

Varieties of Virtue in Economics

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Since happiness is an activity of soul in accordance with perfect virtue, we must consider the nature of virtue; for perhaps we shall thus see the nature of happiness.
- Aristotle, *Nicomachean Ethics*, 1.13.

In the neo-Aristotelian tradition, human happiness comes about through living well as a human being. To evaluate the Aristotelian conception, we must take a position on what it means for a human being to live well, what the internal and external barriers to living well are, and how those barriers are overcome. In this tradition, someone who has the virtues is ‘good’ at living well, at making his life go well. Virtue and happiness are closely related.

What you think virtue is depends on what you think a good human life is, what the internal and external barriers to living well are, and how those barriers are overcome in a consistent way. There is a lot of talk of virtue today; not everyone who uses the term means the same thing, since there are different conceptions of what it means to live well, what the barriers to living well are, and how those barriers can be overcome.

My narrow interest here is economics. Recently, Economic analysis has been developing a conceptual vocabulary that gestures towards virtue: temptation and self-control, fairness, reciprocity, altruism, persistence, trust, non-cognitive skills. The creative ferment which has produced this new vocabulary makes economics an exciting place to work. It also gives rise to the impression that economics has ‘virtue’ covered, that it has incorporated the concerns of virtue ethics into its method.

As noted above, not everyone who says ‘virtue’ means the same thing. The development of concepts related to ‘virtue’ in economics, however welcome, does not mean economics has virtue covered. It means that economics is entering into a centuries-old debate about what virtue is and why it’s important. To make this point, I will in this paper explore the ‘mapping’ of virtue from economics to the neo-Aristotelian tradition. Some concepts in economics map into the neo-

Aristotelian virtues, but some of concepts from neo-Aristotelian virtue do not map into economics. It may be that some economic treatments of virtue map more closely into other virtues tradition (Humean, Kantian), but I do not pursue those questions here.

1 The Problem of Virtue in Economics

To understand “the problem of virtue in economics” we must first define our terms. By ‘economics’ I mean the mainstream – quantitative models of human behavior as the pursuit of well-defined preferences, and of the institutions which result from that pursuit. Preferences (even when they are not well-behaved) are given; they precede the choice problem, and are not themselves reflected upon or chosen. I include behavioral economics in the mainstream. Behavioral economics has made both preferences and constraints more complex, allowing for instability and inconsistency, and has called into question the ability of agents to optimize.

By ‘virtue’ I mean virtue as Aristotle defined it: “a state of character concerned with choice, lying in a mean, i.e. the mean relative to us, this being determined by a rational principle, and by that principle by which a person of practical wisdom would determine it.” Virtue defined in this way is foundational for what today is called ‘virtue ethics’. Since the Enlightenment, modern rationalist theories of morality (utilitarian, emotivist, and Kantian) eclipsed virtue ethics, but it has returned to prominence over the last sixty years.¹

Virtue as defined by Aristotle, Aquinas, and their modern descendants (‘neo-Aristotelians’) has four characteristics which ought to make it interesting to economists. First, each of the virtues (not just practical wisdom) is a *practical habit*. They are not just attitudes or

¹ Anscombe (1958), Foot (1978), and MacIntyre (1984) were central to the modern resurgence of virtue ethics. For an account of its decline in philosophy, see Frede (2013); for an account of the corresponding decline of virtue ethics in economic thought, see Schliesser (2016).

motivations – mere preferences for justice, moderation, or admiration. Virtues do not simply *motivate* us to choose; they are the good habits *by which* we choose. Second, each of the virtues is *reasonable*. As habits the virtues can be acquired or lost, so agents reason about whether or not to develop them. The reasonableness of the virtues goes deeper, however; they engage reason in their operation as well as in their acquisition. Virtues are not unreflective routines. Even the virtues which manage emotions, like temperance, courage, and magnanimity, are “determined by a rational principle.” Third, the virtues are profoundly *personal*: they are embedded in character, and tailored to the acting person (to a “mean relative to us”); their operation is also embedded in a person’s community, in which “persons of practical wisdom” reside. Fourth, virtues are *intrinsically valuable*. Human flourishing is active; as such, it consists in more than achieving human goods as an outcome. An important component of happiness is excellent deliberation and action itself, and excellence in action is described by the virtues.

‘Virtue’ as Aristotle defines it is a ‘problem’ for economics. By ‘problem’ I do not mean something that must be fixed by economists – an impetus for wholesale modification of economic method. Instead, I mean ‘problem’ in the sense of ‘limit’ or ‘boundary’: something economics can never fully capture by its models. The virtues are a problem for economics in the same way that a musical note presents a problem for someone who can see but not hear. It is no criticism of the eye to observe that it cannot hear. Moreover, the observation does not imply that we should try harder to see sound. Likewise, we should not conclude from the inability of the eye to hear that sound does not matter, or does not really exist. Modern economic method is like a highly developed eye which cannot ‘hear’ virtue. The deafness of economic method to the tunes of neo-Aristotelian virtue is only a ‘problem’ if it is not accepted as a limit, or if economists conclude from the fact that they cannot ‘see’ virtue that virtue is irrelevant.

To organize our discussion of economics, we shall examine three subfields of economics, each of which has developed concepts which bear some resemblance to the virtues. The first is the human capital literature on non-cognitive skills; the second is the behavioral literature on social preferences; the third is the behavioral literature on cognitive biases and internal conflict. Of these three fields, the first develops the closest approximation for the neo-Aristotelian virtues. The main reason for the relatively close fit between non-cognitive skill and virtue is that this literature does not organize its theoretical work explicitly around rational choice. The two behavioral literatures ground their theories in the rational choice framework, even as they call its assumptions into question.

The rational choice framework itself (even as modified by behavioral economics) is the principal barrier to the incorporation of neo-Aristotelian virtue into economic thought, for three reasons. First, rational choice models tend to eliminate the gap between human-beings-as-they-happen-to-be and human-beings-as-they-could-be-if-they-realized-their-essential-nature. Second, when ‘virtues’ are incorporated into the rational choice model, they are introduced as unreflective habits, as arguments in objective functions. Third, a principal function of the virtues is to handle contingency; by abstracting away from the challenges of contingency, rational choice makes virtue unnecessary. The calculative precision of much economic modelling requires us to abstract away from those elements of human nature and the choice environment that make virtue desirable.

To clarify the problem virtue poses for economics, we will begin with a sketch of the moral landscape of virtue ethics. The nature and scope of virtue appear most clearly only when situated within the larger moral scheme of the neo-Aristotelian project.

