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Professional Virtue and Professional Self-Awareness: A Case Study in Engineering Ethics

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Abstract This paper articulates an Aristotelian theory of professional virtue and provides an application of that theory to the subject of engineering ethics. The leading idea is that Aristotle's analysis of the definitive function of human beings, and of the virtues humans require to fulfill that function, can serve as a model for an analysis of the definitive function or social role of a profession and thus of the virtues professionals must exhibit to fulfill that role. Special attention is given to a virtue of *professional self-awareness*, an analogue to Aristotle's *phronesis* or *practical wisdom*. In the course of laying out my account I argue that the virtuous professional is the successful professional, just as the virtuous life is the happy life for Aristotle. I close by suggesting that a virtue ethics approach toward professional ethics can enrich the pedagogy of professional ethics courses and help foster a sense of pride and responsibility in young professionals.

Keywords Virtue ethics · Professional ethics · Engineering ethics · Aristotle

> Notice how common artificers will meet the wishes of an unskilled employer up to a certain point, but none the less stand fast by the rules of their trade and refuse to depart from them. Is it not deplorable that a builder or a physician should have more respect for the canons of their craft than humans have for their own, which they share with the gods? (Marcus Aurelius 1986, Book VI Sect. 35).

This paper articulates an Aristotelian theory of professional virtue and provides an application of that theory to the subject of engineering ethics. I begin by

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sketching Aristotle's conception of virtue and show that certain relations between the practicing professional, the profession itself, and society as a whole are brought into focus by an application of Aristotelian virtue theory to professional ethics. The leading idea is that Aristotle's analysis of the definitive function of human beings, and of the virtues humans require to fulfill that function, can serve as a model for an analysis of the definitive function or social role of a profession and thus of the virtues professionals must exhibit to fulfill their profession's role in society.

Part 1 of this paper outlines Aristotle's account of virtue ethics in order to apply a modified version of that account to professional engineering. In "Virtue and Happiness" we will look at the Aristotelian notions of *virtue* (*arête*) and *flourishing* (*eudaimonia*), and focus in "Ethical and Intellectual Virtue in Aristotle: The Means and Ends of Human Flourishing" on the relationship between virtuous activity as directed toward some end and virtue as an end in itself in Aristotle's discussion of the ethical and intellectual virtues. The final section of **Part 1** argues that the professional virtues can be understood as a subset of the ethical virtues, defined in terms of the social role peculiar to the profession.

Part 2 then opens with an application of this Aristotelian schema to the engineering profession. "The Function of Professional Engineering" offers an analysis of the function peculiar to professional engineering—of the role it uniquely plays in society—and thus of the virtues engineers must possess so that their professional work helps satisfy that function. "Virtue and Vice" then looks at what it means to be a virtuous engineer by considering some of the vices that professionals must face, and examines instances of engineers who have pursued an aspirational or virtuous professional career. This discussion leads into a consideration of the virtue of *professional self-awareness*, a sort of analogue to Aristotle's *phronesis* or *practical wisdom*. I argue there that professional self-awareness is, like the Aristotelian virtue of *phronesis*, a sort of master virtue that fosters the reflective deliberation necessary for a professional to pursue their work in an aspirational frame of mind. "The Virtuous Professional as the Successful Professional" then argues that the *virtuous* professional is the *successful* professional, just as, for Aristotle, the life of virtue is the happy or well-lived life. Finally, the paper closes with "Teaching Professional Self-Awareness" which provides some remarks on the way the education of professional ethics might foster a virtue of professional self-awareness, and of the general relation between society and the self-identity of an aspirational or virtuous professional. There I offer some reflections on John Dewey's pedagogy, and suggest that a virtue ethics approach toward professional ethics can enrich the material of professional ethics courses and help foster a sense of pride and responsibility in young professionals.

One aim of this paper is to help broaden the conceptual space for the teaching of professional ethics. Particular reference is given to a view of engineering ethics recently championed by C.E. (Ed) Harris Jr. at Texas A&M University. Harris has

endeavored to shift the emphasis in engineering ethics courses from the sort of preventive ethics that forms the backbone of most programs to include an aspirational view of ethics in the engineering profession (Harris 2008, p. 154).[1] This paper hopes to help encourage a view of professional ethics as something *aspired toward*, rather than as educating a set of behaviors to *avoid* or circumstances to *prevent*.[2]

Part 1: The Aristotelian View of Virtue and Its Extension to Professional Ethics

The discussion in these sections of the paper will begin by motivating a slightly different approach toward Aristotle's terminology than that generally used in contemporary virtue ethics. Part of the reason for this lexical shift is the divergence between Aristotle's use of virtue terminology and the way these terms are more commonly understood today. Owing to the way Aristotle's terms are translated, discussions of virtue sometimes appear counter-intuitive given our pre-theoretical conceptions about the meaning of his terms as they are commonly used.[3] And so before applying the notions of virtue theory to a consideration of professional ethics, the next section looks at the etymology and the conceptual scope of the key words used in the discourse—specifically "virtue" and "happiness." In doing so I will suggest that while a clear account of the meaning behind Aristotle's use of the word "virtue" may allow us to profitably retain this term in an extension of Aristotle's theory to modern professional ethics, we will probably benefit by translating "happiness" with some other term. Over the course of clarifying this use of Aristotle's terminology I will begin to sketch his theory of virtue.

Virtue and Happiness

"Virtue" is the English translation used for the Greek word *arête*, meaning something more literally like "excellence". In English ascribing to someone a virtue tends to convey the idea that the person so characterized is in possession of some special quality, something not necessarily intrinsic to their humanity, which appellation sets them off from others. We often say a person is virtuous as a way of commending her for being different, superior in character, from other people. On this view the activity of virtue is something extrinsic to human nature. This is, in part, why it seems an especially laudatory appellation to call someone "virtuous."

But Aristotle's conception of human virtue, *arête*, emerges from his analysis of human nature. By specifying the distinctive function—the *ergon*—that separates a

[1] On page 154 Harris writes "…80% of the code of the National Society of Professional Engineers (NSPE) consists of provisions which are negative and prohibitive in character."

[2] While my approach here looks at examples of virtue ethics in a specifically engineering ethics context, the method pursued offers a way of characterizing a notion of Aristotelian virtue that generalizes over other professional disciplines.

[3] Cf., for instance, Foot (1978, pp. 2–4). Foot discusses there the trouble of preserving an Aristotelian conception of virtue ethics given the way the word 'virtue' has taken on a meaning rather different than the original ancient Greek *arête*.

type of thing from all other things, Aristotle is able to derive a set of qualities that a thing must embody to perform its function. These qualities are the *virtues* the possession of which permit that entity to perform its function *well*. So the view that human virtue is an extrinsic or exceptional characteristic of human beings diverges sharply from Aristotle's view that human virtue involves the possession and exercise of intrinsic and essential character traits that enable us to perform the function peculiar to being human.

In Book I of the *Nichomachean Ethics* Aristotle examines the distinctive *ergon* of human existence. After eliminating functions held in common with plants and animals, he there concludes "The remaining possibility, then, is some sort of life of action of the [part of the soul] that has reason" (Aristotle 1985; Book I, Chap. 7, 1098a1–3, p. 16 bracketed remarks preserved from Irwin's translation). Aristotle held the belief, common in ancient Greece, that humans were the peculiarly *rational* animal. Aristotle believe that *acting rationally* is the function that we alone embody in the world, and so the function that uniquely defines us *as* human.[4]

Note that the capacity to *embody* this function depends upon a certain type of *activity*, the expression of a set of characteristics. Here is where Aristotle's notion of *arête* comes into view. The *arête* of a thing, its excellence or virtue, is exemplified in its ability to perform its function *well*. With a functional definition of a clock as a time-keeping machine, we can begin to examine what sorts of virtues a clock must possess to be a good clock, to perform its function well—perhaps that it needs little or no tending to keep consistent time from day to day, that it is sturdy and difficult to break, that its display is easy to read and can be seen from a distance, etc. In specifying these virtues of a clock we are giving an account of what it means to say a clock is an *excellent* clock.

