states. Some fonts can be read better or worse by those who are low vision or suffer from dyslexia. Ordering, or which is the first option can create psychological effects that influence behavior.

You may also face competing concerns about this within your company.

Since what defaults load initially may influence our user or subtly manipulate them, marketing could be pushing for certain options to sell more product or simply to maintain consistency of trademark and branding. Similarly, some color and font options can serve as an accommodating feature for disabilities. Legal might be pushing for those options to be prioritized first. Too many options will cause you to miss the release deadline and your team has been arguing for each of their own preferences.

What do you decide?

Scenario 2

Your software team at a hardware company has been put on a new project. One of your co-workers has created a proof of concept for a new machine that he says can be used effectively for the new project and suggests phasing out the legacy machines. The business wants to repurpose old machines into the new machine instead.

Is this an ethical decision? At first glance, it may seem that business is just being cheap, but let's engage in some ethical thinking here to determine if there are other considerations we should include.

Although we tend to think newer technologies are better. End users and businesses cannot always afford new technologies. If they truly cannot afford the new technology, the business, you and your co-workers might suffer from lower pay or layoffs. Even if

your business can upgrade all of their systems, this means that old systems will be thrown out and new ones manufactured to meet the demand. What about the environmental footprint of manufacturing new machines.

Systems that are 30 years old, might be more difficult for new programmers to maintain and build software for. As such, the money the business saves now, might actually lead to more software development and debugging hours. Similarly, old systems could be more or less secure than new ones, depending upon how the system was designed and how it is being used now.

Which approach would you argue for?

Conclusion

Ethics and moral development help us to know what is right and what is wrong. Ethical theories offer systems for determining what is the right action in a given situation. As our moral development progresses, the way we reason about ethical dilemmas changes. Only a person who has refined his ethical thinking can maintain his morals when faced with challenging dilemmas.

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