InFocus | Virtue as a Skill

By Jon A. Schmidt, P.E., SECB

I have suggested previously ("Rethinking Engineering Ethics," November 2010; "Engineering Ethics as Virtue Ethics," May 2011) that virtue ethics seems like a more appropriate approach for engineering ethics than deontology (based on rules, duties, or obligations) or consequentialism (based on outcomes). I have also argued on multiple occasions that engineering is more of an art, which is all about skill, than a science, which is all about knowledge.

This column will attempt to unify these two ideas, drawing from *The Skill of Virtue*, the 2007 dissertation of Matt Stichter, who was then a doctoral student at Bowling Green State University and is now an assistant professor at the University of Washington. He noted that one of the traditional tenets of virtue ethics, going all the way back to the ancient Greeks, is that virtues are analogous to skills. However, different philosophers have had different ideas of what it means to have a skill, and this has resulted in different applications of the skill analogy to virtue ethics.

Most of the recent work in this area has followed Plato's characterization, which is found primarily in his early Socratic dialogues. In particular, University of Arizona professor Julia Annas holds that "there are three necessary elements of genuine skill: the skill must be teachable, there must be unifying principles underlying the skill that the expert can grasp, and that experts can give an account of skilled actions." The last item is especially significant – it means that for Plato and Annas, only those who are able to articulate reasons for what they do qualify as legitimate experts.

By contrast, according to Isocrates, an early champion of rhetoric, "The three main elements in the acquisition of practical skills were natural talent, training by experience, and education or instruction." Possessing skills does not necessarily "require a profound understanding of their subject matter"; in fact, it often involves approximations, rules of thumb, and trial and error – i.e., heuristics ("The Engineering Method," March 2006; "Heuristics and Judgment," May 2006).

Stichter, citing D. S. Hutchinson, calls these two competing models "intellectualist" and "empiricist," respectively. The "intellectualist" label is noteworthy, since it was the "intellectualist legend" that Gilbert Ryle explicitly sought to debunk once and for all by affirming that knowledge-how cannot be reduced to a form of knowledge-that ("Engineering as Knowledge-How," November 2011). The mention of Isocrates brings to mind the broader conflict between Plato and the Sophists, to which Steven Goldman has attributed the generally inferior standing of engineering relative to science in Western culture ("The Principle of Insufficient Reason," May 2008).

Stichter disagrees with Annas regarding the views of Aristotle, Plato's most famous pupil and, in my opinion, the patron philosopher of engineering ("Engineers Are from Aristotle," July 2010). Annas claims that Aristotle rejected the skill analogy, but Stichter observes that Aristotle frequently invoked skills as examples in his discussions of virtue. Stichter's conclusion is that Aristotle did not abandon the skill analogy itself, but rather the intellectualist model of skill acquisition, adopting the empiricist one instead. Stichter then discusses Aristotelian and "neo-Aristotelian" versions of the skill analogy in light of modern research – specifically, the Dreyfus model that I summarized in my last column ("The Nature of Competence," March 2012).

Aristotle identified three indispensable attributes of a virtuous person, besides the obvious one of doing that which is virtuous: knowing what one does, intending to do it for its own sake, and acting with certainty and firmness. Doing the right thing accidentally, or for the wrong reason, or only tentatively instead of habitually, is not sufficient to qualify as evidence of genuine expertise in virtue. Based on the Dreyfus model, the same can be said of exercising a skill, except for the stipulation that it be done for its own sake.

Hubert and Stuart Dreyfus anticipated this discrepancy in a 2004 paper, "The Ethical Implications of the Five-Stage Skill-Acquisition Model" (*Bulletin of Science, Technology & Society*, Vol. 24, No. 3, pp. 251-264). As Stichter put it, "They reject this requirement as adding a type of deliberative intention that is at odds with the intuitive response of the expert." However, according to Stichter, "Deliberation is about discovering the means to an end, and one can deliberate well or badly. The practically wise person is able to deliberate well." In Aristotle's words, "deliberative excellence is that sort of rightness in deliberating which leads to the gaining of some good."

Engineering is often portrayed as "discovering the means to an end," but that end is rarely determined by the engineer and may not always be something inherently good ("The Social Captivity of Engineering," May 2010). In order to maintain the skill analogy, I would suggest that Alasdair MacIntyre's concept of an *internal* good is relevant here – something specific to a practice that can only be fully understood by those who participate in that practice and is generally beneficial to the entire practicing community. Rather than always having to decide consciously on the best course of action, perhaps an instinctive pursuit of internal goods is an aspect of the superior skill of a true expert.

I am a proponent of the thesis that engineering is more intentional than rational ("Engineering as Willing," March 2010). As Dreyfus and Dreyfus wrote, "It is an unsubstantiated assumption of philosophers since Socrates that there must be a theory underlying every skill domain." Furthermore, "it is precisely this clinging to the demand for rational justification, rather than accepting the nonrationalizability of appropriate intuitive responses, that blocks the development of expertise." The fact that these statements pertain equally well to competence in virtue and competence in engineering strikes me as further evidence that virtue ethics is uniquely well-suited to engineering ethics.▪

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To view a copy of Matt Stichter's 2007 dissertation, visit (**http://etd.ohiolink.edu/view.cgi?acc_num=bgsu1181851300**).