Human virtue, then, is defined by Aristotle as the possession of those character traits whose expressions foster a life of rational activity, embodying the function peculiar to being human. And just as a clock better able to display the time, better embodying its peculiar function as a thing that displays time, is said to be a good clock, so too the human life lived in accord with virtue, as the expression of those characteristics that allow a human life to embody its peculiar function as rational, is said to be the *good life*. "Each function is completed well when its completion expresses the proper virtue. Therefore the human good turns out to be the soul's activity that expresses virtue" (Aristotle 1985, Book I, Chap. 7, 1098a15–16, p. 17, bracketed remarks removed from the Irwin translation for clarity). Given that, for Aristotle, the *ergon* peculiar to being human is a life of rational activity, and that

[4] For the purposes of this paper a discussion of whether Aristotle's conception of the *ergon* of human beings is correct is not important. Rather, the aim here is to present Aristotle's view so as to exhibit the way the general method—specification of a thing's function as the means for delineating its virtues—can be applied to the field of professional ethics. For even if human beings were not created with any functional role to fulfill, the case of the professions that structure our society is another matter. While the issue of Aristotle's treatment of human beings as the rational animal is an interesting one, we need not here take up in earnest a discussion of its authority in order to use it as a model on which to build an analysis of the functions peculiar to the professions that structure our society.

this life depends on our possessing and exercising certain virtues, a well-lived or *good* human life will be a virtuous life.

Human beings are not the sorts of creatures that express their virtues in the same manner across different circumstances, however. A well-designed clock is such that once it is running it continues to operate without requiring constant feedback in changing situations. Human beings, however, express our virtues in a range of situations, and this variety of situation, coupled with the variety of our constitutions as individuals, requires more fine-tuning on our part with regard to the exercise of virtue than is required of a clock. Human virtue is something one aspires toward, being an active engagement with one's life and circumstances so as to exemplify our rational capabilities. The variability of our situations requires that the specification of human virtue be tailored to fit the differences peculiar to each of us. The calorie intake necessary for an athlete to express her particular virtue as an athlete will not be the calorie intake necessary for an ascetic to express his particular virtue as an ascetic. And, outside of Sparta, the disciplinarian disposition of a military drill-instructor would not be an expression of virtue for someone teaching pre-school.

These considerations lead Aristotle to conceive of human *arête* as a mean between two extremes. If virtue is the mean, these extremes are often characterized as the vices that pull us away from virtue in different directions. We are all of us required to aim for the virtuous mean in our endeavors to express the function of our human nature, but given the variety of our situations and constitutions this mean will differ for different people. The possibility of gastronomic overindulgence is a vice for an athlete just as much as for an ascetic, as is the possibility of excessive self-denial a vice for both, though the mean between these two vices will differ between the athlete and the ascetic. In order to aspire toward athleticism or asceticism, one must be aware both of the character traits necessary for pursuing one's aspiration and the particular circumstances that tend to inhibit that pursuit. Deviation from the virtuous mean toward one of the vices inhibits the full expression of a peculiar function, insofar as a lethargic and portly athlete or ascetic fails to express the function of athleticism or asceticism just as does an undernourished one.[5]

It would be a mistake to conceive of human virtue merely as the *avoidance* of vice, however. For the expression of genuine virtue is the expression of a life one lives in aspiration toward a set of ideals. While it may be important to consider the different vices that tend to pull us away from a virtuous mean in a situation, this consideration should be seen merely as the starting point for one's reflection on how to express the virtues. Practicing virtue is an active process of striving to embody one's *ergon*, and should thus not be conceived primarily in terms of avoiding certain qualities that inhibit that embodiment. The practice of virtue is more than the

[5] Aristotle counsels us that virtue most often lies in tending slightly toward the opposite extreme of that which we are naturally inclined toward, so that good counsel would be for the athlete to err slightly on the side of self-denial while the ascetic should perhaps aim for the opposite, depending on their peculiar dispositions.

avoidance of vice—it is an active exercise of one's capacities toward the expression of the flourishing peculiar to human life.[6]

And so it should be clear that Aristotle's conception of *arête* is intrinsically connected to his notion of being human, more so than are most common contemporary uses of "virtue." So long as we keep in mind this distinction, we should not be too troubled by the continued use of the term "virtue" in this context.[7] But the contrast between the common-parlance connotations associated with "happiness" and the notions surrounding Aristotle's use of the Greek word "*eudaimonia*" will encourage our translating that latter word differently.

"*Eudaimonia*" is defined by Aristotle as that which is pursued for no other purpose—it is an end in itself (Aristotle 1985, Book I, Chap. 7, 1097a15–b23, pp. 13–15). "Happiness, then, is apparently something complete and self-sufficient, since it is the end of the things pursued in action" (Aristotle 1985, Book I, Chap. 7, 1097b22, p. 15). While Aristotelian happiness is not simply the enjoyment of material success, it is not altogether clear what happiness as an end in itself is supposed to mean for Aristotle. But by focusing on the ways in which *eudaimonia* is employed in Aristotle's theory of virtue, we can begin to triangulate the sense that term acquires in his philosophy, and of the contrast our colloquial notion of "happiness" has with his *eudaimonia*.

Aristotle's conception of happiness seems to involve an idea of being blessed or favored by the gods (*eudaimonia* literally translates as "good spirit"), though Aristotle himself never draws attention to this etymology (Kraut 2007, Sect. 2). Instead, Aristotle makes use of *eudaimonia* as substitutionally equivalent to *eu zên*, "living well" or "good life". Even more pronounced than the relation between "virtue" and "*arête*," our use of "happiness" does not account for the Aristotelian conception of "*eudaimonia*" as the good life. To begin with, we tend to use "happiness" to denote an internal state of an individual, whereas an Aristotelian good life is one where an individual's happiness is connected to external goods and the trappings of sociality. A good life for Aristotle is a successful life, not merely a happy one. While it may be the case that people tend to be happy in proportion to their possession of material goods, our notion of happiness does not seem to require this connection. But on Aristotle's view the good life for human beings is a life of social engagement and material well-being. This role for material well-being and success in Aristotle's conception of the good life speaks against using the term "happiness" to translate Aristotle's *eudaimonia*.

More importantly, however, Aristotle's use of *eudaimonia* involves activity on the part of the virtuous agent in a way that our use of "happiness" does not require. It may be obvious that to be *virtuous* one must be engaged in the active affairs of life, but the same implication does not seem to hold for *happiness*. For it seems that all we require in a happy life is the more-or-less continuous subjective experience of

[6] I am indebted to an anonymous reviewer for suggesting that this point be emphasized.

