

APSC 450

Professional Engineering Practice

Notes to accompany “Ethics – some basic concepts”

These notes are to accompany the video lecture entitled “*Ethics – some basic concepts*” given by Dr W Scott Dunbar. The notes refer to particular slides in the video.

Trolley problems

Slides 2-10

Trolley problems are models of a number of moral dilemmas:

- You are a doctor in a war-ravaged country. You have five patients, each of whom is about to die due to a failing organ of some kind. There is another patient on life support due to brain damage, but who has healthy organs. Is it appropriate for you to remove the life support from the other patient so that he will die and you can harvest and transplant five of his organs into the bodies of the other five patients?
- Enemy soldiers have taken over your village. They have orders to kill all remaining civilians. You and some of your townspeople have sought refuge in the cellar of a large house. Outside you hear the voices of soldiers who have come to search the house for valuables. Your baby begins to cry loudly. You cover his mouth to block the sound but that makes it difficult for the baby to breathe. If you remove your hand from his mouth, her crying will summon the attention of the soldiers who will kill you, your child, and the others hiding out in the cellar. To save yourself and the others you must smother your child to death. Is it appropriate for you to smother your child in order to save yourself and the other townspeople?

Bentham, Kant and Virtue Ethics

Slides 14-22

Consequentialism is a general name for ethical norms such as Utilitarianism that are based on results of actions. Deontology is another name for Rule based ethical norms after the Greek word deon (δεον) for duty.

One of Immanuel Kant’s major contributions to ethics was the Categorical Imperative:

Act in such a way that you always treat humanity, whether in your own person or in the person of any other, never simply as a means but always at the same time as an end.

In plain English, we should not use other people and treat them as a means to our own ends. Humanity is an end-in-itself meaning its inherent value does not depend on anything else – it does not depend on whether a person is enjoying their life, or making other people's lives better. Humanity exists and therefore has value.

Consequentialism and Deontology are perhaps two ends of a spectrum of ethical norms. (For example, rule utilitarianism states that an action is right if it conforms to a rule that leads to the greatest good.) However, virtue ethics lies outside this spectrum. Rather than require some principle or rule for guidance, a virtue ethicist measures actions against a set of virtues acquired through practice. Examples of virtues are honesty, bravery, and generosity. The ultimate goal is to be a virtuous person. Virtue ethics has many applications in real life, especially in situations where it is difficult or impossible to define benefits or to identify a rule.

Here are some examples to illustrate the results of application of these ethical norms:

- Suppose the possibility of telling the truth arises. A utilitarian will say that the consequences of telling the truth are increased trust (a good thing) whereas a rule-based ethicist will say telling the truth is in accordance with the rule “Never lie”.
- Suppose you find a wallet on the street containing a lot of money but no identification. If you were concerned about consequences and had no luck finding the owner, you might want to give the money to a homeless person – spread the wealth, do the most good. If you followed rules, you would think that the right thing to do is to try to return the wallet, no matter what the consequences. This is also rational because if others did not return lost wallets, the world would be a chaotic place. In contrast, as a virtue ethicist you would look internally and try to do something in accordance with your virtues such as honesty, integrity, generosity etc. You might try to find a way to identify the owner of the wallet. If generosity won out, you might give the money to the poor.
- People appear to be utilitarian when responding to the Bystander scenario (aka the Trolley Dilemma) reasoning that it is better to save five lives at the expense of one. In response to the Footbridge scenario or dilemma, people appear to be following a rule such as “Don’t kill”. However, recent research has found that increasing of the number of victims in the Footbridge scenario led to a utilitarian response. (Nakamura, 2012)

The following link shows application of these ethical norms to an engineering/architecture situation:

<https://www.coursera.org/lecture/ethics-technology-engineering/applying-the-ethical-theories-Afylh>

Relationships

Slides 25-27

This distinction and separation between professional ethics and individual morality is important since it can be used to illustrate the situations in which professional ethics applies and where it does not or cannot.

Interaction between professional ethics and individual morality is possible. For example, suppose your individual morality makes you uncomfortable with working on matters related to national

defence or with the development of processes involving genetic engineering. A professional code of ethics cannot help you determine the best course of action in such a situation. However, if you do decide to do the work, you must do it according to the standards set by the code of ethics.

A more difficult example is whether you should tell your boss that your work colleague (and close friend) has embezzled money from the company. For most people, the situation is this: embezzlement is in conflict with individual morality and is illegal, but there is this nagging issue of what effect disclosure of the crime could have on your friend. However, from a professional ethics perspective, you have a duty to your employer.

Hmmm ... What should you do?

Slide 34

This situation raises a number of issues. First, signing this design without a detailed review of the work contravenes the Engineers and Geoscientists Act, Item 20(9):

A member or licensee receiving a seal or stamp under this section must use it, with signature and date, to seal or stamp estimates, specifications, reports, documents, plans or things that have been prepared and delivered by the member or licensee in the member's or licensee's professional capacity or that have been prepared and delivered under the member's or licensee's direct supervision.

Second, it also contravenes Principle 3 of the EGBC Code of Ethics:

Provide an opinion on a professional subject only when it is founded upon adequate knowledge and honest conviction

If you are registered, you could seal the design provided you thoroughly reviewed it. Presumably, the unregistered engineer has done a reasonable job so that you would not have to start from scratch. However, you must be paid an appropriate fee for your time and that fee may well be more than the fee the unregistered engineer is willing to pay you. There are also liability and insurance issues – you would be taking responsibility for another person's mistakes.

Note that this is different from the EIT situation. Registered engineers supervise the work of EITs and, once checked and reviewed, the work is sealed by a registered engineer.

So who is the public?

Slide 36

The paper by Davis (1991) contains a very readable account of why engineers have codes of ethics and how an engineer should interpret the meaning of “the public” stated in the first principle of all engineering codes of ethics.

It is important to note that engineering codes of ethics are non-committal with respect to the definition of the public. In addition to the “safety, health, and welfare of the public”. Principle 1 of the EGBC code of ethics also holds “protection of the environment” as paramount. However, the code does not provide a definition of environment.

References

Davis, M, 1991. Thinking like an Engineer: The Place of a Code of Ethics in the Practice of a Profession. *Philosophy & Public Affairs*, 20(2): 150-167.

Nakamura K 2012. The Footbridge Dilemma reflects more Utilitarian thinking than the Trolley Dilemma: Effect of number of victims in moral dilemmas. In *Proceedings of the Annual Meeting of the Cognitive Science Society*, 34(34). Permalink:
<https://escholarship.org/uc/item/8062w0px>