2 The Moral Landscape of Virtue Ethics

Neo-Aristotelians and economists approach the problem of human choice – its nature, its social determinants, and its consequences – within frameworks of analysis which differ radically in their ambitions and methods. Not surprisingly, character traits which might be called ‘virtues’ in the economic approach may be only faint outlines of the virtues as they are defined in the neo-Aristotelian tradition. When economists talk about ‘virtue’ in a way that makes sense in their framework, economic ‘virtue’ may turn out to be something substantially different from its neo-Aristotelian counterpart. To understand the differences between the two accounts of virtue, we will begin with a description of the neo-Aristotelian project, and compare it to the economic project.

The five-element “moral scheme” which follows is an expansion of the three-part scheme in MacIntyre (1984); MacIntyre’s three elements appear as numbers one, two, and four here. I have inserted a third element (a description of the decision-making environment which, in combination with human nature, makes the virtues necessary), and a fifth political element suggested by Frede (2013).

1. A description of “human-beings-as-they-happen-to-be”: animals that Think, Reason-Will-Passion, disordered (MacIntyre 1984, p. 52).
2. A description of “human-beings-as-they-could-be-if-they-realized-their-*telos*,” or their “essential nature”: virtuous, reason infuses will, passion cooperates (MacIntyre 1984, pp. 52, 54).
3. A description of the environment within which human beings act: contingency.
4. An understanding of how to transition from element one to two: upbringing, experience, guidance in community (MacIntyre 1984, p. 52).
5. How the laws and institutions of “a-political-community-at-its-best” provide conditions for humans to become as-they-could-be-if-they-realized-their-essential-nature: virtue-generating institutions, virtuous rulers (Frede 2013, p. 136).²

² MacIntyre (1984) argues that the decline of virtue ethics was precipitated by the rejection of element two, of the possibility of discovering an essential nature capable of ordering the quest for human flourishing. Frede (2013) suggests that the decline is traceable not to the decline in the idea of a discoverable human nature, but in a catastrophic loss of faith in the political conditions which make the moral scheme practically possible. By including this fifth element I am not taking sides on the cause of the decline of virtue ethics. The fifth element enables us to make a better comparison between the orientation of virtue ethics and the orientation of economics.

The first four elements address the individual's self-conception and choices. They have first-person moral import, since the whole point of the scheme is to move from what-you-happen-to-be to what-you-could-be-if-you-realized-your-essential-nature. The fifth element examines the effects of the political community (its governance, its laws) on individuals, in light of the insights of elements one through four.

2.1 Human-Beings-as-They-Happen-to-Be

But any ethics meant to be practical – and virtue ethics is certainly meant to be practical – requires us to eventually meet agents where they are (Baker 2016, p. 55).

Human-beings-as-they-happen-to-be are animals who are capable of thought and reflection (*Ethics* 6.2).³ We share with other animals passions (emotions) and will (an appetite for, or attraction to, our good). What distinguishes us from other animals is our highly developed capacity for reflection and reason. Human reason is capable of directing the will and shaping passion. We do not will our good as a dog is attracted to his food. We are capable of asking whether the good that attracts us is *truly* good for us – good at this time, in this place, in comparison to other goods we might seek. We reason about what is good for us, and our reasons can affect our willing (*Ethics* 1.13). Our passions are also suffused with reason (Nussbaum 2001, ch. 1). For example, although we may sometimes simply feel angry, more often our anger is closely tied to a reason for anger (a perceived insult, say), and a change in reasoning can modify our anger (“he was not aware he was insulting me, and is mortified that he did”). Reason allows us the possibility of freedom, of reasoned self-direction.

In each human-being-as-he-happens-to-be choice and self-direction are the result of a dynamic interaction between reason, will, and passion (Stump 2003, p. 279). Each element in

³ I will refer to Aristotle's *Nicomachean Ethics* (Aristotle 1941) as '*Ethics*' in the text.

this nexus can affect the others. The will can shut down reason, or direct it to think about certain things and not others. The passions can narrow reason's range of vision, keeping its attention fixed on the object of passion and away from competing goods. Reason can affect passion, and direct the will by exploring the reasons that a course of action or a perceived good truly is good, and better than the alternatives.

Human-beings-as-they-happen-to-be are also creatures of habit. Repeated actions leave a mark on character; they make the same actions easier in the future, and opposing actions more difficult (*ST* I-II, 51.2).⁴ Human reason evaluates not only actions, but habits as well (*ST* I-II, 50.3). Those habits which are judged good by the reason we call 'virtues', and those judged to be bad we call 'vices' (*ST* I-II, 54.3). The standard for this judgment is the second element in the moral scheme: human-being-as-they-could-be-if-they-realized-their-essential-nature.

2.2 Human-Beings-as-They-Could-Be

'I wish your child happiness' is not wishing a mood but a good life (Daniel C. Russell 2013, p. 11).

Our description of the second element of the moral scheme – of human-beings-as-they-could-be-if-they-lived-up-to-their-essential-nature (or *telos*), requires an account of what it means to be 'good at being human'. Since what distinguishes human beings from other animals is the faculty of reason, to live up to our human potential means to reason well about our actions – our goals as well as our options – and to successfully put our plans into action. When someone acts well as a human being, her will becomes more than mere animal appetite; it becomes a "rational appetite," suffused with and working in concert with reason (*Ethics* 1.13). As a person grows in virtue, even her passions begin to align with her reason. The virtuous are not unfeeling rationalists,

⁴ I will refer to Thomas Aquinas's *Summa Theologica* (Aquinas 1948) as '*ST*' in the text.

whose passions are obliterated by reason. On the contrary, in the virtuous actor passion cooperates and supports reason; what causes pleasure is what is truly good and that what causes pain is what is truly harmful (*ST* I-II, 1.7). The virtuous person can rely on her habits and emotion-based judgment to make good decisions, without having to explicitly deliberate over every action.

Note that this description of the human *telos* is a state of being, and not a list of outcomes (consumption, leisure, income, status) and whether those outcomes are achieved. To live up to one's human potential is to be disposed to deliberate and act in a certain way. The disposition itself, and action in accordance with the disposition, is itself part of human happiness.