[7] Talk of excellence rather than virtue is sometimes taken up; see Harris (2008). But in this paper I will follow the tradition and continue to use the term "virtue."

joy. In fact, on a common rendering of the meaning of "happiness," a life of morphine addiction might be said to be a happy life, so long as morphine was in constant supply. Yet Aristotle believes that *eudaimonia* involves far more than the subjective experience of joy.[8] Thus to use the term "happiness" for the end-state aimed for by a virtuous life threatens to disconnect the activity of virtue from the end to be realized. If the good life for a human being is a life that expresses the peculiar function of our species—rationality—and expresses this function well, then the characteristics necessary for the expression of this function are those which allow us to competently engage in a life of reason. The rational life is a life of activity, a life of engagement with nature, society, and introspection in such a way as to put our rational faculties to use. Aristotelian happiness, then, is far more than a subjective experience of joy—it is an active rational engagement with the world, dependent at once upon both internal characteristics (the virtues) and external contingencies. While one might hope that a discussion of virtue ethics for an audience unfamiliar with its Aristotelian background could continue to profitably employ the term "virtue", it would seem that we are better off in the case of *eudaimonia* substituting the active terms "flourishing" or "living well" (less frequently "the good life"—a passive term) for the more narrow and strictly passive "happiness".[9] In doing so there is a danger that we lose the sense in which the virtuous life *is* a happy life, expressed in the idea that virtue is its own reward. But in "The Virtuous Professional as the Successful Professional" I will argue that the professionally virtuous career is the professionally successful career, and so hopefully this idea is not lost on us by using "flourishing" and "successful" in place of "happiness."[10]

With these terminological clarifications behind us we can see that Aristotle's theory of virtue is beginning to take shape. But there is one more Aristotelian distinction we must take on board before looking at an application of Aristotle's theory to professional virtue.

Ethical and Intellectual Virtue in Aristotle: The Means and Ends of Human Flourishing

At 1176b7 in the *Nichomachean Ethics* Aristotle remarks "doing fine and excellent actions is choiceworthy in itself" (Aristotle 1985, Book X, Chap. 6, p. 281). Yet at

[8] "We said, then, that happiness [*eudaimonia*] is not a state. For if it were, someone might have it and yet be asleep for his whole life, living the life of a plant, or suffer the greatest misfortunes. If we do not approve of this, we count happiness as an activity rather than a state…" (Aristotle 1985, Book X, Chap. 6, 1176a33–1176b2).

[9] Insofar as our earlier decision to continue using "virtue" was influenced by trends in the philosophical debate on morality, we might remark that there is a similar disciplinary reason impelling us to jettison the use of "happiness" here. For this term has largely been appropriated by utilitarian theories, and it would do us well to select a different word to characterize the form of life associated with the practice of virtue. Of course one could simply *legislate* that we understand the term "happiness" in discussion of Aristotelian virtue to be such as his theory requires, but there are better terms for translating *eudaimonia*, terms more consistent with our pre-theoretical understanding of them.

[10] In Hutchinson (2007) the "*eudaimon*" life is translated as the "successful" life. We will here reserve "successful" as the characterization of the virtuous professional life.

1177b2–4 he writes "…study seems to be liked because of itself alone, since it has no result beyond having studied. But from the virtues concerned with action we try to a greater or lesser extent to gain something beyond the action itself" (ibid, p. 285). The first passage seems to imply that the performance of virtuous (excellent) actions are ends in themselves. Yet the second looks as though only contemplation or study satisfies this description, as "the virtues concerned with action" are to some extent *means* to some further end. To resolve this apparent conflict we must understand the way Aristotle divides the virtues into those that are concerned with a specifically *human* life (the ethical virtues) and are practiced as a means to realize states of affairs beyond the practices themselves, and those he characterizes as 'divine' and which are practiced for their own sake (the intellectual virtues). Once we have made this distinction, we will be prepared to define the *professional* virtues as a subset of the *ethical* virtues.

Part of Aristotle's concern with virtue as a means or as an end in itself seems to be his impression that anything pursued for the sake of something else cannot rightly be called the highest good.[11] If the highest good is to be conceived in terms of a *human endeavor*, then that endeavor must be open-ended in the sense of not having a termination that accomplishes it, for then the termination would be the goal of the endeavor and thus the *end* would be more valuable than the *activity*.[12] The end toward which the practice of the ethical virtues aim is the attainment of some state *beyond* the practices themselves, and so the ethical virtues cannot be the self-sufficient good that is pursued as an end in itself.

Consider the practice of bravery (one of Aristotle's ethical virtues) in a particular situation—say by defending a loved one from an assault. Grant that the act of being brave is a virtuous act in this instance; it would appear altogether absurd to suppose the virtue of bravery *itself* was the end for which the action was done. Rather, we say that insofar as the act was brave it was an expression of a flourishing human life, but that the act was undertaken for an end other than the practice of that virtue—it was undertaken to save a loved one! The practice of the ethical virtues are not ends in themselves—they are rather *instrumental*, pursued as means to some further end their practice seeks to realize. For Aristotle the intellectual virtues, on the other hand, are pursued as ends in themselves. What Aristotle ultimately has in mind here is the self-sufficient practice of contemplation, which is capable of being pursued for its own sake, rather than as a means to something else. While of course there may be instances where we contemplate a subject in order to put our cognition to use afterward, the highest good for Aristotle is an *intrinsic good* in that it is something pursued as an end in itself. The intellectual virtues (or at least the highest

[11] In part a holdover from Plato's influence on Aristotle, no doubt. But again, we need not be concerned with defending the methodological motivations of Aristotle's conception so long as we see the cognitive value in the distinctions he cuts.

[12] This does not mean that such an action never *can* cease, only that it doesn't *need* to cease to be successful at the end for which it aims—for its end is the activity itself. So, for instance, if contemplation of the divine is conceived as the highest good, then it is something that never needs to reach a result—otherwise the result would be the end and the action would not be intrinsically worthwhile—while for many reasons such contemplation *can* cease.

intellectual virtue—theoretical wisdom) are pursued as ends in themselves, and so their practice can be understood as the achievement of the highest good.

The difference between the ethical virtues, such as temperance, bravery, and magnanimity, and the intellectual virtues such as theoretical wisdom and science, lies in the way they relate to human flourishing—the former are means to experience that flourishing, while the latter are the self-sufficient apex of human flourishing, a proper expression of our peculiar function.[13] This reading squares with that of the Aristotle scholar Richard Kraut as well. In Sect. 10 of his article on Aristotle's ethics in the *Stanford Encyclopedia of Philosophy* he writes

> The best way to understand [Aristotle] is to take him to be assuming that one will need the ethical virtues in order to live the life of a philosopher, even though exercising those virtues is not the philosopher's ultimate end. To be adequately equipped to live a life of thought and discussion, one will need practical wisdom, temperance, justice, and the other ethical virtues. To say that there is something better even than ethical activity, and that ethical activity promotes this higher goal, is entirely compatible with everything else that we find in the *Ethics*.

The good life is the virtuous life, a life of reason in action, but some rational activities are more complete than others insofar as some are pursued as ends in themselves. The most complete Aristotelian virtue, that which most satisfies our peculiar *ergon* as a rational animal, is the self-sufficient activity of intellectual contemplation, the practice of which in part constitutes *eudaimonia*. This connection between *eudaimonia* as the supreme good, and the exercise of contemplation as "being itself either divine or the most divine element in us," perhaps gains some measure of support in the etymology of "*eudaimonia*" as "good spirit" or "good divinity" (Aristotle 1985, Book X, Chap. 7, 1177a16–17, p. 284). For it makes sense in this context to assert that the highest form of the *eudaimon* life is a life of contemplation, itself an expression of the most divine element within

[13] Aristotle also views the reliance on external goods as a dividing line between the intellectual and ethical virtues. At 1178a8–14 (Book X, Chap. 8) of the *Nichomachean Ethics* Aristotle distinguishes those virtues concerned with contemplation, which are divine, and those concerned with action, which are human. "The life expressing the other kind of virtue [i.e. the kind concerned with action] is [happiest] in a secondary way because the activities expressing this virtue are human. For we do just and brave actions, and the others expressing the virtues, in relation to other people, by abiding by what fits each person in contracts, services, all types of actions, and also in feelings; and all these appear to be human conditions." (Bracketed remarks preserved from Irwin's translation). At 1178a24–35 (Book X, Chap. 8) Aristotle says that the human virtues require a greater reliance on external factors (power for bravery, money for generosity), and so insofar as a human being can exercise the human virtues he or she must have the sorts of external goods necessary for these virtues. But these sorts of external goods are to some extent a *hindrance* to the pursuit of the divine virtues—contemplative study (though at 1178b33–6 Aristotle offers a caveat to the effect that human well-being requires at least a moderate amount of external goods, including health and food, even for the practice of contemplation).

