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Virtue Non Est Disputandum?

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Is virtue a matter of taste, and thus outside the range of economic reasoning? Inspired by Stigler and Becker's "De Gustibus Non Est Disputandum" ("there is no disputing tastes"), this article develops a simple rational choice model in the manner of Becker in which virtue serves as a form of human capital, thereby allowing virtue to situate itself within the model as a tool rather than taste, and as a means of applying the economic way of thinking to aspects of life typically regarded as either off limits to it or too fragile to withstand its probing.

Introduction

In their widely cited article "De Gustibus Non Est Disputandum" ("there is no disputing tastes"), George Stigler and Gary Becker[1] lamented that many explanations in economics too easily fall back upon differences or changes in exogenous tastes; once that point is reached, any further involvement by the economist is disclaimed. In so doing, they argued, economists abdicate wide swaths of potentially fruitful areas of inquiry to other disciplines less reluctant to opine upon tastes. Alternatively, Stigler and Becker suggested treating the "de gustibus" adage not as the end of the story, but rather as a challenge to dig more deeply to find "the subtle forms that prices and incomes take in explaining differences among men and periods" by explicitly assuming that tastes "neither change capriciously nor differ importantly between people."[2] Subsequently, Becker conceded that this approach was not satisfactory because tastes were simply too important to be ignored. However, that was no excuse to terminate economic analysis. Famous for his contributions on the concept of human capital, Becker observed that "personal and social capital are crucial" for understanding tastes, and that the economic way of thinking has useful insights to offer as to how tastes are formed, how they change, and how they differ among people and over time.[3]

Since the moral foundations, characteristics, and behavior of economic actors all apparently fall within the broad realm of tastes and preferences, they are often treated as exogenous and largely ignored in economic analysis. This has contributed to charges from outside (as well as inside) the profession that economics has become morally stunted, and that this shortcoming becomes most egregious when the economic way of thinking is pushed beyond the perceived limits of its application.[4] One prominent criticism of economic methodology is its reliance on rational choice models of behavior, populated by *homo economicus* ("economic man"). For example, the social psychologist Jonathan Haidt observes that "many" social scientists—and perhaps, by implication, most economists—believe that

> [b]ehind every act of altruism, heroism, and human decency you'll find either selfishness or stupidity.… "Economic man" is a simple creature who makes all of life's choices like a shopper in a supermarket with plenty of time to compare jars of apple sauce. If that's your view of human nature, then it's easy to create mathematical models of behavior because there's really just one principle at work: self-interest. People do whatever gets them the most benefit for the lowest cost.[5]

Behavioral economist and Nobel laureate Richard Thaler calls these fictional people "Econs." "Econs do not have passions; they are cold-blooded optimizers. Think of Mr. Spock in *Star Trek*."[6] But just as Spock would counter that it is "most illogical" to infer that he is amoral because he is rational, neither should we infer the same about Econs. In a previous article,[7] I argued that this was a caricature, and that economics—including rational, incessantly calculating, and self-interested *homo economicus*—has insights to offer beyond merely what Alfred Marshall called "the ordinary business of life [and] the attainment and the use of the material requisites of well-being."[8] However, the caricature is uncomfortably recognizable. In recent years there has been a renewed interest among economists in revisiting the moral underpinnings of markets and of "virtue ethics"—the study of moral character.[9] Nevertheless, this effort still often highlights rather than narrows the gap between formal economic methodology and the reality of who people are and how they actually behave.[10]

Perhaps no economist pushed the economic way of thinking as far as did Gary Becker, using the rational choice model to analyze a range of social issues usually not considered within the scope of economic inquiry. But Becker did not perceive of a world populated by the caricatures described by Haidt and Thaler:

> [T]he economic approach I refer to does not assume that individuals are motivated solely by selfishness or material gain. It is a method of analysis, not an assumption about particular motivations. Along with others, I have tried to pry economists away from narrow assumptions about self interest. Behavior is driven by a much richer set of values and preferences. The analysis assumes that individuals maximize welfare *as they conceive it*, whether they be selfish, altruistic, loyal, spiteful, or masochistic. Their behavior is forward-looking [but] may still be rooted in the past, for the past can exert a long shadow on attitudes and values [emphasis in original].[11]

If one seeks "an economic way of thinking" about virtue, it is natural that one would go to Becker to look for it. This article will argue that it can be found by developing a "rational choice" model of virtue in the manner of Becker, in which virtue serves as a form of human capital that differs among people and can be augmented (and depleted) over time. Virtue is thereby not solely a matter of taste and thus (arguably) outside the realm of proper economic discourse, nor is the economic way of thinking an inappropriate way of thinking about it; rather, virtue is at least as much a tool for maximizing utility as it is a matter of taste, and subject to economic analysis like any form of human capital.