We recognize the intrinsic value of dispositions in other animals. Consider a lion (or any predator) caged in a zoo. The lion is well-fed, has opportunities to procreate, and has a well-trained staff devoted to his health. In spite of having all of his quantifiable needs met, we recognize that the life of a caged lion is deficient, because the lion does not have the opportunity to act *as a lion* – hunting food, competing for a mate. The ability to act as a lion in pursuit of food and sex is recognized as an important part of lion flourishing. We might even be willing to say that a lion who is less well-fed in the wild may be better off than a well-fed lion in a zoo.⁵

In a similar way, we evaluate human happiness not simply through a tallying of outcomes: it is important to human flourishing that those outcomes be pursued in a characteristically human way, through the virtues. Of course, the outcomes of action still matter; a good disposition is a disposition to deliberate about and pursue good things. This intimate connection between good consequence and excellent character is found in any human action which requires habits and dispositions in order to achieve its goals. For example, a doctor who

⁵ MacIntyre (2016, p. 26) notes that we reflexively evaluate the flourishing of animals and plants with reference to their characteristic function, and do not worry that we are thereby making value judgments.

wants to heal patients must *become a good doctor*, with the knowledge and the habits which make one a good doctor. You cannot heal patients if you do not become a good doctor; likewise, a good doctor who does not heal patients is not really a good doctor (MacIntyre 2016, p. 50). The dispositions of a good doctor are inseparable from the goal. In the same way, dispositions to act well in general – the virtues – are closely related to the achievement of human goods.

In element two it is claimed that human beings have the potential for reasoned self-direction. In the virtue ethics tradition, human freedom is *defined* as reasoned self-direction (and not as the mere relaxation of restraint on action). The excellent exercise of agency, recognized by the reason as good and pursued as good, is essential to happiness. It is the shared human *telos* – realized in quite different ways in the widely varying circumstances of each human life, but a shared *telos* nonetheless. We can recognize its achievement in others whose lives take very different courses from our own.

2.3 The Decision Environment: Contingency

Deliberation is concerned with things that happen in a certain way for the most part, but in which the event is obscure, and with things in which it is indeterminate (*Ethics* 3.3).

The description of element two (of human-beings-as-they-could-be-if-they-realized-their-*telos*), and its distinction from element one (human-beings-as-they-happen-to-be) suggests that the movement from element one to two cannot be taken for granted. If the transition were easy we could discard the distinction. Living up to our *telos* is difficult for two interrelated reasons:

1. The potential of passion and will to distort and override practical reason.
2. Contingency in the decision-making environment.

We have already discussed the dynamic interaction of reason, will, and passion, and the ways in which reason can be disrupted or recruited for rationalization instead of deliberation. Aristotle

attribute the disorder to the strength of passion, our misunderstanding of passion's value in the good life, and its ability to distort reason (*Ethics* 7).⁶

The dysfunctions of the reason-will-passion nexus are compounded by the environment in which human beings must deliberate and act. In neo-Aristotelian thought, the defining characteristic of this environment is *contingency*. Strictly speaking, something that is 'contingent' might have turned out otherwise: outcome x might have been outcome y, and the causes of any particular outcome are obscure to us. Contingency is not the same as unpredictability. Modern statistical methods may produce decent forecasts of future events, and Aquinas (who wrote before modern statistics) noted that in contingent matters we often find some guidance from our experience of outcomes "which occur in the majority of cases" (*ST* II-II, 49.1). Nevertheless, the modern reframing of contingency as probability blinds us to those aspects of any particular situation which are unique – which cannot as a practical matter be placed in a usable probability distribution, but which nevertheless ought to affect practical deliberation.⁷

The challenge of contingency is the challenge of being a particular person acting in a unique context. Aquinas emphasizes that it is not enough to know the good in general to be practically wise. One must know the good in context, as well, because "action is in singular matters: and so it is necessary to know both the universal principles of reason, and the singulars about which actions are concerned" (*ST* II-II, 47.3). The term 'singular' conveys the raw uniqueness of the particular context in which any one person must deliberate and act. Of course

⁶ Aquinas attributes this disorder to original sin, which makes the passions strong and unruly, and the will more apt to perverse, self-defeating pride (*ST* I-II, 82.1, 82.3). Of course, one need not be a Christian to acknowledge the dysfunction as a human reality capable of remedy: Aristotle was not a Christian.

⁷ Frank Knight (2006 [1921]), in his discussion of the financial system, eschews the use of probability. Yuengert (2012, ch.5) compares Knight's description of uncertainty with Aristotelian contingency.

we might expect certain outcomes “the majority of the time,” but the exceptions are difficult to discern, and small differences in context may lead to disastrous results.⁸ The analytical move, away from contingency and toward probability, obscures the virtues of perception (memory, shrewdness, circumspection, due caution) which grapple directly with contingency (Yuengert 2012, pp. 76-77). It is possible to develop better or worse habits of evaluation and deliberate in the face of contingency.

Contingency creates ample space for unruly passion to make mischief in human decision making. Without contingency there would be clarity about what goals were possible, about which means would achieve those ends, and about the necessary tradeoffs between the goals of action. Without contingency we have ‘decision problems’ as they are defined in economics. One need only consult one’s willingness to make the necessary tradeoffs in light of one’s known preferences over goods and over risk.

The precision of the economic problem leaves little room for passions to interfere with calculation. Contingency creates uncertainty, which creates space for passion to interfere with reason. The radical newness of a contingent decision making environment – uncertainty about both what goods are feasible and how they might be best pursued – renders both judgments about ends (objectives) and means open and uncertain. If there were only one obvious objective, the only uncertainty would be over which course of action was most likely to achieve the goal. In most human environments, the agent must discern which goods are possible as well as which to pursue. Often, one of these competing goods provokes strong passions, and those passions can distort deliberation. Under the influence of a desire for the praise of friends’, one might

⁸ Bowlin (1999) provides a thorough description of contingencies, both “within ourselves and in the circumstances of choice” (p. 5). Our own defects and variability of character generate contingencies; our “passions confront us like alien occurrences” (p. 37).

rationalize tens of thousands of dollars of debt to fund a celebration. One might be deterred by fear from considering fully a plausible but unpopular business strategy. The more goals that are potentially feasible, the more options there are for action and the more uncertain the consequences, the more space there is for passion to wrest the will's attention away from reason.

2.4 Realizing the Telos: Developing the Virtues

We cannot understand what virtue is without coming to understand how we acquire it (Annas 2011, p. 21).