us.[14] If this reading is correct, then delineating a set of professional virtues through indexing them as the means to realize a particular sort of social order may not be entirely out of step with Aristotle's views.[15]

Professional Virtue: A Teleological Subset of the Ethical Virtues

On this reconstruction of Aristotle's theory of virtue, the practice of *ethical* virtue is essentially end-directed or teleological. While the intellectual or intrinsic virtues are pursued for no end beyond their practice, the ethical virtues are instrumental, consisting of practices undertaken as a means toward some further end. This conception of the means-end nature of the ethical virtues provides a template upon which to model the virtues of a particular profession. A professional is acting virtuously in his or her profession when he or she engages in those activities that help further the aims of that profession. The professional virtues, no less than the ethical virtues, are practiced toward the realization of specific ends. In consequence of the relations among ethical virtue, end-directedness, and the prospect for a theory of professional virtue modeled on Aristotle's notion of virtue, I propose the following definition. The professional virtues can be defined as a subset of the more general ethical virtues, a subset whose membership is specified in terms of the particular virtue's practice playing a role in satisfying the social function of the

[14] Much of this reading depends on how we gloss *eudaimonia* in the context of the pursuit for a "highest good," and of an act being an end in itself. If self-sufficiency is the criterion of the *summum bonum* then the ethical virtues as what are needed to get along well in society and so fully flourish are means to an end—the self-sufficient contemplation of the divine. On this understanding of the good life it appears we have a two-level notion of virtue in Aristotle—the practice of the ethical virtues as the means to practice the intellectual virtues, and the practice of the intellectual virtues as an end in itself. But if we understand *eudaimonia* as an active principle of human flourishing, then it would appear that even the practice of the ethical virtues, as a practice representative of our function as rational creatures, is an end in itself *regardless* of whether that practice is self-sufficient. Aristotle's remarks at 1177a13–18 would support the two-level rendering of Aristotle's view of virtue, but much of what he says elsewhere (and much of the secondary literature) would seem to support the latter rendering. As Kraut in Sect. 2 of the *Stanford Encyclopedia* article "Aristotle's Ethics" puts it "[Aristotle] says, not that happiness is virtue, but that it is virtuous *activity*. Living well consists in doing something, not just being in a certain state or condition. It consists in those lifelong activities that actualize the virtues of the rational part of the soul." Furthermore, Rosalind Hursthouse argues that *eudaimonia* is not the highest good, but rather that acting virtuously is (Hursthouse 2007, pp. 169–170). Her concern seems to be that the good life is too dependent upon external contingencies to constitute a realizable aim of human activity. Her argument turns on the utter contingency of realizing *eudaimonia*, the extent to which it depends on factors wholly outside our control, which implies that we cannot hold it as the supreme good. Instead, "[i]f anything counts as the 'top value' in virtue ethics, it is acting virtuously…" (ibid, p. 169). Presumably this is because we can achieve virtuous activity even in the face of adversity, though we cannot achieve the good life without external goods if the good life *depends on* those goods.

[15] Articulating the relationship between the ethical and intellectual virtues is a complex affair and I do not suppose to have given the definitive account. Enough will have been done if this is an internally consistent account, one that does not do disservice to what Aristotle wrote, and one that bears value in its extension to professional virtue ethics. In this regard I believe I have been successful, though the reader is encouraged to judge its merits on their own, in particular by gauging the worth of the account of professional virtue it underpins beginning in the next section and developed in **Part 2**.

profession in question.[16] Taking this definition as a starting point, we can begin to craft an Aristotelian conception of professional virtue. As **Part 2** will argue, the characterization of a profession in terms of the particular function it satisfies in society will help specify those professional virtues needed to help achieve a profession's ends, its peculiar function in society.

Just as the practice of the ethical virtues allowed us to characterize the end toward which they aimed, the end of human flourishing, so too should we expect the practice of professional virtue to characterize the end of professional activity—a *flourishing* or *successful* career as one that helps the profession fulfill its function in society. Before we can understand the relation between the practice of professional virtue and the end of a successful career, however (and indeed before we can begin to understand the virtues necessary to perform well the function of one's profession) we must first be in possession of a conception of the peculiar *ergon* or *function* of the profession in question, that function which uniquely specifies the profession as the profession that it is. We will take the profession of engineering as our case study in specifying such a function.

Part 2: Professional Engineering Virtue

So much for outlining the Aristotelian framework of virtue ethics and situating professional ethics inside that framework. Doing so has allowed us to characterize professional ethics as a subset of the ethical virtues, themselves understood as

[16] A word of clarification is perhaps in order here. Some of the virtues put forward for engineering ethics might seem like intellectual rather than ethical virtues. In his discussion of virtue in "The Good Engineer," Harris distinguishes technical from non-technical engineering virtues, and suggests that these virtues might be analogues to the ethical and intellectual virtues in Aristotle [Harris, p. 158]. In that work Harris proposes and discusses three non-technical virtues: techno-social sensitivity, respect for nature, and commitment to the public good. If the analysis given in the current paper of Aristotle's virtue theory is sound, then the crucial difference between intellectual and ethical virtues is that the intellectual virtues are pursued as ends in themselves, whereas the ethical virtues are means to some other end. In this regard virtues such as techno-social sensitivity are instrumental in the sense required to classify them with the ethical virtues. The virtue-motivated professional engineer is concerned with the social impact of technology precisely because this impact affects the welfare of human beings through the activities of the profession. The same can be said of the practice of respect for nature and a commitment to human welfare. The engineer who pursues these interests in an exercise of specifically *professional* virtue must make her pursuit sensitive to the well-being of the profession, to its capacity to satisfy its role in society. No matter how intrinsic one may find the value of respecting nature, for instance, the practice of this virtue as a *professional* virtue requires that any motivation to respect nature must be undertaken in the service of the profession's social role. There is, of course, an important issue regarding whether and in what way a profession's currently perceived role in society is *correct*. This question of the normative judgments that go into specifying what a profession's role *should be* in society will be discussed later in the paper, in "Toward the Characterization of a New Virtue: Professional Self-Awareness" and "The Virtuous Professional as the Successful Professional." For now, note that for all I have said about professional virtue being a subset of ethical virtue, this view is consistent with their being an important difference between technical and non-technical virtues. It is just to say that the difference is drawn within the ethical virtues, even if that difference takes the intellectual virtues to be a model for the non-technical virtues. This issue may well be one at which contemporary professional virtue theory must diverge from a strictly Aristotelian framework. My thanks to an anonymous referee for bringing this matter to my attention.

means to ends, and the practices of which realize the peculiar function of the profession. Now the task becomes to specify, as a template upon which to develop an account of engineering virtue, the function or role performed by the engineering profession in society. Following a specification of this template in "The Function of Professional Engineering," looks at some of the vices which tend to pull the professional away from the virtuous mean and considers some professional engineers who have exhibited virtue in their careers.