Virtue and the Economic Way of Thinking

The word *virtue* comes from the Latin *virtus*, emerging later in English as today's "virtue": "A quality considered morally good or desirable in a person."[12] The same notion derives from the Greek word *arete*, which for our purposes is best thought of as "moral excellence."[13] Although virtue is not hard to define, it may be difficult to confine the list of qualities that count as "virtuous" to a manageable or usefully distinct number. In the Western tradition, the so-called "cardinal" virtues are justice, prudence, temperance, and fortitude. The cardinal virtues plus the so-called "theological virtues" of faith, hope, and charity constitute what are sometimes called the "heavenly virtues," or what Deirdre McCloskey calls the "bourgeois virtues." In his autobiography, Benjamin Franklin lists thirteen virtues (temperance, silence, order, resolution, frugality, industry, sincerity, justice, moderation, cleanliness, tranquility, chastity, and humility). There are numerous such lists. For current purposes, it is not important to either confine the list to—nor extend it beyond—these common types, nor to focus on any particular virtue.

Defining *economics* is perhaps more problematic. Indeed, there is often a wide chasm between how economists and non-economists view the term. Non-economists tend to see economics as the range of things it is *about*—a range typically limited to material goods and phenomena that can be expressed in monetary terms and/or involve interactions in institutions of exchange, that is, markets. Phenomena that are outside the realm of the three Ms—material goods, money, and markets—are thus typically seen as beyond the "proper" range of economics. In contrast, Paul Heyne states that economics is not a defined range of topics but a "way of thinking":

> [T]here is a particular perspective on human actions and interactions that regularly emerges when economists analyze the world that many economists recognize as uniquely *the* economic way of thinking.… I like to summarize the economic way of thinking in a short sentence that states its basic assumption: *All social phenomena emerge from the choices of individuals in response to expected benefits and costs to themselves*.[14]

Similarly, Becker asserts that "what distinguishes economics as a discipline from other social sciences is not its subject matter but its approach…. [Furthermore,] I contend that the economic approach is uniquely powerful because it can integrate a wide range of human behavior"[15]—a range inclusive of, but not confined to, the three Ms. For Becker, this meant the potential to apply the rational choice model to any situation in which human behavior is constrained by scarcity, a condition which in some way confronts all humans all of the time.[16] In his lifetime, Becker applied "the economic way of thinking" to many areas often thought to be outside the range of economics, including crime, fertility, marriage, racial discrimination, and addiction. Can it apply to virtue?

The Basic Beckerian Model[17]

The standard model of consumer choice assumes that individuals (consumers or households) maximize their utility given their budget constraints, that is,

$$(1)\quad \max U = U(x_1, x_2, \dots, x_n) \text{ subject to } \textstyle\sum_i^n x_i p_i = I,$$

where U = utility, x_i = the i^{th} good (or service), p_i = the price of the i^{th} good, and I = income.

Choice is determined by prices and income in the budget constraint and the tastes/preferences as revealed by the arguments in, and functional form of, the utility function. Tastes are not directly observable—but then changes in "economic" variables such as prices and income may also be difficult to observe. The point Stigler and Becker stressed in "De Gustibus" was that when it is difficult to attribute observed phenomena to changes in prices or income, it is too easy to fall back on changes in taste as a default explanation. This will be particularly the case if one seeks explanations for observed phenomena when resource constraints are nonmonetary.[18]

The standard model also depicts individuals as largely passive consumers of available market goods. A more general approach would depict individuals as active "utility producers," in which not only monetary/market goods but also nonmonetary/nonmarket goods are selected as inputs, and resource limitations include not only monetary incomes but also nonmonetary resources, principally time. Becker's "household production" model thus posits that consumers attempt to maximize not the narrow utility function given in equation (1), but what he called the "extended utility function":

$$(2)\quad U = U(z_1, z_2, \ldots, z_n),$$

where z represents "commodities"[19] produced by combinations of market goods and services (x), the individual's (nonmarket) labor time (t), and a set of "environmental variables" (e) within which the production of z takes place, that is,

$$(3)\quad z_i = z(x_{i1}, x_{i2}, \ldots, x_{in}; t_{i1}, t_{i2}, \ldots, t_{in}; e_1, e_2, \ldots, e_j).$$

where e represents "the state of the art of production, or the level of technology of the [commodity] production process,"[20] along with other possible variables such as climate and location, and demographic variables such as age and sex.

It is here that human capital is introduced. The term, with which Gary Becker is most prominently associated, is typically defined as the knowledge, skills, and abilities that workers acquire through education, training, and experience, and as such is normally used to refer to workers' market productivity and the consequent returns to that productivity. To explicitly account for human capital in the model, the commodity production function in (3) is refashioned as

$$(4)\quad z_i = z(x_{i1}, x_{i2}, \ldots, x_{in}; t_{i1}, t_{i2}, \ldots, t_{in}; H; E),$$

where H = human capital, and E represents the remaining other "environmental" variables ($e_1, e_2, \ldots, e_k$) that impact commodity production (such as climate, location, age, sex, etc.).

Under standard consumer theory, the individual maximizes his or her utility by purchasing market goods subject to the solely monetary budget constraint $\Sigma_i^n x_i p_i = I$. However, the budget constraint in the basic "Beckerian" model must also account for nonmarket time. Becker calls the combination of market income and nonmarket time "full income" (FI). Assuming, for simplicity, a constant wage rate ($\overline{w}$) and no nonwage income, the Beckerian model of rational choice is given by

$$(5)\ \ \max U(z_1, z_2, \ldots, z_n) \text{ subject to } \Sigma_i^n (\overline{w} t_i + x_i p_i) = FI,$$

in contrast to (1).