The alignment of passion, will, and reason in a way that a human being intelligently governs himself toward his good amid the inescapable contingencies of everyday life is described by the virtues. The cooperation of the passions with reason, in which we are angry, sad, cheerful, or pleased by the right things to the appropriate degree, is described by temperance (which governs passions about pleasant things) and fortitude (which governs passions about painful and difficult things). The virtue of justice orients the will toward the good of others and of our communities. Practical wisdom is excellence in reasoning about action (choice); it governs our discernment and evaluation of options, the choice of practical goals, and our final decision about what to do in light of our deliberations (*ST I-II*, 61.2).

The various virtues are distinct but closely related (*ST I-II*, 61.4). An intemperate or cowardly man will sometimes be unduly swayed by pleasure or difficulty in his practical reasoning. An unjust person will undervalue what is owed to others. Practical wisdom in its turn finds the right balance in the emotions, and the measure of just action in complicated circumstance. As a person grows in virtue, the passions can even guide and correct practical wisdom when it goes astray: a course of action which may seem reasonable might not 'feel right', and the feeling itself is data to be taken into account in practically wise deliberation. This

integrated operation reflects the dynamic connections between passion, will, and reason in human deliberation and action (*ST* I-II 58.5). It is not the operation of a rational machine, but of an intelligent self-directing animal.

Element four in the moral scheme takes for granted that is better to live up to your potential as a human being than not. Human beings achieve this transition from element one to element two through the acquisition of the virtues. To live up to your potential as a human being is to have the virtues – to be able to reason clearly and well about your life and to live it well. The virtues are not a tool whose usefulness is evaluated by reason abstracted from the personal and the contingent; the virtues themselves are the constituents of good reasoning.

The best way to acquire the virtues is through a good upbringing by parents and others who themselves understand and practice the virtues (*Ethics* 1.3). Parents and others who form the characters of young people shape their passions and judgments about the good, meaningful life.⁹ As a person matures, further growth in virtue requires practice and reflection on accumulating experience. Ideally, this occurs under the guidance and in the company of others who are either practically wise themselves or who want to grow in virtue (*Ethics* 9.4; *ST* II-II, 47.15, 49.3).

Aristotle relies on examples of skilled performance to demonstrate what he means by virtue. A good sailor combines an awareness of general principle with knowledge of the particularities of his ship, of weather, and of the waters in which he navigates, to guide his ship into port. The habits and character of a good sailor are developed in community, under apprenticeship of excellent sailors who both have knowledge of general principles and of particular contexts, and know how to form other sailors. To become a good sailor one must join and participate in a community of excellent practice (MacIntyre 1984, ch.14).

⁹ Aristotle thought that few people had the benefit of a good upbringing (*Ethics* 1.5).

One might speak in a limited way of the virtues of skilled practice – the practically wise and courageous sailor, for example – but Aristotle insisted that one could expand the range of action from something limited (like sailing) to the whole of life, and speak of the virtues of a human being, simply as human being (*Ethics* 6.5). Like the good sailor, the virtuous person knows the principles of a good life and can read the particular context in which he must live his actual life. The habits which make one successful at living his life are developed in community, in the company of and under the guidance of those who are already living life well. Just as the virtues are inseparable from character, the context of the virtues is inseparable from the community in which the good life is pondered and lived.¹⁰

Note that I have described this moral scheme without any reference to moral rules or duties; its guiding principle is element two (the human *telos*), and its standards for action are derived from the *telos* and expressed in element four. Reflection on action and proper upbringing undoubtedly results in rules, some of which are absolute (“tell the truth,” “do not commit adultery,” “do not kill an innocent person”), and some of which embody good advice but are not absolute (“make your bed,” “make friends with people who want the best for you”), but all of the rules are grounded in and receive their justification as a way from moving from element one to two. In this sense, virtue ethics is what Pinckaers (1995, ch. 2) calls a “morality of happiness,” not a “morality of obligation.” The objective of moralities of happiness is not that human-beings-as-they-happen-to-be follow the rules of morality, but that they become human-beings-as-they-could-be-if-they-realized-their-essential-nature. Moral rules are for the sake of human beings, not human beings for the sake of the moral rules. In moralities of happiness, the unjust, the adulterer,

¹⁰ Annas (2011, p. 31) argues that this is not elitist; the complaint that not all can excel in virtue to the same degree is a fact of life, not an argument against virtue ethics.

and the murderer bring harm to others and offense to God, but they also grievously harm their own souls by their actions (Plato 2004).

2.5 The Political Community

For surely he who wants to make men, whether many or few, better by his care must try to become capable of legislating, if it is through laws that we can become good (*Ethics* 10.9).

The first four elements taken together are general, but they are also personal; the moral project described here is to achieve one's potential as a human being, as understood in a like-minded community practicing the virtues. The elements can be analyzed impersonally (as I am doing by listing them) but they can also structure our efforts to grow in virtue and realize our own human flourishing. The fifth element moves up a level, to the governing of communities, and asks what laws and institutions promote the virtues and flourishing of citizens. At this level the consideration of the indirect effects of legal structures and institutions on virtue justify a distinction between the virtues of individuals and 'political practical wisdom', the foundational virtue of a wise ruler or legislator. A wise ruler or legislator needs political practical wisdom to govern and formulate laws, but she must also have the personal virtues, in order both to rule well and to understand the purpose of good government. A good state provides conditions under which citizens can most easily acquire the virtues and thus achieve their flourishing as human beings.

3 The Moral Landscape of Economics

There is no distinct theory or substantial research explicitly addressing the role of virtues for economic decisions and actions within mainstream economics This is not an accidental neglect but reflects a systematic inability of economics to address virtues (Becker 2016, p. 18).

Needless to say, economics does not operate within the broad framework outlined above.

Element two (that human beings have a *telos* capable of ordering their actions toward happiness) has been abandoned, and with it element four (guidance for transitioning from element one to two). Moreover, the descriptions of the remaining elements are substantially different.

Economics is not alone in abandoning this scheme; indeed, when the modern discipline of economics developed in the nineteenth century the moral scheme had already been abandoned by philosophy and political theory.

Economics, however, is a dynamic discipline; ongoing innovations in its methods and subject matter render radically incomplete attempts to generalize. I will always be open to the charge that some economist is already addressing the questions raised here (“and why haven’t you read that literature?”). In particular, developments in behavioral economics have made economists more open to the practical inadequacies of human-beings-as-they-happen-to-be. Consequently, behavioral economists are able to identify something which resembles neo-Aristotelian virtue, within the limitations of the quantitative methods of social science and economics. To evaluate the difference behavioral economics makes, we will have to sketch the moral landscape of economics before and after the advent of behavioral economics.