The final three sections of the paper return to a more general examination of professional virtue ethics. "Toward the Characterization of a New Virtue: Professional Self-Awareness" outlines a virtue of professional self-awareness meant to encourage the aspiration toward having a professionally virtuous career. The following section argues that the virtuous professional is the successful professional, just as the virtuous life is the life of human flourishing for Aristotle. Finally, "Teaching Professional Self-Awareness" looks at John Dewey's pedagogy as it bears on the teaching of professional virtue ethics in college courses, particularly with regard to the fostering of professional self-awareness.[17]

The Function of Professional Engineering

Professional engineers work in a variety of fields, including chemical engineering, computer science, mechanical engineering, aeronautics and aerospace engineering, petroleum engineering, and civil engineering. What is common between the different engineering professions is their involvement in the research, design, construction, and maintenance of the technological and physical infrastructure that underpins human society. The different engineering disciplines collectively play the role of creating the physical structures that permeate a society, perhaps in relation to whatever *ergon* and human flourishing members of that society share.[18] I therefore define the peculiar *ergon* or function of professional engineering to be *the research, design, creation, and maintenance of the physical structures that underpin human society*.[19] Recall that, on the Aristotelian model being developed here, the social function or role uniquely satisfied by a profession should reflect the *end* of the activities undertaken in that profession. As the function of the profession of engineering is to provide for the physical structures that underpin our social

[17] I take this approach, here applied specifically to engineering ethics but with professional ethics more generally in mind, to be in agreement with Edmund D. Pellegrino's treatment of medical ethics in Pellegrino (2007). On page 64 Pellegrino writes "The professions are distinct human activities in which virtues and ends can be linked. Professions have identifiable and defining ends, that is, each serves certain universal human needs…To attain that end, certain virtues are required…These virtues are neither optional nor merely admirable. They are entailed, on the physicians part, by the nature of the ends of medicine."

[18] As mentioned in **Part 1**, I will remain neutral in this paper with regard to whether there is a particular *ergon* for human beings, and instead leave it as a place holder for building a model of the functions peculiar to social professions, which professions surely *are* explicitly end-directed.

[19] This definition should be understood to include electrical and informational structures present, for instance, in electrical circuits and computational systems.

organizations, so is the practice of engineering virtue a practice of performing this role well.[20]

Taking this social role as definitive of the engineering profession, one can then begin to look at the sorts of professional virtues necessary for engineers to fulfill this role. In his recent *Science and Engineering Ethics* article Harris examines the case for virtue ethics in engineering. He suggests that virtue ethics, with its emphasis on character dispositions and the aspirational dimension of ethical action, offers an important corollary to the rules-based ethics commonly taught engineers (Harris 2008, pp. 154–158). He then suggests that engineers must exhibit both technical and non-technical excellences or virtues, and examines three non-technical virtues: techno-social sensitivity, respect for nature, and commitment to the public good (Harris 2008, pp. 158–162). Though Harris does not arrive at his virtues through the method suggested here, I think a case could be made that the virtues Harris proposes can be deduced from the functional specification of the engineering profession given above.

Here my focus will lie on the articulation of a new virtue—that of professional self-awareness. While the context of discussion will remain the engineering profession, I will suggest later in the paper that this professional virtue is one that the functional definition of *any* profession would entail. As in the *Nicomachean Ethics*, we may find that it is easiest to perceive the merit of this virtue when considering the vices that tend to pull us away from the mean (Aristotle 1985, 1104a10–1104b2, pp. 36–37, and 1105b19–1107a34, pp. 41–46).

Virtue and Vice

The virtue ethicist encourages actors to strive to live a life from which moral judgments proceed as a matter of second nature. This sort of life involves an active engagement with one's character and its expression in action, endeavoring in one's public activities to embody a sort of character one self-reflectively endorses as an ideal. In professional ethics, this kind of embodiment requires pursuing one's professional goals in the service of the peculiar role one's profession plays in society. This is part of what it means to have an *aspirational* view of professional ethics. And as Aristotle does in his analysis of human virtue, we can use the process of identifying a set of professional vices as a springboard to delineate a virtue that mediates between vicious extremes in helping to foster a flourishing career.

[20] The question of what sorts of physical structures *should* underpin a given society, and thus what specific normative injunctions this functional definition brings with it, is an important one. A more detailed treatment of professional engineering virtue would include explicit discussion of the normative question, perhaps by linking professional virtues to an Aristotelian conception of the *ergon* of human life more generally. That sort of more detailed normative treatment of professional engineering will largely remain untouched in this paper. My purpose in this paper is not to look at specific practices that count as professionally virtuous, but rather to investigate the conditions under which we can understand any action, within whatever normative framework, to be an instance of professional virtue (though I will have a few remarks to make about the importance of a normative component in any actual practice involving professional self-awareness in "Toward the Characterization of a New Virtue: Professional Self-Awareness," and about the relation between professional virtues, professional success, and a well-ordered society in "The Virtuous Professional as the Successful Professional").

One of the principal vices of any profession is the tendency to see one's work primarily as a means to a personal end—the acquisition of money or renown. Now surely our occupations *are* means toward different ends—but money, for instance, is not the only end of an occupation, nor could it possibly be in a society such as ours. Anyone on the social dole, receiving money without compensation in the form of labor, is a drain on the public coffers; these situations exist as exceptions in a society that otherwise exchanges reward for work. This fact does not imply that acquiring money cannot function as *one* end for which an individual works—but this is a *personal, psychological* end, and it cannot be the *end of the work itself*. While it may be the case that we view our work as a means to the end of receiving a paycheck, we shouldn't confuse this fact about human psychology with a fact about the end of the work as it factors in the profession in question.[21]

One vice the virtuous professional must guard against, therefore, is the tendency to confuse the personal ends for which one works with the ends of the profession that work accomplishes in society. This tendency applies not only to the monetary benefits of our work. Our professions provide us with the opportunity to hone our skills and specialize in certain areas, making us more marketable in a professional niche. They also offer us a measure of social status and regard. Another hazard of professional development is that we might conflate the social value of the work we do with the value it has for our own careers. Making explicit this tendency, bringing it up into the realm of conscious reflection and judgment, is integral to a virtue-based approach toward professional ethics.[22]

The career of Dr. Mark Holtzapple at Texas A&M University provides an illustrative example of an engineering professional with an aspirational view of his work. The authors of *Engineering Ethics: Concepts and Cases* include a discussion of Holtzapple's work in chapter nine of that book. Four areas of Holtzapple's research are mentioned there, and his work with the StarRotor in particular exhibits the sort of aspirational response to the vice of pursuing one's professional work for personal ends. Rather than view his engineering expertise simply as a means to acquire personal wealth, Holtzapple chose to pursue engineering projects with a potential for social benefit. "Early in his career, Holtzapple decided to commit his research agenda to developing energy-efficient and environmentally friendly technologies" (Harris et al. p. 191). The StarRotor project is aimed at the creation of a light-weight, clean, and efficient engine suitable for mass-market production and able to run on a variety of combustible fuels. Holtzapple's work on this project is an expression of his desire to put his engineering expertise to use in the service of his profession and the role it plays in society. With the proper biofuel infrastructure

[21] In "The Virtuous Professional as the Successful Professional" I will argue that the virtuous professional's personal ends, pursued in their capacity as a professional, can coincide with the ends of the profession. But for now we are examining personal ends sought without regard for the ends of the profession.

[22] Though it is outside the discussion of this paper, the adoption of this perspective could be fleshed out with the notion of a 'moral exemplar'; patterning one's activity on how one imagines a moral exemplar would behave—something like Aristotle's magnanimous agent, R. M. Hare's Archangel, or Harris' discussion of virtue portraits (Harris 2008, pp. 157–158, 162).

(another of Holtzapple's projects), the StarRotor would offer a potentially dramatic benefit to society.