Varieties of Human Capital in the Rational Choice Model

"Capital" refers to any stock or accumulation of something durable that serves, or potentially may serve, as a source of future benefits. And whereas Becker indeed focused much attention on the long-term monetary returns to investment in education, he also sought to highlight and extend the application of human capital to many other areas, including basic consumer theory. After all, humans invest in (and use) knowledge, skills, and abilities in and for all walks of life, not just the workplace. For example, if an individual seeks to produce the commodity "a delicious home-cooked meal," he or she will need to combine a stove, oven, bowls, utensils, purchased (or home-produced) food and other ingredients, and time and effort. But those inputs alone will only guarantee the production of a home-cooked meal—not necessarily a *delicious* one. *That* will depend on the knowledge, skills, and abilities of the cook, which are acquired through past investments in "cooking capital." Such capital may have been acquired though formal education such as cooking school, but it is more likely to have been acquired through the investment of time and effort in learning from parents, observing their efforts, analyzing the results of their and others' efforts (e.g., consuming food at restaurants—"consumption capital"), engaging in trial-and-error ("practice makes perfect"), and in various other forms of self-education (watching cooking shows, reading cookbooks, etc.). As with any form of capital, "cooking capital" is durable but can be depleted though neglect, depreciation, obsolescence, or unreplenished consumption. Another form of capital that can be augmented and depleted is "health." Investments in health capital could come in the form of, for example, better nutrition, more exercise, vaccinations, and so forth.[21] Thus, human capital—and investments therein—can take various forms.

Becker identified two broad categories of human capital: Personal Capital (H_p) and Social Capital (H_s). Personal capital "includes the relevant past consumption and other personal experiences that affect current and future utilities," and social capital "incorporates the influence of past actions by peers and others in an individual's social network and control system."[22] For present purposes, allow H_p and H_s to encompass all forms of human capital (H), such that (4) becomes

$$(6)\quad z_i = z(x_{i1}, x_{i2}, \ldots, x_{in}; t_{i1}, t_{i2}, \ldots, t_{in}; H_p; H_s; E),$$

but $H_p + H_s \neq H$, since H_p and H_s overlap. Take again the example "health capital." A person's health is undoubtedly a function of his or her own personal attributes, actions, attitudes, education, genetic endowment, and so forth; and exercise and good nutritional habits are important investments in personal health capital. But the social environment within which the person exists is also an important determinant of his or her health capital. Poor nutritional habits within a family will have a large bearing on each individual family member's personal health; a community that does not value dental hygiene will likely result in a deterioration of personal "dental capital" for most community members; et al. Social units that invest in education and activities that promote social (physical) health—whether directly (e.g., "public health" programs such as clean water initiatives, vaccinations, pollution abatement, etc.) or indirectly (e.g., public education, economic development, etc.)—will (at least potentially) augment the level of social health capital, the benefits of which spill over onto individuals within that unit. In other words, health capital is jointly determined by personal and social capital. For a given set of commodities (z_i), the production of those commodities is promoted by good health, while poor health retards the ability to produce them. Thus, to the extent that an increase in health capital leads to an increase in z_i, investments in health capital lead to an increase in utility. Such investments may be both chosen by the individual (e.g., exercise and nutrition), and chosen for the individual (e.g., public health interventions). The extent to which they are chosen by the individual could be simply a matter of "taste," but is just as easily—*and probably better*—characterized as the result of the individual's cost-benefit calculation: Do the expected desired benefits exceed or fall short of the costs? Many people have a "taste" for the results of healthy exercise and diets but do not act upon those tastes. Why? Why do so many people *want* to lose weight but fail to take the actions necessary to make it happen?

Not only does an increase in health capital promote an increase in a given set of commodities (z_i) but it also serves to change the *composition* of commodities produced. Unhealthy people will be more likely to "produce" commodities to deal with illness and disease than healthy people (e.g., purchasing more medical goods and services—x_i—such as physician visits and prescription drugs). Again, we could say that this is a result of differences in "tastes," but would that really be the most fitting way to characterize it? Similarly, healthy people are more likely to engage in recreational activities than unhealthy people, and by the very act of recreation develop a "knack" for it that leads them to engage in it more often. Again, this could be characterized as an increase in the taste for recreation. But even for a given level of taste, the process of engaging in recreational activities may make people "better" at it, such that the perceived costs of recreation falls relative to the perceived benefits, thereby providing even more incentive to engage in it.[23] Thus—and in keeping with the spirit of "De Gustibus"—a perceived shift in tastes toward recreational activities could just as easily—*and perhaps better*—be characterized as the result of an individual's cost-benefit calculation. Consider two people, A and B, where both have an equal taste for skiing; indeed, A may actually like to ski *more* than B. But if A has poor health capital and B robust health capital, B will likely engage in the activity more than A. Can it really be said that B has more of a taste for skiing than A simply because B skis more than A?[24]