3.1 The Moral Landscape of Neoclassical Economics

For clarity, I will refer to the economic moral scheme before behavioral economics as ‘neoclassical’. In neoclassical economics, the five-element neo-Aristotelian moral scheme is reduced to three. I have kept the numbering from the previous section, to make the comparisons with the neo-Aristotelian scheme clear:

1. A description of human-beings-as-they-happen-to-be: preference optimizers.
2. ...
3. A description of the environment within which human beings act: quantifiable, probabilistic, mathematically tractable.
4. ...
5. The analysis of institutions and policies in light of elements one and three: efficient institutions.

Before behavioral economics challenged the unified, tidy neoclassical account of choice, element one was straightforward: human beings have well-defined (complete and transitive) preferences, and their choices maximize those preferences subject to constraints. In this account, the content of preferences is not called into question, and it is taken for granted that agents are competent optimizers. There is no level two. Consequently, there is no need to improve preferences or to make agents better optimizers. Neither is there any intrinsic value in the actions of the optimizing agent: whether a person evaluates and chooses the optimal bundle herself or has someone else choose for her does not matter, so long as the right bundle is chosen. The only path toward the improvement of the human condition is through the relaxation of constraints on choice.¹¹

Element three describes a decision environment which makes the decision problem mathematically tractable: each agent has knowledge of his preferences, and knowledge of prices, commodities, and income sufficient to identify a budget constraint. When the various components of the decision problem are risky, element one must be modified to justify expected utility maximization, and knowledge of the decision-making environment must include knowledge of the relevant probability distributions.¹²

¹¹ The purely instrumental value of choice is not a necessary result here. It is possible to incorporate the intrinsic value of choice into preferences.

¹² Many economists will reject my characterization of their ‘moral scheme’ – both the description of its elements and the adjective ‘moral’. Instead, most economists insist on the following ‘positive’ scheme:

1. A description of human-beings-as-economists-happen-to-model-them: preference optimizers.
3. A description of the environment within which agents act as-economists-happen-to-model-it (quantifiable, probabilistic, mathematically tractable).
5. The analysis of institutions and policies in light of elements one and three: efficient institutions.

Element five in the neoclassical scheme specifies a policy goal consistent with elements one and three: to develop institutions and policies that allow individuals to optimize their preferences, without making any moral judgments on or attempting to transform those preferences. What makes this a *moral* scheme is the judgment (often taken for granted) that it would be a good thing if people were able to satisfy their preferences as far practically possible. What people happen to want, revealed by the choices they make, is normative. Public policy does not operate to change preferences. Neither is there any economic advice for individuals; individual agents are assumed to rationally and competently pursue their preferred outcomes. The substance of public policy action is to promote informed exchange, police market power, address externalities and coordination problems, and to promote economic growth through macro policy and free trade.

There is little room for virtue as defined in the neo-Aristotelian tradition in this scheme. The neo-Aristotelian virtues are dispositions which characterize human-being-as-they-could-be, acting in contingent environments. Since contingency makes preferences as well as constraints uncertain, it introduces internal difficulties into choice that make optimization radically incomplete as a description. Since there is no contingency in the economic scheme, there is no role for the virtues which grapple with it. Since human beings are already all that they need to be – rational optimizers – there is no human potential to be achieved through individual or policy; consequently, there is no need for virtue.

I acknowledge that most economists would characterize their scheme in this way. Nevertheless, when economists turn their attention to policy, most unreflectively adopt this positive framework for their normative judgments about well-being. Since I see little evidence that economists are aware of alternative normative frameworks, I think the moral scheme I have outlined here is a fair characterization. See Yuengert (2012, ch. 2) and Yuengert (2014) for a discussion of the tendency of economists to make preferences normative when they do not think through alternative theories.

3.2 Coming Close to Virtue: Non-cognitive Skills

Although neo-Aristotelian virtue cannot be incorporated into economic modelling, an important line of research in the neo-classical tradition investigates something close to virtue in the neo-Aristotelian sense. A large and growing literature on character as human capital (Heckman, Stixrud, and Urzua 2006; Heckman 2007; Cunha and Heckman 2007; Kautz et al. 2014) identifies a range of “*non-cognitive skills* such as perseverance (‘grit’), conscientiousness, self-control, trust, attentiveness, self-esteem and self-efficacy, resilience to adversity, openness to experience, empathy, humility, tolerance of diverse opinions, and the ability to engage productively in society” (Kautz et al. 2014, p. 2) which predict success in labor markets, in education, and in other life outcomes.

The description and observed function of these traits makes them an appealing if imperfect proxy for virtue. Of all the recent innovations to be considered in this paper, non-cognitive skills come closest to neo-Aristotelian virtue. Recall that neo-Aristotelian virtue is 1) a practical habit, 2) reasoned in operation, 3) personal, and 4) intrinsically valuable. Non-cognitive skill partially satisfies requirements 1 and 2; it satisfies requirement 3; it fails to satisfy requirement 4.

The character traits in this literature are certainly practical habits: They put one in a position to perform well at work, in school, and in life. Moreover, the way they are presented also makes them reasonable, in the sense that a reasonable case can be made that we ourselves and others should acquire them. Although they are certainly practical habits, and it is reasonable to adopt them, non-cognitive skills fall short of the neo-Aristotelian definition of virtue in the lack of any clear connection between reason and habit in their operation: virtue is a reasoned practical habit.

A habit becomes a virtue when it embodies reasoned judgments in contingent circumstances. Virtue is tailored to each circumstance in a reasoned way. Take the non-cognitive skill ‘conscientiousness’, for example. If one is always conscientious to the same degree, poring over every detail in all circumstances, conscientiousness becomes a bad habit (obsessiveness) in some situations. There is a *mean* in conscientiousness, and the truly conscientious person has the judgment to moderate it when appropriate. I may be overstating the deficiencies of non-cognitive skills in this regard. Many of the skills identified in this literature (resilience, conscientiousness, self-control, for example) by definition are flexible; by definition they are abilities to adapt to the surprises of contingency.

These skills are certainly personal: one can easily accept the argument that one should foster them in yourself and instill them in one’s children. An important branch of research investigates the ways that parents and caretakers can be encouraged to instill both cognitive and non-cognitive skills in their children (Cunha, Elo, and Culhane 2013).

There is no attempt in this literature to argue for the intrinsic value of non-cognitive skills; they are valuable insofar as they promote successful outcomes. This shortcoming can be overcome: there is nothing in the definitions and ongoing theoretical and empirical work which precludes a case for the intrinsic value of non-cognitive skills.