If perceiving one's work as a means to merely personal goals is one vicious extreme, its correlate is an uncritical acceptance of "good works" projects that are not undertaken with an appreciation for how difficult, in practice, it can be to accomplish some goal virtue seems to prescribe. Holtzapple's work with the StarRotor, for instance, is driven as much by an appreciation of the need for a sound business model as it is by a desire to develop an environmentally friendly engine technology. An uncritical urge to "do good" is a vice no less than is professional selfishness. The work of Engineers without Borders illustrates the sort of practical constraints that the virtuous engineer must consider when pursuing his or her work. In a community that has no running water, it may be practically impossible for Engineers without Borders to support the building of community-wide water utilities, including plumbing and waste removal, despite the fact that these utilities would be what one would (in the ideal) like to provide. Instead, the practical constraints on engineering virtue in this context may require the construction of a simple, durable community well, together with some basic education regarding public wastewater practices.

These two vicious extremes—viewing one's career merely as a means for personal wealth and practicing professional virtue without regard for the practical constraints—indicate that the specification of a mean between them involves a component of *professional self-awareness*. On the one hand, to avoid the vice of professional selfishness, virtue requires that professionals be self-aware of the values implicitly motivating their professional decisions. On the other hand, to avoid the vice of unrealistic idealism, engineers must be careful so as to ensure that their aspirational efforts are not thwarted by a failure to self-reflectively assess the likely success of a given project.

The key idea here is that the virtuous individual should become competent at identifying her vicious tendencies and willing to reflect on them in the context of how her behavior expresses her character and helps constitute her society by achieving the ends of her profession. The exercise of this capacity for self-reflection then provides the basis for the aspirational practice of virtue in the performance of one's professional duties. Virtue ethics shifts the emphasis from the memorization of a set of rules or a utility-calculus to the self-critical assessment of an individual's professional role in society. For this approach to offer a viable complement to deontological and consequentialist ethics, however, we need to specify the way professional self-awareness functions as a component of professional virtue.

Toward the Characterization of a New Virtue: Professional Self-Awareness

A virtue of professional self-awareness is integral for manifesting other professional virtues for a number of reasons. In the first place the practice of virtue requires sensitivity to the vices that incline us away from the mean in a given situation. This reflection requires awareness not only of the social impact of our professional actions, but also of our own peculiar vicious inclinations. For the psychological tendencies that pull the intentions of professionals in different directions can be

subtle and difficult to apprehend, and will deviate from person to person, profession to profession, and situation to situation. The exercise of professional virtue can sometimes appear to clash with the personal virtues we have otherwise incorporated into our intentional dispositions, and to avoid operating on the wrong instinctive program a professional must be aware of the peculiar constraints placed on her by her professional role and the internal dispositions that may incline her to deviate from this role.

To take a simple example, conviviality and a willingness to do small favors are two character traits generally encouraged in our culture, but in our roles as professionals we are expected to cultivate a degree of disinterestedness and formality so peculiar to these roles that we refer to this behavior as acting *professional*. Because of the deep-seated psychological tendencies that influence our motivations to act, and the relatively late-coming realization in our social habituation (our ethical education) of the professional roles expected of us, the exercise of professional virtue requires a sort of critical self-awareness. It takes careful deliberation and extended practice to cultivate a sense of the way our pre-professional character-types will have to be adapted to the situations and circumstances of our professional lives. Our time in an educational institution allows us to engage in minor professional gaffes in a setting where the emphasis lies on our learning from these mistakes rather than having to professionally suffer from them. But education surely does not stop at the doors of the academy, and any young professional not prepared to continue this period of learning into a professional apprenticeship will quickly find that earlier forms of censure are replaced by more long-lasting and significant repercussions. Fostering professional self-reflection can be expected to prevent at least some of these episodes, and in the course of doing so help motivate an aspirational outlook in the mind of young professionals.

For a recognition of the vicious tendencies that might incline us away from virtue merely lays the foundation for the active practice of virtue. We must also cultivate dispositions that foster virtue and so express the flourishing peculiar to professional life. The virtuous professional is the professional who reflects on and recognizes the effect one's actions have both on one's profession and (through the profession) the effect those actions have on society. Professional self-awareness should be seen not merely as the capacity to navigate the Scylla and Charybdis of the vices. Instead, an emphasis should be placed on the role professional self-awareness plays in fostering the pursuit of virtue by fostering an understanding of oneself, one's profession, and the role one's profession plays in society. It is in this sense that virtue ethics includes an essentially *aspirational* component.

This component will necessarily rely on normative judgments as to what exactly is the morally best way to satisfy that role. One cannot determine what virtue prescribes in a given situation without recourse to the values that delineate appropriate and inappropriate behavior. A specification of what would count as appropriate and inappropriate—of the normative framework within which professional self-awareness operates—would involve more consideration than can be given here. But we can note the general structural point that the particular aspirations a professional has will be intimately connected to their assessment of

their profession's function, and that this cannot be determined independent of an assessment of what a profession *ought to be* fostering in its contributions to the society it helps constitute. In Chap. 5 of *Engineering Ethics*, "The Social and Value Dimensions of Technology," Harris, Pritchard, and Rabins write

> On a still more subtle level of analysis, STS [science and technology studies] researchers have found that even concepts that are usually thought to have a purely technical definition often have a social and value dimension. For example, what constitutes "effective functioning" or "efficiency" in a technological device is not determined wholly by technical considerations, but also in part by social considerations…Child labor was in some ways more "efficient" than the use of adults, but when it was decided that the use of child labor was immoral, children were no longer taken into account as a possible source of more efficient labor. (Harris et al. 2009, p. 109).

The above discussions of self-conscious sensitivity to vice and the positive aspirational engagement with one's profession and its role in society should shed light on what it means to be professionally self-aware. An individual expresses professional self-awareness through a critical reflection on their professional actions as they contribute to or impede the satisfaction of the function of that profession in society—that is, as those actions impact the realization of the end toward which one's profession is directed. This requires cultivating a sense of professional responsibility, recognizing oneself as *playing a part*, having a role, in the profession's contribution to society. Professionally self-aware individuals conceive of their actions in terms of the way they relate to the welfare of their profession and their profession's role in society, and this requires both appreciation for the ends toward which the profession serves in society, and reflection on the constellation of situations, dispositional tendencies, and variegations of one's behavior as they affect the realization of these ends.[23]

For Aristotle, it is the virtue of *phronesis* or practical wisdom that mediates between the rational apprehension of the *ergon* of human beings and the specific behaviors required to express that *ergon* in particular situations (Aristotle 1985, Book VI, Chap. 5, 1140b5–25, pp. 154–155; Hutchinson 2007, pp. 205–207). While an intellectual virtue, *phronesis* therefore plays an important role for an agent in determining how the ethical virtues are to be concretely pursued. On the conception developed here professional self-awareness was put forth as a method of practical reflection mediating between the professional's reasoned assessment of the ends toward which the profession ideally aims and the specific situations and intentional dispositions that motivate the professional's behavior within the profession. Thus

[23] Notice that the role of professional self-awareness was not derived from the functional characterization of the engineering profession. The capacity for self-reflection is a virtue in general, insofar as human flourishing is impossible without rationally assessing those conditions that must be satisfied for our flourishing to manifest itself in specific situations. Professional self-awareness is therefore a virtue for professionals in general, exhibited by the fact that its derivation proceeded from consideration of the functional role of a profession in general, rather than on the specific role of an individual profession like engineering.

the virtue of professional self-awareness plays a role in professional virtue ethics similar to that of Aristotle's *phronesis*.