In the same way, people inherit and accumulate "intellectual capital"; "athletic capital"; "music capital";[25] "religious capital";[26] "sexual capital"[27]; and so on. *Ceteris paribus*, higher levels of capital will both increase the marginal productivity of the goods, services, and time devoted to producing commodities related to that capital, and would tend to shift the composition of the individual's commodity set toward such commodities. Children who are brought up in religious homes in effect "inherit" a stock of religious capital that is reinforced through continuous "social investments" by parents through childhood and adolescence (say, through regular church attendance) and "personal investments" by the child (say, Sunday school lessons absorbed, Bible study, and personal prayers and devotions). The "short run returns" to such investments are often "reinvested" to build more religious capital. Ideally (at least from the parents' perspective), religious capital to which they have helped contribute will be used to help "finance" spiritual growth, obedience and good behavior, good works, future religiosity, and so forth.[28] As the child moves into adulthood, the (parental) social investment diminishes. Sometimes, the now-grown child continues to use his or her religious capital so as to either maintain or build upon previous levels; sometimes, his or her capital depreciates through neglect and disuse. In the latter case, the adult child's productivity in producing "religious commodities" diminishes, and there is a strong incentive to reallocate resources toward other, "nonreligious" commodities. Again, this can be thought of as a "shift in tastes" away from religious commodities, but can also be viewed as a reduction in productivity of resources devoted to religious activities. Goods, services, and time devoted to religious activities become more costly, and the person searches for more "productive" uses of those resources to maximize his or her utility.

Virtue Capital

In general, we may focus on particular types of human capital by adjusting (6) as follows:

$$(7)\ \ z_i = z(x_{i1}, x_{i2}, \ldots , x_{in} ; t_{i1} , t_{i2} , \ldots , t_{in} ; h_1, h_2, \ldots, h_w ; E),$$

where h_j = the "j^{th}" form of human capital—health capital, athletic capital, music capital, sexual capital, religious capital, and so on; each form of capital is itself a product of personal and social capital,

$$(8)\ \ h_j = h_j (H_p, H_s).$$

Accordingly, let h_v = "virtue capital," where

$$(9)\ \ h_v = h_v (H_p , H_s)$$

constitutes the fundamental "virtue capital function." As noted previously, "virtues" are qualities of excellence, particularly moral excellence, of which there are numerous, often overlapping varieties.[29] For simplicity, initially let "virtue" be a single composite quality representing all collected forms and manifestations of "moral excellence."[30]

In this section I expand on the fundamental virtue function (9) following Becker, who observes that, in addition to the natural abilities conferred upon and cultivated by an individual, human capital is also formed by past experiences and social forces.[31] I will highlight five important Beckerian contributors to an individual's stock of virtue: natural endowment/ability, knowledge/skills, habit, social networks, and culture/tradition.

A critical factor in determining any form of capital for an individual is his or her natural endowment or native ability (A),[32] both cognitive and noncognitive, which is largely genetically bestowed.[33] This is both obvious and deeply complex (not to mention fraught with controversy). To what extent is who we are, how we think, what we do, and so forth, "baked into the cake"? For some forms of capital, the role played by native ability is straightforward; for example, athletic capital. Some people have a physiological makeup that is conducive to building up a large amount of athletic capital, others less so. That does not mean that the latter cannot build up athletic capital, but it is more difficult for them. Some people are born with cognitive deficiencies that make it difficult to build up intellectual capital, while others who are native “geniuses” can (but do not necessarily) build up astonishing amounts. But while the relative contributions of “nature versus nurture” is a source of endless (and often contentious) debate, there can be no doubt that natural ability is an important factor in all manner of human activity and human capital formation—including virtue capital. People are endowed with cognitive and noncognitive faculties that make them *capable* of activities conducive to developing virtue (such as ability to read and otherwise learn about what the community conceives as “virtue”). Moreover, just as there appears to be an “endowment effect” (or lack thereof) such that some people are “naturally” very poor at being virtuous and building virtue capital (e.g., at the extreme, psychopaths), it seems reasonable that there is a similar endowment effect at the other end in which some people are “more naturally” virtuous and capable of building virtue capital than others. However, while natural ability is an undeniably important tool in accumulating all sorts of capital, including virtue capital, it is far beyond the scope of this article to speculate on the relative size of its contribution—on whether it is hammer or a drop forge in the shaping of one’s character and destiny.

A second important factor in developing most human capital, including virtue capital, is knowledge and other acquired skills. Unfed, intrinsic intellectual ability becomes stunted, and even if one possesses some “natural tendency” toward virtue, it may be difficult to cultivate without additional knowledge concerning what constitutes virtue, as obtained through lessons, parables, exhortations, examples, and so forth.