The literature on non-cognitive skills is able to come as close to virtue as it does because it does not attempt to incorporate virtue into a preference-optimizing framework. Consistent with the human capital literature of which this line of inquiry is a branch, it incorporates non-cognitive skills into production functions as a form of human capital. These skills are not treated as arguments in utility functions. Consequently, economists are free to examine the connection between non-cognitive skills and economic outcomes without intervening assumptions about the

competence of agents to choose rationally. Thus Kautz et al. (2014) can argue that non-cognitive human capital improves labor market, educational, and life outcomes without having to mediate those outcomes through preferences. The case for human-beings-as-they-could-be as something different from human-beings-as-they-happen-to-be is implicit, and not precluded by explicit preference-optimization.

3.3 The Moral Landscape of Behavioral Economics

The behavioral revolution in economics has challenged the neo-classical account of choice in multiple ways. Innovations in theory have brought back into economics concepts which bear some resemblance to the neo-Aristotelian virtues: fairness and altruism (Durlauf and Blume 2010), self-control (Gul and Pesendorfer 2001), and various kinds of self-management through commitment and investment in future tastes (Gul and Pesendorfer 2007, Fudenberg and Levine 2006), for example. Nevertheless, concepts in behavioral economics which resemble the virtues are still substantially narrower than the neo-Aristotelian virtues. They cannot be called virtues in the neo-Aristotelian sense.

We shall divide the behavioral insights into two groups – those which affect preferences but do not introduce internal divisions or biases into choice, and those which introduce a gap between human-beings-as-they-happen-to-be and human-beings-as-they-could-be-if-they-realized-their-essential-nature. Both groups introduce concepts which resemble neo-Aristotelian virtue, but which fall short in different ways.

3.3.1 Social Preferences

Behavioral economists have documented unexpected cooperation and sharing in experimental prisoners' dilemmas, ultimatum games, and trust games (Camerer 2003). To explain these anomalies, they have incorporated altruism, reciprocity, and fairness into preferences. Related research documents the effect of framing on social preferences: the crowding out or crowding in of altruism, for example (Bowles 2016). Other research argues for preferences which include the intentions of others: strong reciprocity (Gintis et al. 2005) and betrayal aversion (Bohnet et al. 2008), for example.

It is natural to think of virtue in the context of social preferences - to recognize in fairness and reciprocity the virtue of justice, or in altruism a kind of benevolence. Nevertheless, it would be misleading to claim that economics has incorporated the concept of neo-Aristotelian virtue through the introduction of fairness, altruism, or reciprocity into preferences. Recall that neo-Aristotelian virtue is 1) a practical habit, 2) reasoned in operation, 3) personal, and 4) intrinsically valuable. In the behavioral literature, social preferences are formally 'practical', since they affect choice. Nevertheless they are not practical in the sense that they make any particular choice excellent. Neither are these preference traits reasoned in operation, personal, or valuable for their own sakes. As a part of preferences, sentiments of fairness or altruism are not informed by reason. For example, fairness in preferences exerts its influence via a fixed formula, and has neither the flexibility nor the awareness of context characteristic of neo-Aristotelian justice. Fairness and altruism in preferences are inferred as facts from observed behavior; no argument is made that any particular person should seek to develop fairness or altruism as a habit. Finally, there is no way to argue for fairness or altruism as intrinsically valuable. Their presence in some preferences and their absence in others is a fact. Having preferences for

fairness or altruism may generate better or worse outcomes, but preferences themselves are not valued.

There is no need to alter the three-element neoclassical scheme in light of social preferences. Although element one (human-beings-as-they-happen-to-be) is modified to reflect social preferences, the modification does not introduce a gap between human-beings-as-they-happen-to-be and human-beings-as-they-could-be. Some humans happen to have social preferences, and others do not. There is no need for element two, and consequently no need for advice about how to get from element one to two.

Element five (policy advice) is of course affected by the introduction of social preferences: changes in preferences affect the response to incentives and the specification of policies to promote efficiency in preference satisfaction. Changes in the preferences themselves are not a policy goal. Just as there is no element four (advice for how to add virtues, or change your preferences), the promotion of social preferences is itself not a concern of policy.

An important exception to this policy indifference about social preferences is the large literature on the crowding out of social preferences by incentives. When the introduction of incentives (fines, taxes, subsidies) affects the framing of a social problem, social preferences can be crowded out, creating obstacles to efficient cooperation and compliance. For example, fines for late school pickups can result in an increase in lateness if parents interpret the fines not as a punishment but as a fee (Gneezy and Rustichini 2001). In an environment like this, policy can affect whether preferences are social or not. Bowles (2016) is an extended discussion of policy in light of the sensitivity of social preferences to incentives. He emphasizes the short run effects of policy on preferences, but acknowledges the more important long run effects, which operate through as-yet poorly understood evolutionary mechanisms (Bowles 2016, pp. 116-120).

Bowles explicitly invokes Aristotle and David Hume as predecessors, but his focus on the evolutionary sources of social preferences (moral sentiments) and their implications for policy and institutions, and his neglect of their intrinsic value in human flourishing, place him squarely in the Humean tradition and in opposition to the neo-Aristotelian tradition. Paul Russell (2013) discusses the Humean virtue tradition, contrasting it to neo-Aristotelian and stoic approaches. Hume did not dismiss the importance of virtue, but was convinced that any account of it which emphasized its voluntary acquisition – of virtue as an individual, reasoned, and intentional goal of action – was a distraction from truer, more scientific accounts. In Hume’s view, a truer, more scientific account of morality and virtue must investigate the genesis of virtue in social interaction, through the operation of sympathy and the passions. Moreover, virtues were important not for their value to persons, but to their role as a support for stable social life.

Hume’s approach to virtue, and the role it plays in his social theory, closely resemble Bowles’s approach. From this perspective, the virtues are valuable from a third-person, policy perspective. No individual will be motivated by this analysis to attempt to make his preferences more ‘social’, although the argument is made that a policy maker should promote conditions which foster and preserve social preferences in others. Altruism, reciprocity, and fairness may support efficient market exchange and cooperation, but only those who design institutions have any motivation to promote them. In this literature, the lack of an independent value for social preferences – a case made to an individual that it is better to develop intelligently fair or reciprocal habits – leads to a policy regime in which social preferences and the individuals who possess them are manipulated to promote government goals whose rationale is not necessarily connected to the preferences themselves.