Aristotle, however, seems to view the exercise of *phronesis* as the apprehension of both the proper rational ideal and the appropriate practical activity. He characterizes *phronesis* as a "state grasping the truth, involving reason, and concerned with action about human goods" (Aristotle 1985, Book VI, Chap. 5, 1140b20, p. 155). I would prefer to avoid this apparent positivism, as though every ethical dilemma could be resolved by the intellectual intuition of a "truth" regarding how to proceed, and will instead leave it open that an individual might exercise professional self-awareness to any degree sufficient to be said to be virtuous and still remain undecided about what action is proper or best. The world is a messier place than an appeal to the pure apprehension of moral truth permits in many cases. Our living well is not defined by our success at being angels, but that in practice we never stop trying.

The Virtuous Professional as the Successful Professional

I have characterized a profession's end as the function it performs in society, the unique role it plays in helping to constitute that society. This permitted a clear criterion for stipulating professional virtues—they are dispositions of character that motivate a professional to act in accordance with (as a means to realize) the end of a profession, accomplishing the function it plays in society. Just as Aristotle's virtues are derived by looking at the character traits that allow human beings to live the life distinctive of our being the rational animals we are, so are the professional virtues those character traits that allow individuals in their capacities as professionals to fulfill the function, the unique social role, of their professions. Similarly, just as Aristotle characterized the virtuous human life as the well-lived or flourishing human life (Aristotle 1985, Book X, Chap. 6, 1176a30–1177a10), I have suggested that we can understand the virtuous professional as the successful professional. We are now in a position to see under what conditions this characterization obtains.

In "Virtue and Vice" I suggested that one of the vices plaguing professional work is the tendency to view one's work as means to a personal end, rather than to work for the ends of the profession. But in a well-ordered society (a term to be specified shortly) the professional who works for the good of the profession, one who helps the profession perform well its peculiar role in society, will be rewarded for his work with professional success. While corrupt systems may reward selfishness with success, a system with minimal corruption will be a system in which the virtuous professional is the successful professional. In what follows I will argue that this claim—that the virtuous professional is the successful professional in a well-ordered society—is entailed by our notion of the function of a profession in society and by the rewards given to professionals working to satisfy that function in a society whose institutions foster well-functioning professions.

When a professional is acting so as to accomplish the ends of their profession, they are acting to contribute some service to their society. The services they contribute satisfy some aspect of the role their profession plays in society, some

benefit to that society demarcated by the profession's unique function. The work of the virtuous engineer contributes to the research, design, creation, and maintenance of the physical structures that underpin human society; the work of the virtuous doctor contributes to the health and well-being of the citizenry; the work of the virtuous businessman fosters the real financial growth and wealth of the community; the work of the virtuous lawyer ensures safety, equality, and opportunity for the people under the law, etc.[24] In each case, virtuous practice can be specified in terms of the professional actions that help fulfill the functional role, the *ergon*, of the profession in question. We are now in a position to see what the notion of a well-ordered society means in this context.

Given a functional specification of a profession as the unique role it plays in satisfying a society's needs, a well-ordered society is one where professional work will be *recognized* as having contributed to the functional role of the profession, and thus to have contributed to that aspect of the society's constitution that the profession's function is directed toward. Thus the *well-ordered society* is the society that *fosters* the fulfillment of the functions of its professions, for the practices of the professions that help constitute a society are a necessary condition on the existence of that society as the society it is.[25] I call such a society "well-ordered" precisely because the work professionals undertake in the service of the functional role of their professions, which work underpins the society's determinate structure, is recognized as essential for the existence of that society. This *recognition* is expressed as the *reward* the society gives to the virtuous professional, the professional whose work is done in the service of the function of the profession, and thus in the service of the society. The well-ordered society rewards its virtuous professionals by granting them professional success, thus equipping these professionals for further, often more important, work in the profession. It is only in this fostering of its virtuous professionals that a well-ordered society *is* well-ordered. It is only in this fostering of its virtuous professionals, that is, that the society comes to be structured by professions whose function is performed *well* in that society. Thus the well-ordered society rewards virtuous professionals with success in their professions. Thus the virtuous professional is the successful professional in a well-ordered society.

I have qualified this discussion throughout with the proviso "well-ordered" society. This is an important qualification. For a society that permits rewarding professionals who act in service to vice rather than virtue—a society that lets professional corruption go unpunished—is a society where professional virtue and professional success can come apart. Of course no society is perfectly well-ordered, and vicious behavior may always find a reward in certain situations. This serves as a reminder that a society rewarding vice is a society unstable on its own terms—it is a

[24] These characterizations of virtue in medicine, business, and law should not be read as definitive statements of the peculiar functions of these professions, though they are hopefully not obviously false.

[25] This is not to say that professional practice is sufficient to constitute a society, of course. A number of structural elements must be in place for professions to have any impact on a society in the first place, from political organization to the availability of natural resources to the replenishment of the labor force. It is just to say that when the appropriate background conditions are met, a society's professions are constitutive of whatever determinate form the society takes.

society whose professions are not fulfilling well the roles peculiar to them, and so are not constituting a well-ordered society. One essential condition for a well-ordered society is the existence of institutions (whether as complex as a modern legal system or as simple as a handshake) that foster the practice of virtue among its professions (in this case a commitment to honesty). And setting up these virtue-fostering institutions requires work on the part of all of us; practicing professionals have a measure of responsibility for the institutional framework that conditions the rewards of professional practice, just as do policy makers and politicians.

The sorts of issues that must factor into the considerations of these institutions are diverse, and I will mention just one. In any examination of the institutional framework that conditions a professional practice, we must reflect on what sorts of functions we want our professions to work toward. We must, that is, have at least some conception of a value-system, a normative framework, through which we perceive our actions as both virtuous with regard to the profession's end and morally appropriate efforts to help realize that end. Reflection on that normative framework is as essential for a determination of the institutional framework we create to condition the practices of the profession as is a specification of the function peculiar to a given profession (in fact, they go hand in hand).

But the positive correlation between virtue and success—professional analogues of Aristotle's *arête* and *eudaimonia*—holds within a well-ordered society independent of any normative assessments of that society.[26] Given a functional definition of a profession and its role in society, along with a recognition that a society is in part constituted by its professions, and it is a matter of conceptual necessity that a well-ordered society will be one in which the virtuous professional is the successful professional. And so this Aristotelian account of professional virtue concludes that the virtuous professional life is the successful professional life, just as, for Aristotle, the virtuous life is the *eudaimon* or flourishing life.

To close out this discussion of professional virtue I will say a few things in "Teaching Professional Self-Awareness" about the role of teaching professional self-awareness to students. Once the basic regulations of our profession are outlined, what professionals need most is the practical capacity to determine how their professional aspirations should guide their actions. That practical capacity, that analogue to Aristotelian *phronesis*, comes through time and experience. In his discussion of incontinence or weakness of the will Aristotle remarks that oftentimes an individual will know what virtue generally prescribes but will be driven by his passions, appetites, and emotions in a particular situation so that he fails to recognize this situation as one coming under virtue's prescriptions (Aristotle 1985, Book VII, Chap. 3, 1147a20–b5, pp. 180–181; Hutchinson 2007, pp. 216–217). Harris makes the same point by noting "Having professional virtues, like having personal virtues, is a matter of degree, but it is unlikely that a recent engineering

[26] And so the notion of "well" in "well-ordered society" is a teleological notion, not a normative one. That is, in judging that a society is well-ordered on this account, we are judging that it is efficiently ordered so as to foster the satisfaction of the functions of its professions, not that these functions are morally appropriate.

graduate could manifest professional virtues to the fullest extent" (Harris 2008, p. 158). By educating professional self-awareness we help prepare young professionals to act thoughtfully in the messiness of the moment, a role that virtue ethics is peculiarly suited to fulfill.