But unused knowledge is often fruitless. Golfers who studiously read about and watch golf on TV but rarely play are unlikely to be good at it; cooks who collect recipes and watch cooking shows but rarely cook are unlikely to make great meals. Similarly, “learning by doing” is a critical factor in building virtue capital. As Franklin puts it, “the mere speculative conviction that it [is] our interest to be completely virtuous [is] not sufficient … contrary habits must be broken, and good ones acquired and established, before we can have any dependence on a steady, uniform rectitude of conduct.”[34] “That human beings are creatures of habit,” Becker observes, “has been noticed for thousands of years. Aristotle claimed that ‘Moral virtue’ is formed by habit.’”[35] Indeed, said Aristotle, “none of the moral virtues are implanted by nature”—for him, there is no “natural endowment” of virtue. Rather, “we are by nature equipped with the ability to receive [the virtues], and habit brings this ability to fruition and fulfillment …

we acquire [the virtues] by first having put them into action, and the same is true of the arts. For the things we have to learn before we do them we learn by doing: men become builders by building houses, and harpists by playing the harp. *Similarly, we become just by the practice of just actions, self-controlled by exercising self control, and courageous by performing acts of courage*."[36] From a religious perspective, the term "spiritual discipline" similarly evokes the same notion: that the current attainment of a desired characteristic is tightly connected with past attempts to attain it.[37]

"Following common usage," Becker states, "I define habitual behavior as displaying a positive relation between past and current consumption; economists call these goods complements. Well-known examples include smoking, using heroin, eating ice cream or Kellogg's Corn Flakes, jogging, attending church, telling lies, and often intimacy with a lover."[38] Similarly, virtuous activity can be habitual. Possible examples of "virtuous activities" could be visiting the sick; giving money to the poor; prayer or other devotional activities; helping teach someone to read; mowing the lawns of or delivering meals to elderly persons; rescuing persons from fire or other dangerous situations;[39] refraining from alcohol when alcohol consumption is not appropriate (e.g., for an alcoholic); donating blood; and so on. Each of these are more likely to occur in the present if they have been undertaken in the past, and more so the more regularly (or habitually) they have been undertaken. To operationalize this within the model, let z_v serve as a representative "virtuous activity" produced in part with the assistance of the single composite human capital variable virtue (h_v). For any given period, there are many products consumed or activities engaged in that are positively related to whether they were consumed or engaged in preceding periods—that is, they exhibit *dynamic complementarity*. If, as Aristotle maintains, "moral virtue is formed by habit," then "lagged virtuous activity" helps maintain or build up virtue capital.

Abilities, knowledge, and habit are all largely aspects of personal capital (H_p). But no man is an island. Familial, community, and cultural influences all factor heavily into an individual's behavior and the development of his or her personal capital, such that it is difficult (impossible?) to separate the personal from the social. Still, important social aspects can be identified, including social networks and culture/tradition. Networks operate largely through the present, while culture and tradition impact the individual mainly from the past. While "peers and past" both have a very large influence on an individual's choices, individuals have more control over the former than the latter.[40]

The most important social network is the family, a topic that loomed large in Becker's *oeuvre*.[41] Clearly, familial—especially parental—influences significantly impact an individual's cognizance of "virtue," what constitute virtuous activities, and the extent to which such activities will be put into practice. The expectations and practices of other peers—friends, neighbors, schools, churches, et al.—are also very important in forming a person's social (and virtue) capital.

But whereas individuals do have some ability to shape how family and peers impact their behavior, they have little if any control over the culture and traditions that surround them. Analogous to the impact of habit on building personal capital, the past plays a significant role in shaping one's social capital. Becker defines traditional behavior as "habits that are sensitive to choices in the more distant past.… Such habits are especially important for understanding culture and institutions."[42] Social capital can be either virtue-enhancing or virtue-retarding: social networks and culture/tradition can serve to augment one's virtue capital or deplete it.[43]

Given the foregoing discussion, the fundamental virtue function (9) is expanded to become

$$(10)\quad h_v = h_v\,(A, K, N, C, z_{v,t-1}),$$

where A = ability, K = knowledge/acquired skills, N = social network, C = culture/tradition, and $z_{v,t-1}$ ("lagged virtuous activity") represents the role played by habit.

Virtue Capital and Virtuous Commodities

In the standard model of choice, summarized by equation (1), utility is maximized by individual choices concerning the goods and services consumed given the prices of those goods and the incomes that limit their choices. Changes in tastes are exogenous. In a "Beckerian" model, goods and services are not themselves the items of choice, but are *inputs* into the production of commodities that *are* the ultimate items of choice. In "De Gustibus," Stigler and Becker advanced—*for the sake of argument*—the notion that "tastes" for commodities are the same for all people. Everyone wants food, clothing, shelter, good health, entertainment, belonging, companionship, and so on. Variations in the amounts of the inputs—goods and services and time—are explained by their relative prices, the "full income" available to produce them, and their productivity. And just as in standard production theory, in which labor productivity is a function of the availability of physical capital, the productivity of goods and services and time used to produce commodities is a function of the "capital" available to produce them—including "human" capital.

Consider a simple two commodity model composed of a virtuous activity or good work (z_v) and z_{oc} = "other commodities." Suppose there were a shift toward z_v, ostensibly due to a change in taste. In the "Beckerian" model, the accumulation of "virtue capital" (h_v) might account for this without relying on what Stigler and Becker referred to in "De Gustibus" as "capricious tastes." As h_v increases, the individual becomes more adept at producing good works; *ceteris paribus*, the marginal product of resources used in producing good works—goods and services and time (in this context, perhaps especially time)—increase, making them more valuable to the individual and thereby increasing the incentive to use them for those more productive purposes. From (10), the sources of h_v include natural ability, knowledge, social networks, culture/tradition—and perhaps most especially, habit. A useful analogy is that of athletic activity and athletic capital. Those who engage in athletic activities—for example, golf—are likely do so for a number of reasons related to natural ability, the growth in their knowledge of the game and physical strength and coordination, the extent to which they have friends who share their interest in the game and are willing to play with them, and the cultural environment (it is much more likely to be interested in golf in the United States than in, say, Mongolia).