3.3.2 Cognitive Bias, Internal Conflicts, and the Return of Humans-as-they-could-be

The behavioral literature on cognitive bias and internal conflict has re-introduced a division between human-beings-as-they-are and human-beings-as-they-could be, although its characterization of elements one and two differ crucially from the neo-Aristotelian scheme (Kahneman 2003). The introduction of cognitive bias and internal conflicts disrupts the revealed-preference link between observed choice and underlying preferences; more accurately, it disrupts the previously-assumed link between the preferences revealed by choice and the well-being of the choosing agent. In light of this, a new complexity is added to element five; the goal of policy and institutional design is now to help people satisfy their preferences efficiently *in spite of* their biases, social preferences, and internal conflicts (Camerer et al. 2003).

Like all innovations, behavioral economics is disruptive; it has upended not only economic method, but the neoclassical moral scheme outlined above. These disruptions make it dangerous to generalize; the methodological and policy implications are still being worked out, and it is unlikely that the revolution will produce a unified theoretical approach. Nevertheless, leaders in the field have already produced policy-oriented reflections on the new field's implications (Thaler and Sunstein 2008). I base my modified sketch of the moral scheme of behavioral economics on these reflections.

The biases and internal conflicts highlighted in the behavioral literature make it necessary to bring back element two, although the substance of elements one and two differ starkly from those of the neo-Aristotelian scheme:

1. A description of human-beings-as-they-happen-to-be: biases, scarce cognitive resources, temptation, time inconsistency.
2. A description of human-beings-as-they-could-be (preference optimizers).
3. A description of the environment within which human beings act (uncertainty about options and probability distributions).
4. ...?
5. The analysis of institutions and policies in light of elements one, two, and three: helping people to make better choices.

Although cognitive biases and internal conflicts force economists to bring back element two, element two is radically different from the second element in the neo-Aristotelian scheme.

Moreover, in a curious inversion of positive and normative, what had been element one in the neoclassical scheme, human-beings-*as-they-happen-to-be* (preference optimizers) has been promoted to element two, which is now human-beings-*as-they-could-be* (preference optimizers). What was purely descriptive in the neoclassical scheme has become the potential to be realized, the *telos*.¹³

The preservation of preference optimization as a *telos* is incomplete in the behavioral account; default biases, for example, make it unclear what a person's 'true' preferences are, and thus what a preference-optimizing outcome is (White 2013). Nevertheless, the method by which cognitive bias is discovered suggests a baseline model of preference-optimization. In many cases this *telos* is assumed implicitly, through the assumption that more is better. Heuristics and herd behavior lead to distortions in perceived constraints and probability judgments which inefficiently reduce returns and budget sets (Kahneman, Knetsch, and Thaler 1991). Likewise, overconfidence and loss aversion lead to inefficient choices (Della Vigna and Malmendier 2006; Genesove and Mayer 2001). Temptation leads to opportunities for improved efficiency through commitment, or restrictions on the budget set (Gul and Pesendorfer 2007). Dynamic

¹³ The ease with which economists treat preference maximization as the measure of rational behavior against which actual behavior should be measured is evidence against the value-neutrality of positive models.

inconsistency leads to a difference between a person's reflective preferences and his preferences at the point of action (Fudenberg and Levine 2006). The more reflective preferences are treated as a person's 'true' preferences.

Respect for preferences pervades the definition of 'libertarian paternalism', a guiding principle in Thaler and Sunstein (2008). 'Libertarian' means that, "in general, people should be able to do what they like, and to opt out of undesirable arrangements if they want to do so" (p. 5). 'Paternalism' means that policy should try "to influence choices in a way that will make choosers better off, *as judged by themselves*" (p. 5). Individual preferences may be difficult to discern, but they are still central to the behavioral approach, whose goal is to help people overcome their biases, to get what they really want "*as judged by themselves*."

By introducing a gap between observed and preference-optimizing behavior, behavioral economics opens up opportunities for practical advice to help people make 'better' decisions, and thus generate a set of ethical maxims for personal flourishing. There are indeed some advice columnists among behavioral economists – Dan Ariely (2008) being the most prominent.¹⁴ However, most economists do not aspire to moral sagehood; there are not enough of them to justify a return of element four (advice for getting from element one to element two).

Nevertheless, in the gap between elements one and two we can discern the language of vices (biases) which prevent preference optimization, and the corresponding virtues which promote preference optimization. Any list of vices and virtues in behavioral economics would include the vice of susceptibility to temptation and its corresponding virtue, self-control (Gul and Pesendorfer 2001); the vice of present bias and the virtue of the ability to commit (Rabin 1999);

¹⁴ Economists have always given advice, at least in their teaching: ignore sunk costs, find your comparative advantage, take into account opportunity costs.

habits as measured by stocks of past consumption (Becker and Murphy 1988; Gul and Pesendorfer 2007).

The virtues of behavioral economics are framed within the mainstream model of behavior. They describe failures to live up to the quantitative descriptions of behavior in neoclassical economic theory: failures to discern well-defined preferences, to estimate probabilities, and failures to manage internal conflicts which pit long-term plans against short-term distortions in preferences. None of these virtues addresses the effects of contingency, the need to evaluate and deliberate in an environment in which probability distributions are out of reach, in which uncertainty is incorrigible. As such, these virtues are more purely intellectual than the neo-Aristotelian virtues.

How do the virtues of this second group of behavioral models compare to the neo-Aristotelian virtues? Recall that neo-Aristotelian virtues are 1) practical habits, 2) infused with reason in their operation, 3) personal, and 4) intrinsically valuable. The behavioral virtues certainly have practical importance, helping people to improve their decisions. There is no clear role for reasoning about these virtues, either in their adoption or their exercise; it is true that an individual can reason her way to the conclusion that it would be better to overcome her cognitive biases and temptations, but there is no mean to be discerned by virtue. To see the contrast, consider the neo-Aristotelian virtue of temperance. A temperate person's appetites are guided by reason toward the right level of desire, causing her to be attracted to sensual goods to the appropriate degree – neither too much nor too little. The corresponding virtue in behavioral models (self-control) is first of all not something that the agent reasons about, deciding whether or not to develop it. Second, there is no mean in self-control. More self-control is always better in behavioral models; the agent who exercises perfect self-control will be immune to choosing a

less desirable good because of temptation. Self-control is not temperance; it performs a much different function, and does involve reason in its exercise.

