InFocus | The Rationality of Practice

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

In the July issue, I introduced the concepts of theoretical knowledge (*episteme*), technical rationality (*techne*), and practical judgment (*phronesis*) as identified by Aristotle, along with the thesis that Western culture has largely abandoned the first and third in favor of the second. This month, I would like to focus on the last two categories and how they bear on practice in the sense specified by Alasdair MacIntyre ("Rethinking Engineering Ethics," November 2010). Joseph Dunne paraphrases it as follows in a 2005 paper ("An Intricate Fabric: Understanding the Rationality of Practice," *Pedagogy, Culture and Society*, Vol. 3, No. 3, pp. 367-389):

> *…a coherent, complex set of activities that has evolved cooperatively and cumulatively over time, that is alive in the community who are its practitioners, and that remains alive only so long as they remain committed to sustaining – and creatively developing and extending – its internal goods and its proper standards of excellence (this commitment constituting them as a community).*

Dunne helpfully clarifies that the internal goods of practices are those "whose intended achievement defines them as the particular practices that they are," including "both competencies proper to each practice and virtues of character that transcend any particular practice." The latter are necessary to ensure that the former are not treated merely as means for acquiring external goods, such that "the practice [is] made instrumental to the point that violation of its internal fabric is allowed." A practice is thus "something that can succeed or fail in being true to its own proper purpose."

With this in mind, Dunne draws attention to the "hegemony" that technical rationality has established in modern societies. Its allure comes from its perceived objectivity and the apparent mastery over matter that humans have accomplished by employing it, as exemplified by today's technology. As a result, "it is no longer seen as *a* form of rationality, with its own limited sphere of validity, but as coincident with *rationality as such*." (Dunne and others resist this by contending that practices like engineering have their own legitimate form of rationality, which deserves to be acknowledged accordingly, but I still prefer to emphasize *intentionality* for the sake of maintaining a sharp distinction; see "Engineering as Willing," May 2010.)

The effect on practices is pressure to conform by "disembedding the knowledge implicit in the skillful performance of the characteristic tasks of the practice," so that "what is essential in the knowledge and skill can be abstracted for encapsulation in explicit, generalisable formulae, procedures, or rules . . . The ideal to which technical rationality aspires, one might say, is a practitioner-proof mode of practice." (This is evident from the trend toward ever more detailed and prescriptive codes and standards, a well-meaning but misguided attempt to ensure competent engineering by providing an increasingly elaborate set of instructions; see "The Nature of Competence," March 2012.)

By contrast, the key features of practical judgment include:

> *its role as an action-orientating form of knowledge, its irreducibly experiential nature, its non-confinement to generalised propositional knowledge, its entanglement (beyond mere knowledge) with character, its need to embrace the particulars of relevant action-situations within its grasp of universals, and its ability to engage in the kind of deliberative process that can yield concrete, context-sensitive judgements.*

Practical judgment is manifested as "the cultivated capacity to make [particular judgment 'calls'] resourcefully and reliably in all the complex situations that they address," as well as "an ability to recognise situations, cases or problems . . . and to deal with them adequately and appropriately."

Dunne does not deny that technical rationality has a rightful place within practices; in fact, he affirms that "one can grant the validity and indeed the desirability of technicising – even in practical domains – everything that can without loss be technicised." Why, then, is practical judgment necessary? Because practices "often present us with a problematic situation where there is no discrete problem already clearly labelled as such, so that we might better speak of a difficulty or predicament rather than a problem." When confronting such circumstances,

> *one is not calculating the efficiency of different possible means towards an already determined end. Rather, one is often deliberating about the end itself: about what would count as a satisfactory, or at least not entirely unacceptable, outcome to a particular 'case'.*

At first glance, engineering might seem like the kind of practice that almost exclusively utilizes technical rationality. To a casual observer, it appears that managers and clients generally specify the ends, and engineers are charged primarily with selecting the means ("The Social Captivity of Engineering," May 2010). What profession, other than perhaps accounting, is more closely associated with calculation?

Anyone familiar with my previous writings on this subject should know better. Technical rationality is only operative when the assignment at hand consists of following a detailed series of steps in order to achieve an already specified outcome. Engineering certainly includes some tasks that conform to this pattern – structural analysis is an obvious example, hence its suitability for execution by a computer – but it also routinely involves making choices from among multiple viable options despite considerable uncertainty.

Furthermore, these decisions pertain not only to means, but also to ends. While the ultimate product or project that results from an engineer's work may be dictated by someone else, it is up to the engineer to ascertain what exactly will be accomplished within the range of his or her direct responsibility. In other words, engineering should be treated as an end in itself – a form of action or doing (*praxis*), which requires practical judgment; not just production or making (*poiesis*), for which technical rationality is sufficient.▪

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