But little of the foregoing matters if one does not play. The more one plays, generally speaking, the more one wants to play, and the more one does play. When one is in the habit, he or she typically has the inputs and processes in place to facilitate playing: the clubs and the balls and all the other physical implements; time carved out for it (golf can be a time-consuming activity); where to play and what days are best to play and when to schedule tee times; whether to play nine holes or eighteen; when to walk or when to pay for a riding cart; partners to play with and, for those interested in such things, whether there is a "nineteenth hole" (slang for the clubhouse bar—golf is a highly social activity). The more one plays, the less burdensome is dealing with and arranging these details, and the more likely one is to continue playing and develop a habit. Once one gets "out of the habit," these become significant barriers to playing. "Golf capital" deteriorates, and other activities become more important as the marginal productivity of time spent on golf declines.

Yes, it could be said, in a sense, that "taste" shifts away from golf. But in another, perhaps more pertinent sense, one shifts away from it simply because it becomes a less productive (or relatively more costly) activity. Indeed, it is quite possible that one's *taste* for golf could increase while actually engaging in it decreases. A decrease in observed rounds of golf played—even when there has been no apparent change in relative incomes and prices, or even available time—may not reflect a decrease in the "taste" for golf. It could also, for example, reflect a decrease in health capital, in which someone is less healthy and less inclined to play as a result—even if he or she, perhaps, watches more golf on TV to satisfy an *increasing* taste for the game.

"Good works" and virtue capital may similarly develop or decline. Consider an activity that would be widely viewed as "virtuous"—providing meals to elderly shut-ins. This seemingly simple activity can conceivably involve a whole host of inputs: ingredients and implements (oven, refrigerator, pots and pans, etc.) and time to make the meals; a car and gasoline (and time) to deliver the meals; knowledge about to whom to deliver, and where to deliver; and so on. How many people "would like to"—have a "taste" for—such activities but do not actually engage in them because they are inhibited by either the size or range of expected costs? If they do not engage in them, can we say that they do not *really* have a taste for them? Not necessarily; it could be that there are real or perceived barriers to engaging in the activities. That is why an organization such as Meals-on-Wheels—a type of social network—can be so effective. It supplies organizational experience and support that helps identify efficiencies and reduce the cost of engaging in the virtuous commodity "providing meals to elderly shut-ins." And, again, habit plays a large role. Regardless of the source of the "taste" for the activity, those who have provided meals to elderly shut-ins in the past are much more likely to do so in the future. In sum, the accumulation of virtue capital makes virtuous activities more efficient factors contributing to utility, and thus increases the incentive to choose such activities.

Virtue for Virtue's Sake?

The foregoing is likely to raise the objection of those who are uncomfortable with the economic way of thinking that virtue exists in the model only as an instrument for producing utility-generating commodities. Like beauty, should virtue not exist for its own sake? Is virtue not its own reward? Perhaps—but like beauty, virtue need not exist *solely* for its own sake. Beauty and virtue both can also be important inputs in the pursuit of a purposeful, flourishing life. There is nothing inherently amoral or "morally stunted" in conceiving of virtue as a means of achieving it. At the same time, there is nothing that prevents one from incorporating "virtue for virtue's sake" into the model by including virtue capital directly into the extended utility function (5) as follows:

$$(11)\quad U = U(z_1, z_2, \ldots, z_n; h_v).$$

However, it can be argued that the functionality of virtue typically precedes virtue for its own sake. Admonitions to "do this" or "refrain from that"—especially when young—are often accompanied with implicit or explicit implications of benefit or harm to self or others. To some degree (Aristotle would argue entirely) virtue must be taught; appreciation of it for its own sake will largely emerge from its prior accumulation for functional reasons rather than its inherent qualities.

Conclusion: Virtue Non Est Disputandum?

Are the moral foundations and characteristics of *homo economicus* exogenously determined tastes outside the purview of economics and thus "not worth disputing"? Is there no place for virtue in the rational choice model? Certainly, if the model is confined to the three Ms—material goods, money, and markets—there is little scope for embedding virtue into the model without directly incorporating it into the utility function on an *ad hoc* basis ("virtue for virtue's sake"). While there is no reason why this cannot be done, it is not necessary. Following Becker's lead, virtue may also be viewed not just—not even principally—as a *taste* but as a *tool*, specifically, as a form of human capital used for utility maximization. This provides a place for virtue to situate itself within the rational choice model, and a means of applying the economic way of thinking to an important aspect of life typically regarded as either off limits to it or too fragile to withstand its probing. Far from being outside its purview, economics has much to offer—and much work to do—in exploring, explaining, and promoting virtue, not only for its own sake, but as a means of facilitating human flourishing.

