

Ethics and Culture: You Can't Ride a Bike Without Wheels

by Dr. Anna B. Pridmore, Structural Technologies

Within our practice of the profession of engineering there are many intersections between ethics and culture. Whether personal, within the organizations we work and volunteer for, or as part of the project teams we are assigned to or lead, culture plays a pivotal role in the application of our code of ethics.

While working on the new American Society of Civil Engineers (ASCE) Code of Ethics over the past two years, I spent a lot of time considering the importance of ethics as we carry out the business of designing and engineering bridges and the built environment. In 2018, Robin Kemper, 2019 ASCE president and the person responsible for the vision to address the Code of Ethics, provided the following guidance to our task committee: "Approach the task as if drafting an ASCE Code of Ethics for the first time. Identify moral concepts that should be captured in a civil engineer's professional behavior. Document those moral concepts with concise, readable, and modern language."

The task committee included a dedicated group, with whom I was

honored to serve: Brock Barry (chair), Stephanie Slocum, Lawrence Chiarelli, Monte Phillips, Mario Ricoszi, Peter Terry, Taylor Boileau, Tara Hoke (ASCE's general counsel and task committee representative), and myself.

One of the most important advancements in ASCE's new Code of Ethics was a shift to a stakeholder model to better articulate the responsibility engineers have to each stakeholder group (**Fig. 1**).¹ The ASCE Code of Ethics also establishes a hierarchy, as demonstrated in the numbered order of stakeholder groups (1 to 5), and leaves no question for ASCE members that our duty to society is the highest level: "first and foremost, protect the health, safety, and welfare of the public."² These words—health, safety, welfare of the public—appear in some form at or near the top of nearly every engineering discipline's code of ethics.

A code of ethics, or even the state laws pertaining to professional ethics, do not by themselves create an environment where "protecting the health, safety, and welfare of the public" is made the

highest priority. The words within any code are by themselves static and lifeless without an engineer acting.

The difference between catastrophe and a near miss is whether the warning signs are heeded or ignored.

There are likely thousands of tragedies being averted through the daily actions of engineers who are consciously or subconsciously applying their code of ethics. One notable positive example took place in 1978 in New York City.³

Diane Hartley, an engineering student at the time, placed a call to the designers of the new 59-story Citicorp Center in New York City (**Fig. 2**). Hartley brought to the designer's attention that the building as constructed had a design error that made it susceptible to collapse under heavy wind loads. This single phone call started a chain reaction of events that potentially saved the building from collapse. Hartley's action, followed by the engineer of record taking immediate steps to retrofit the building, initiated a series of events that embody the prevalent "protecting the health, safety, and welfare of the public" foundation within engineering codes of ethics. What is it about Hartley's environment that empowered her to make that call? One word: culture.

As mentioned, Hartley was a student when she started the wheels in motion to correct the structural errors of the Citicorp building. A natural aspect of the academic culture is a willingness to be inquisitive and to ask questions. This led to the phone call and the steps that followed, all down a critical path that protected the health, safety, and

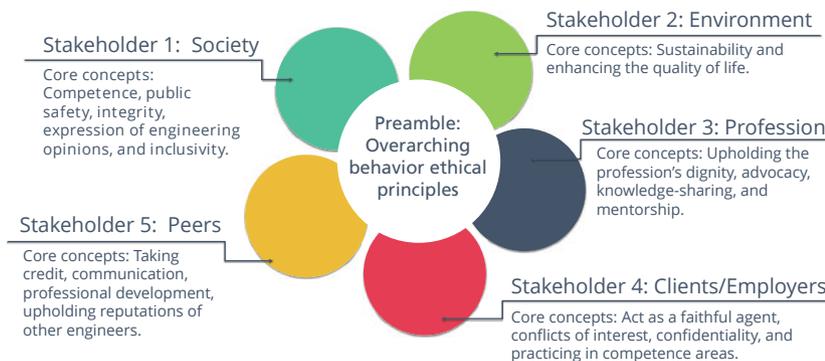


Figure 1. The stakeholder model forms the foundation of the new ASCE Code of Ethics. Figure: Stephanie Slocum on behalf of the ASCE Task Committee on Code of Ethics.