Teaching Professional Self-Awareness

It is sometimes said that university is not the real world. In some ways this is undoubtedly true. But as one goal of an education is to prepare an individual for entrance into the active duties of life, we should expect conditions at university to approximate as best as possible conditions in the professional world.[27] The correlate to this observation emphasizes that education is an ongoing process, and one does not stop learning simply because one has left university and entered one's profession. Teaching professional ethics, and especially teaching a virtue of professional self-awareness, is something that traverses both university life and the professional environment. Aristotle saw virtue education as a matter of inculcating certain habits, raising people up into a 'second nature' that provides them with habitual impulses to behave in certain ways (Aristotle 1985, Book X, Chap. 9, 1179b20–1181b20, pp. 292–298). While virtue is importantly a function of social maturation, the conscientious citizen will be willing to reflect on their dispositions and pursue a life of self-conscious virtue. Insofar as the peculiar hallmarks of specifically *professional* virtue play a rather late-coming role in habituating us to certain types of character, entering as it often does only in the late teenage years of most would-be professionals, the need for rational self-criticism is all the more critical for the professional virtues.

In some ways the word 'habit' is too weak to convey the sense of character necessary for proper virtue. Virtue ethicists distinguish between merely *behaving* in a certain way so as to express virtue, and really *being* virtuous (Hursthouse 1995, pp. 66–67, 2007, pp. 162–163; Pellegrino 2007, pp. 80–81). An individual is only virtuous insofar as her actions arise from her character, as natural expressions of who she takes herself to be and what she judges valuable. For this reason the idea of 'second nature,' as something that develops in us over an extended process of education and practice, may be more appropriate for characterizing the education of virtue than is the inculcation of certain habits. The emphasis here is not on the acquisition of a set of ethical tools, but on the transformative potential of a certain way of looking at the world and one's place in it, with the student coming to

[27] Hegel's formulation of the role of education is a little stronger, and bears some relevance to the positions of classical and contemporary virtue ethicists, both in terms of the need to habituate a person to ethical activity and to do so in terms of inculcating a type of character through what Aristotle called our 'second nature,' a sort of social maturation. The addition to §151 in Hegel's *Philosophy of Right* reads in part: "Education is the art of making men ethical. It begins with pupils whose life is at the instinctive level and shows them the way to a second birth, the way to change their instinctive nature into a second, intellectual, nature, and makes this intellectual level habitual to them" (Hegel 1967, p. 260). It is the goal of the professional virtue ethicist to encourage his or her students to make explicit the hidden motivations impelling their behavior in certain ways, to rationally reflect on these motivations and their relation to our place in society, with the purpose of fostering that second birth.

recognize his or her role in the great structure of human society, thereby identifying with that role.[28]

Teaching professional virtue ethics requires encouraging young professionals to see their professions as instrumental both in the development and maintenance of the societies in which they live, and as constituting their own particular social identity. In university courses this is effected by sharing with students the history of their profession, its roles at key points in the development of their society (locally, nationally, and internationally), biographical sketches of critical figures (what Harris calls "virtue portraits"), and stories of influential organizations, firms, and corporations. This allows students to identify with the work they are learning to perform, weaving their individual projects into a narrative that integrates their individual professional activities with a conception of their profession's place in society. Teaching professional virtue ethics with a mind toward helping to shape a professional identity requires encouraging our students to cultivate a sense of professional self-awareness, and in the process encouraging them to view their professional actions as elements of an ongoing social enterprise. This is a point central to John Dewey's theory of pedagogy, and I think Dewey's work here provides a point of entry for reflecting on the education of professional self-awareness.

In his "Interest in Relation to Training of the Will" Dewey discusses the pedagogical tension between giving students free rein to set their own curricula, and requiring that a curriculum be learned strictly at the instruction of and according to the plans of the teacher. The concern on the one side is that while a freer curriculum allows the student to learn at his or her own pace, and so to more readily identify with and absorb the content studied, the danger is that important lessons will be ignored or improperly understood without a more rigorous format of instruction. On the other hand while a rigorous instruction helps the student appropriate the lessons required for success in life, a rigorous educational format runs the risk of alienating the student from his or her work and so inhibiting the desire to learn. Dewey marks a balance-point between these two approaches by suggesting that students must identify with the subjects of their education as constitutive of their own growing self-identity. Only by so identifying with their subjects of study will the course work, no matter what its mode of presentation, become part of an integrated and active life.

> Genuine interest in education is the accompaniment of the identification, through action, of the self with some object or idea, because of the necessity of that object or idea for the maintenance of self-expression. Effort, in the sense in which it may be opposed to interest, implies a separation between the self and the fact to be mastered or task to be performed, and sets up an [*sic*]

[28] Frankena, on the other hand, views "the morality of duty and principles and the morality of virtues or traits of character not as rival kinds of morality between which we must choose, but as two complementary aspects of the same morality. Then, for every principle there will be a morally good trait, often going by the same name, consisting of a disposition or tendency to act according to it; and for every morally good trait there will be a principle defining the kind of action in which it is to express itself. To parody a famous dictum of Kant's, I am inclined to think that principles without traits are impotent and traits without principles are blind" (Frankena 1988, p. 266).

> habitual division of activities…Self-expression in which the psychical energy assimilates material because of the recognized value of this material in aiding the self to reach its end, does not find it necessary to oppose interest to effort. Effort is the result of interest, and indicates the persistent outgo of activities in attaining an end felt as valuable; while interest is the consciousness of the value of this end, and of the means necessary to realize it (Dewey 1981, pp. 428–429).

The identification of a subject of study with the subject learning it is an important methodological drive for the virtue ethicist approach toward professional ethics, and in particular for the inculcation of a virtue of professional self-awareness. Our students must come to identify with the subject matter they are learning as something that constitutes their burgeoning identity as professionals. This identification is possible only insofar as an educator can interrupt the psychological tendency to perceive work as an effort set over and against their desires as individuals, as if their professional identities were cut off from their personal interests, or as if their professions were viewed primarily as a means to accomplish their personal goals. Such a gap set up between public work and personal interest may indeed be an endemic pathos in today's psyche, but the academic ethicist need not feel overwhelmed by it. By drawing out into the light of self-conscious reflection these psychological tendencies, making explicit the deep conceptual and practical inconsistencies involved therein, and supplementing these considerations with coursework intended to encourage an active identification on the part of the student with their work as a professional, the educator offers the prospect of replacing habituation with something more expressive of the professional roles that students are training themselves to fulfill—a replacement of habit with second nature, of rote behavior with work self-consciously undertaken and identified with.

In the professional setting, as against the academic, this education continues through the cultivation of a sense of professional identity within the organization employing the young professional. As citizens of a community we owe our self-identity to the potentials afforded us by the conditions expressed in and by that community. At the same time, by taking up a role in the ongoing process of developing that community's successive structures and expressions, our work becomes a means to change these conditions in ways that reflect our own values and sensibilities, and so offer conditions for those who come after us to experience different opportunities for self-awareness and expression. Our work is thus at once an expression of our individual natures, a remuneration to the society that has allowed us to express these natures, and a contribution to the changing conditions that will allow other citizens to experience a coming-to-awareness and self-expression that, while different in its specifics, is categorically identical with our own. Insofar as a society's professions have an essential role to play in setting out certain fundamental structural constraints that will condition coming generations of social self-expression, a virtue ethics approach toward professional ethics can foster in young professionals the self-awareness necessary for making them suitable stewards of this role.

> If you do the task before you always adhering to strict reason with zeal and energy and yet with humanity, disregarding all lesser ends and keeping the

> divinity within you pure and upright, as though you were even now faced with its recall—if you hold steadily in this, staying for nothing and shrinking from nothing, only seeking in each passing action a conformity with nature and in each word and utterance a fearless truthfulness, then shall the good life be yours. And from this course no one has the power to hold you back. (Marcus Aurelius 1986, Book III Sect. 12).

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