Notes

1. See George Stigler and Gary Becker, “De Gustibus Non Est Disputandum,” *American Economic Review* 67, no. 2 (1977): 76–90.
2. Stigler and Becker, “De Gustibus,” 76.
3. Gary Becker, *Accounting for Tastes* (Cambridge: Harvard University Press, 1996), 6.
4. See, e.g., Michael Sandel, “Market Reasoning as Moral Reasoning: Why Economists Should Re-engage with Political Philosophy,” *Journal of Economic Perspectives* 27, no. 4 (Fall 2013): 121–40.
5. Jonathan Haidt, *The Righteous Mind* (New York: Vintage Books, 2012), 150.
6. Richard Thaler, *Misbehaving: The Making of Behavioral Economics* (New York: W. W. Norton & Co., 2015), 7.
7. See Russell Dabbs, “The Economic Supernaturalist,” *Journal of Faith and the Academy* 9, no. 2 (Fall 2016): 66–83.
8. Alfred Marshall, *Principles of Economics* (London: MacMillan & Co., 1956), 1.
9. See, e.g., Deidre McCloskey, *The Bourgeois Virtues* (Chicago: University of Chicago Press, 2006); L. Bruni and R. Sugden, “Reclaiming Virtue Ethics for Economics,” *Journal of Economic Perspectives*, 27, no. 4 (Fall 2013): 141-64; Jennifer Baker and Mark White, ed., *Economics and the Virtues* (Oxford: Oxford University Press, 2016). “Virtue ethics” defined as “the study of moral character” is from Bruni and Sugden.
10. See, e.g., Andrew Yuengert, “The Space Between Choice and Our Models of It: Practical Wisdom and Normative Economics.” In *Economics and the Virtues*, ed. Jennifer Baker and Mark White (Oxford: Oxford University Press, 2016), 165–82.
11. Gary Becker, “Nobel Lecture: The Economic Way of Looking at Life,” in *Accounting for Tastes* (Cambridge, MA: Harvard University Press, 1996), 139.
12. *Oxford Reference* (Oxford: Oxford University Press, 2021), s.v. “Virtue.” https://www.oxfordreference.com/view/10.1093/oi/authority.20110803120019992.
13. More generally, *arete* “denotes the functional excellence of any person, animal, or thing—that quality which enables the possessor to perform his own particular function well. Thus the *aretai* (plural) of a man in relation to other men are his qualities which enable him to function well in society.” Martin Oswalt, in Aristotle, *Nicomachean Ethics*, trans. Martin Oswalt (Indianapolis: Library of Liberal Arts, 1962), 8n.
14. Paul Heyne, “Economics is a Way of Thinking,” in idem, *Are Economists Basically Immoral? and Other Essays on Economics, Ethics, and Religion.* ed. G. Brennan and A. Waterman (Indianapolis: The Liberty Fund), 2008, emphasis original.

15. Gary Becker, *The Economic Approach to Human Behavior* (Chicago: The University of Chicago Press, 1978), 5.

16. Even vastly rich people and countries are confronted with the constraint of limited time. "Different constraints are decisive for different situations, but the most fundamental constraint is limited time." Becker, "The Economic Way of Thinking," 140.

17. This section draws from Gary Becker, "A Theory of the Allocation of Time," in *The Economic Approach to Human Behavior*, 89–114; Robert Michael and Gary Becker, "On the New Theory of Consumer Behavior," in *The Economic Approach to Human Behavior*, 131–49; Gary Becker, *Economic Theory* (New York: Alfred A. Knopf, 1971), 45–50.

18. See Michael and Becker, "On the New Theory of Consumer Behavior," 133–34.

19. In this context "commodity" refers to elemental or essential qualities, characteristics, or actions that satisfy wants. Few—if any—goods and services are acquired and consumed for their direct contributions to utility. Instead, they are consumed for their contributions toward satisfying ultimate wants. Thus, for example, aspirin and the time and effort it takes to purchase it at the store are combined to create the commodity "pain relief"; automobiles, gasoline, time, and effort are combined to produce the commodity "travel"; pizza, iced tea, time, and effort are combined to yield "lunch." "Households will be assumed to combine time and market goods to produce more basic commodities that directly enter their utility functions. One such commodity is the seeing of a play, which depends on the input of the actors, script, theater, and the playgoer's time; another is sleeping, which depends on the input of a bed, house[,] (pills?) and time." Gary Becker, "A Theory of the Allocation of Time" in *The Economic Approach to Human Behavior*, 91.

20. Michael and Becker, "On the New Theory of Consumer Behavior," 135.

21. See Michael Grossman, "On the Concept of Health Capital and the Demand for Health," *Journal of Political Economy*, 80, no. 2 (1972): 223–55.

22. Becker, *Accounting for Tastes*, 4.

23. This would be an example of the importance of habitual behavior and, in the extreme, addiction—behaviors Becker examined as manifestations of rational choice. The important role of habit will be discussed further below.

