Problem Solving of a Less Mathematical Sort

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Few professions have a name that immediately sets the tone and expectations of its professionals like civil engineering. It sets both the expectation that they are focused on serving society as a civil servant, and that they are able to act in a respectable way, civilly if you will. And as a profession it is expected that there would be standards set to live up to this level of behavior. Originally adopted in 1914, the *ASCE Code of Ethics* does just that. In the 107 years since then it has seen many revisions and iterations, with one of its most involved overhauls occurring in 2020 (American Society of Engineers, 2020). The previous delivery of the *ASCE Code of Ethics* was over-precise and impersonal. The current version's broader tone promotes a change from right answers to thoughtful decisions when it comes to ethical dilemmas.

The introduction of the *ASCE Code of Ethics* originally started with the section "Fundamental Principles" (American Society of Engineers, 2017). The 2020 revision lacks this section, however, the new preamble section resembles the fundamental principles in many ways. Both sections open by stating that engineers exhibit integrity and professionalism through their actions, though their tones and priorities are not complete matches. The original concerns itself with "honor and dignity" first, and then pushes human and environmental welfare into the list of principles (American Society of Engineers, 2017). The revision brings protecting and improving the health and safety of the public into the introduction and completely removes the focus on public image, a change that reoccurs throughout (American Society of Engineers, 2020). After their initial statements, both versions then list their four principles. Here is where the directions the two codes take start to diverge in earnest, both in format and approach. The first two principles in the 2017 edition do resemble the form they would take on in the newer edition, essentially calling for safe and sustainable designs and treatment of others in an unbiased and respectful manner. The second two however, demonstrate a difference in focus that is present throughout. The third principle brings back the focus to public image, stating that engineers should strive to improve the prestige of the profession (American Society of Engineers, 2017). The principle the older version then decides to end on is concerned with supporting groups within the profession. In the new *ASCE Code of Ethics* these two principles are instead about considering "the current and anticipated

needs of society" and engineers using their skills for the betterment of humanity (American Society of Engineers, 2020). In her first article on the subject, Hoke (2021) highlights this general shift of the "distinctly business-centric focus" being almost completely removed (p. 38).

In his article "New Look at the Code of Ethics," one of Griggs's concerns is the mixing of topics that should be in a code of professional practice rather than a code of ethics (2009, p. 41). This sentiment is seemingly shared by those who revised the *ASCE Code of Ethics*, as that is one of the clearest changes. Starting with the move from canons to stakeholders, as this shifts the focus to who engineers serve, instead of being a list of rules. Another notable example is guideline f in Canon 5, which goes into great detail on how engineers should use advertisements in a "dignified" way (American Society of Engineers, 2017). Many other guidelines speak down to the engineers it addresses. Guideline h in Canon 5 boils down to "do not do personal projects at work without asking" and guideline e in Canon 3 essentially says "do not brag." They resemble when a high school principal might add a new rule to the student code of conduct in direct response to a recent incident, an on-the-nose rebuttal to the argument "but there wasn't anything specifically against it in the rules!" The 2020 *ASCE Code of Ethics* shakes off this overly-specific format, which helps remove the "temptation for the engineer to assume a questionable action is permitted if it is not one of the specific scenarios directly addressed in the code" (Hoke, 2021, p.38). This alteration also reveals a change in how the *ASCE Code of Ethics* is meant to be used, and how it is meant to impact the engineering profession.

Something that often draws people to engineering is what they perceive it to be: a profession where decisions are logical, "the math says this, and this is within budget, so the answer is this." Gunn (1990) puts it bluntly:

> A second group of engineers believes that they do not need to think about the ethical implications of their profession and that value-laden decisions should be made by their clients or employers. These engineers consider their profession value-free. (p.9)

But there is no profession on Earth that is so clear-cut, and it is the idea that engineers should only have to deal with that which is clear-cut that makes the bloat of the original *Code of Ethics* make sense. It is a spiral of adding as many situations as possible to try and avoid the discomfort inherent to ethical decision-making. Engineers averting their eyes from the uncomfortable

aspects of their profession is how discriminatory practices have ended up flourishing in many areas, notably urban planning. The newest *Code of Ethics* refuses to speak so softly. Immediately its principles demand "safe, resilient, and sustainable infrastructure," and equitable treatment of others (American Society of Engineers, 2020). It also specifically ranks the needs of society above all else, with the top responsibility being "protect the health, safety, and welfare of the public" (American Society of Engineers, 2020). Many of the responsibilities are broad to invite more critical thought and careful consideration. And while these changes are not the ultimate fix that will end all unethical decisions in engineering, it endeavors to make people think.

When something like a code of ethics resembles a list of rules, it is going to be treated as such. And for many years, the *ASCE Code of Ethics* suffered from that. While this is not to say that the entire profession was a lawless and unethical wasteland, it was antiquated and not entirely helpful. The revised version invites engineers to consider the more philosophical approach to ethics, opening the field up for more thoughtful decision making.

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References

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