Figure 2. A single phone call started a chain of events that potentially saved the Citicorp Center in New York City from collapse. A culture of empowerment can bring the code of ethics to life and protect the health, safety, and welfare of the public. Photo: Structural Technologies.

welfare of the public. A culture of empowerment—to ask questions, to be inquisitive—brought the code of ethics to life, and it happened because one person spoke up. Thank you, Diane Hartley.

Culture is all around us—personal, family, and, most impactful to our professional life, the culture that exists within the organizations in which we work and are members. As an engineer, I work for a private company and belong to ASCE and many other organizations. My endeavor to assist in the creation of a new ASCE Code of Ethics consisted of over 24 months of volunteer work that included frequent thoughtful introspection and many group discussions on the concepts of ethics, along with the construct of the new code.

Taking part in this effort led me to the intersection of ethics and culture. The organizations we work for, the expectations they have of us, the key performance indicators that drive our day-to-day activities, and the overall culture impact of how, when, and why we engage our professional code of ethics.

Ethics don't exist in a bubble separated from culture. Instead, the culture within our workplace and professional societies either does or does not empower us to speak up, ask questions, and give feedback. And it is the undercurrent of culture that has the potential to impact decisions we make that affect the health, safety, and welfare of the public.

When you feel the urge that further investigation of a potential problem is necessary, there is sometimes a moment of hesitation. It's in that moment when culture will either empower you to speak up or stay silent. Being part of an empowering culture will help avoid dangerous rationalizations and instead engage the community in an objective investigation of potential problems and solutions.

Many engineering failures result from a compilation of seemingly small decisions where one or more errors were made and/or ethical standards were overridden. Errors will never be removed completely from our practice, as we are human. Unlike errors, the overriding of ethical standards could be eradicated through the proliferation of empowered cultures where engineers are encouraged to talk about challenges and collaborate on solutions to potential problems either within the workplace or through professional organization activities.

It is absolutely cliché to say that one person can make a difference, and it's absolutely true in this context. Engineers can drive culture shifts that empower us and others to talk about potential and ongoing problems. I interact within many sectors in my professional career, including municipal and state agencies, nuclear power companies, the oil and gas industry, and others. A best practice I have noted in some industry sectors is an open-book policy on sharing problems encountered and solved—

some with industry-wide forums set up for this purpose.

The same engineering community that drives codes of ethics should take steps to drive a culture of empowerment needed to bring the codes to life. This creates better culture within the organizations that employ engineers. Engineering associations and societies, through national, state, and local levels, should employ and encourage a more open policy on the sharing of engineering problems encountered and resolved, especially as they relate to protecting the safety, health, and welfare of the public.

A code of ethics is a bicycle with no wheels if we do not understand the importance of culture as its close companion and driver of ethical decision-making. Whether it's one engineer working bottom up driving a culture to speak up in the Monday morning meeting within their organization, a national society working top down to drive a culture of empowerment through active engagement with their code of ethics, or through an engineering error forum in monthly chapter meetings, it is critical that we understand and do what we can to drive a culture that brings the code of ethics to life.

Acknowledgments

I would like to thank Robin Kemper for the opportunity to serve on the ASCE Task Committee and the committee members for the process as we endeavored together to create the new ASCE Code of Ethics. Special thanks to Brock Barry and Stephanie Slocum for their contributions to this article.

References

1. Fogleson, M. January 2, 2021. "ASCE's new code of ethics guides civil engineers." American Society of Civil Engineers (ASCE). <https://source.asce.org/ascenew-code-of-ethics-guides-civil-engineers>.
2. ASCE. 2020. "Code of Ethics." <https://www.asce.org/code-of-ethics>
3. Vardaro, M. J. 2013. "LeMessurier Stands Tall: A Case Study in Professional Ethics." AIA Trust. <https://www.theaiatrust.com/whitepapers/ethics/index.php>. 