24. A useful example offered by Becker showing that differences in behavior may misleadingly suggest differences in tastes concerns the use of heating fuel, insulation, and warmer clothing; people in warmer climates would consume less of these items, people in colder climates, more. But this would not necessarily reveal any differences in *tastes* for these items; the "taste" for the commodity involved, "comfortable indoor temperature," would be basically the same. Becker, *Economic Theory*, 47.

25. In "De Gustibus," 78, Stigler and Becker use "music appreciation" as an example of how addiction—in this case, a "beneficial addiction"—need not be explained to be the result of "change in tastes," but as a manifestation of the accumulation of music capital. "An increase in this music capital increases the productivity of time spent listening to or devoted in other ways to music."

26. Laurence Iannoccone, "Religious Practice: A Human Capital Approach," *Journal for the Scientific Study of Religion* 29, no. 3 (1990): 297–314.

27. Robert Michael, "Sexual Capital: An Extension of Grossman's Concept of Health Capital," *Journal of Health Economics* 23 (2004): 643–52.

28. "Current choices are made partly with an eye to their influence on future capital stocks, and hence on future utilities and choices. For example, in deciding whether to take children regularly to church, parents consider how churchgoing affects their own and their children's religiosity in the future." Becker, *Accounting for Tastes*, 6.

29. For example, the cardinal virtues "prudence" and "temperance" have substantial commonality, as do three of Ben Franklin's list of thirteen virtues, "temperance," "moderation," and "chastity." A person who exhibits "excellence" in the one is very likely to exhibit excellence in the others.

30. It is assumed that, whatever constitutes "moral excellence," it is a desirable thing. Why that is the case—and what stimulates the desire—are separate questions. From a theistic perspective, the intrinsic "spark" for virtue is of supernatural origin; from a nontheistic perspective, it is a result of natural selection. In *The Righteous Mind*, Jonathan Haidt argues that moral qualities are the product of evolution, and that "the human mind is designed to 'do' morality, just as it's designed to do language, sexuality, music, and many other things." Later on, he asserts, "We are born to be righteous, but we have to learn what, exactly, people like us should be righteous about." Haidt, *The Righteous Mind*, xix, 39.

31. See Becker, *Accounting for Tastes*, 3–4.

32. Becker uses endowment and ability interchangeably, sometimes preferring the former "because 'ability' is such a loaded word. People see red sometimes when they hear that word; I mean, it's obvious that people have different abilities but some people don't like to recognize that." Gary Becker, "Human Capital and Intergenerational Mobility, Lecture 4: How the Human Capital of Parents Affects Children," The University of Chicago, YouTube, January 7, 2011, https://www.youtube.com /watch?v =B1PIDSp_D60.

33. "You can say a lot of this is not genetics, but it's environment, early environment [such as prenatal environment—whether the mother takes drugs or not, or is healthy or not, during pregnancy, et al.]. That's fine for my formulation." But whatever the mix of genetics and early environment, Becker claims, most of the literature

suggests it is fixed pretty early in life. Thus, he presupposes, "I am going to assume it gets fixed right away, at the beginning." Gary Becker, "Human Capital and Intergenerational Mobility, Lecture 4: How the Human Capital of Parents Affects Children," University of Chicago, YouTube, January 7, 2011, https://www.youtube.com/watch?v=B1PIDSp_D60.

34. Benjamin Franklin, *The Autobiography of Benjamin Franklin* (Los Angeles: University of California Press, 1949): 101.

35. Becker, *Accounting for Tastes*, 8.

36. Aristotle, *Nichomachean Ethics*, 33–34, emphasis added.

37. There is a longstanding philosophical debate about the nature, role, and impact of habit. Is it a blessing or a curse? Some, such as Luther and Kierkegaard, have argued that habit can be prideful or spiritually deadening. Many might argue that spiritual disciplines are practices as distinct from habits. See Claire Carlisle, *On Habit* (New York: Routledge, 2014).

38. Gary Becker, "Habit, Addictions and Traditions" in *Accounting for Tastes*, 119. He continues on the next page, "An addiction is defined simply as a strong habit" (120).

39. Or other similar activities (for which such opportunities do not often arise unless one is in an occupation—e.g., firefighters or police—or other settings in which the probability of encountering such situations is higher than average).

40. "Culture and traditions are shared values and preferences handed down from one generation to another through families, peer groups, ethnic groups, classes and other groups.… Like other kinds of social capital, culture may change over time, but it changes slowly.… Individuals have less control over their culture than over other social capital. They cannot alter their ethnicity, race, or family history, and only with difficulty can they change their country or religion." Becker, *Accounting for Tastes*, 12–13, 16–17.

41. Most notably, his *Treatise on the Family*.

42. Becker, *Accounting for Tastes*, 121–22.

43. Of course, different families and peers and societies and cultures may have vastly different—even diametrical—views on what constitutes "virtue," such that building up social capital may increase virtuous behavior from one family or one society's point of view that is viewed as unvirtuous by another family/society. For the Corleones, family loyalty was a prime virtue, leading to behavior that others in society would view as reprehensible. The upside down "virtues" of Nazism are obvious. For present purposes, I assume that "virtue" is composed of types of virtues—such as the cardinal virtues—that are widely viewed as "consensus goods" across families and throughout our (Western) society.