Although the claim that the behavioral virtues are personal is defensible – overcome biases and inconsistency is certainly relevant to individual well-being – it is underplayed by behavioral economists. Most of the examples given in behavioral economics (sunk-cost fallacies, menu dependence, time inconsistency) suggest actions on the individual level, but most of the implications are worked out at the level of policy and institutional design (element five). Policies are suggested to “improve decisions” by helping people to overcome their biases, or to counteract them through appropriate incentives. Thaler and Sunstein (2008, pp. 5-11) discuss these interventions as exercises in “choice architecture.”¹⁵

4 Virtue in Economics and Neo-Aristotelian Virtue

Virtue is human excellence in action. Neo-Aristotelians and economics conceive of action differently; consequently, their accounts of human excellence in action diverge. We can render a full account of the neo-Aristotelian virtues only in the context of the five-element neo-Aristotelian moral scheme. As we move from the neo-Aristotelian moral scheme to the neoclassical scheme, virtue drops out entirely, for three reasons. First, the distinction between human-beings-as-they-happen-to-be (element one) and human-beings-as-they-could-be-if-they-realized-their-telos is erased. In place of a complex, unruly interaction of reason, will, and passion, brought into reasoned order by virtue, economics posits well-defined preferences, knowledge of constraints and probabilities, and calculation. Reason (in the form of optimization) has no need of virtue to shape its calculations and protect it from passion. Second, when virtue is

¹⁵ Crawford (2015) contrasts externally imposed “choice architecture” to shape behavior (‘nudges’) with internally-imposed constraints which often serve the same function (‘jigs’) and argues that jigs over nudges.

introduced into economic models of choice, it becomes an argument in an objective function, something involuntary and unintentional. Third, economics eliminates contingency from its models, eliminating with it the need for virtue. Virtue navigates the space between general principles and the singular nature of any particular context. In neoclassical economic models, there is no particularity to discern, only risks to evaluate.

The exception to this critique of neoclassical virtue – the literature on non-cognitive skills – is instructive for its departure from the strict three-part neoclassical moral scheme. By treating the development of non-cognitive skills (habits) within a human capital framework, this literature avoids having to place non-cognitive skills in a rational preference-optimization framework. Consequently, it need not constrain these skills to be unreasoned arguments in preferences. Moreover, the undescribed decision environment within which non-cognitive skills operate leaves room for contingency; non-cognitive skill can be interpreted flexibly, and need not be mere calculative, optimizing skill. The lesson of this literature is that economics can get closer to virtue when it organizes its analysis around something other than the rational choice framework.¹⁶

One branch of behavioral economics – the literature on social preferences – leaves untouched the neoclassical framework. These models add social content to preferences, but the modified preferences do not bring us closer to the neo-Aristotelian virtues; instead, they bring economics closer to its historical roots in Humean social analysis. There is still no gap between human-beings-as-they-happen-to-be and as-they-could-be, and there is no contingency for virtue to grapple with. No arguments in this literature would convince someone who did not have social

¹⁶ Becker (2013) also argues that it is impossible to describe virtue within a rational choice framework, and suggests that models of bounded rationality, which incorporate both rules of thumb and rules for adjustment to experience.

preferences to adopt them; preferences evolve apart from the intentions of agents, although they might be affected by policymakers and institutional design.

Another branch of the behavioral literature begins with the insight that much human behavior does not measure up to the informational and calculative rigors of the neoclassical model. This insight introduces a gap between actual choice and excellent choice, but the ‘virtues’ by which that gap is overcome do not resemble the neo-Aristotelian virtues, for two reasons. First, the *telos* in these models is something like preference optimization. An agent who succeeds in becoming an effective preference optimizer, by overcoming the biases and internal conflicts brought to light by behavioral research, will still lack the virtues made necessary by contingency. Second, there is no account in behavioral economics of how one might personally develop the ‘virtues’ which overcome biases and internal conflicts. Their presence or absence is of concern only to public policy. Policymakers may develop policies or institutions to overcome these biases – to help people to make better choices – but the behavioral program is not a program of personal improvement per se.

I have argued elsewhere (Yuengert 2012, 2014) that quantitative economic models of choice cannot incorporate virtue, no matter how creative and motivated the theorist. If virtue as described in the neo-Aristotelian tradition is crucial to human flourishing, and if most of economics cannot model neo-Aristotelian virtue, what is the next step? There are two options for economists:

- 1) economic analysis without explicit reliance on preference optimization, or
- 2) economic analysis which includes preference optimization, but remains aware of its blind spots.

The literature on non-cognitive skills is an example of the first; note that this research remains firmly on the positive side of the positive-normative distinction. Other work, more explicitly

normative, adopts the economic framework without relying on its analysis of choice.¹⁷ Sugden (2004, 2010) argues for a non-preference normative principle, “the opportunity criterion,” making efficiency arguments for market competition without the assumption that consumer preferences are even coherent. Bruni and Sugden (2013) incorporate the concept of virtue as defined in virtue ethics into an analysis of the effects of markets on character. Their concept of virtue departs from the neo-Aristotelian concept in important ways – although the virtues of market exchange are grounded in the telos of the market, they are not tied to any conception of the human telos, but are instead justified through an appeal to individual autonomy. Nevertheless, their analysis is an important example of how virtue ethics might be incorporated into economic analysis.

Not all economic analysis can eschew quantitative modelling of choice. When economists need quantitative models of choice (to model systems of exchange parsimoniously, to discern the unintended order in social systems) they ought to be aware of that they are leaving virtue out. No model, and no social science, can be a comprehensive description of everything that is important to human well-being.

I point out the limitations of economic models, not to urge economists to expunge every deficiency in them, but in the conviction that an awareness of any tool’s limitations can make it a more useful tool. There are plenty of examples of this awareness in other activities. For example, programmers know that they do not know exactly how their code will be used, and to what end; a good coder writes code to be flexible, to leave space for contingency in application (Suchman 2007). A boat builder knows the value of good design and new technology, but he is also aware that he is designing a boat for a sailor; a good boat puts a sailor in a good position to judge those

¹⁷ Baumann and Brennan (2016) offer an insightful analysis of the challenges of virtue for economic policy, including a discussion of its place in various conceptions of the invisible hand.

things which cannot be captured by charts, radar, and automated systems. In the same way, when economists reflect on policy, and when policymakers draw on economic insights, the absence of virtue from their models requires a change in perspective (Yuengert 2016). It generates a new set of questions: where does virtue fill the gaps between the model and reality? How will the patterns which are evident in the economic model affect the formation and sustainability of the virtues which are excluded from it? Economists who are aware of the gaps in their models can better advise others of how the virtues might fit into a broader policy analysis.

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