Perspectives from Social Economics

APPROXIMATING PRUDENCE

ARISTOTELIAN PRACTICAL WISDOM AND ECONOMIC MODELS OF CHOICE

ANDREW M. YUENGERT

PERSPECTIVES FROM SOCIAL ECONOMICS

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Approximating Prudence

Aristotelian Practical Wisdom and Economic Models of Choice

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To my wife, Elizabeth

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Preface

Four years after I completed a PhD in economics, I read Aristotle's *Nicomachean Ethics* for the first time. The *Ethics* is, broadly speaking, about happiness: what it is, what it is not, and how people achieve it—all with a view to thinking about how society might be constituted to better promote it. Crucial to Aristotle's analysis is his account of human action—of how people choose. Early in the work, Aristotle makes what, to my young economist's ears, was a startling claim, that one can be only so precise about a topic such as this: "Our discussion will be adequate if it has as much clearness as the subject admits, for precision is not to be sought for alike in all things" (Aristotle 1941a, 1.3).

To anyone trained in economics at the graduate level, the claim that there are limits to what precision and rigor can accomplish in the analysis of human choice and well-being can only be taken as a modeling challenge. "Oh, yeah?" I thought. "Give a roomful of creative economists a month or two and we can give you a precise model of anything important in human behavior."

This somewhat impertinent response to an implied challenge from a philosopher who lived 21 centuries before Adam Smith is the genesis for this project. I aim in this book to outline what economics can and cannot capture in the Aristotelian account of decision making and happiness. Of course, once I turned my attention toward the question, I realized the magnitude of the challenge I had accepted. To answer this challenge fairly, one must do justice to two groups: on the one hand, to Aristotle and his interpreters, whose account of practical wisdom serves as a modeling target, and on the other hand, to economists, whose creative and ongoing attempts to model human behavior deserve respect and documentation. By attempting to do justice to both groups, I am able to address two types of mistaken claims about the limits of economic models. The first mistaken claim, made by economists, is that anything can be modeled if economists are inclined to model it; the middle five chapters of this book will argue that this claim is false. The second mistaken claim, made by noneconomists, is that the economic approach cannot capture certain phenomena that it in fact *can* capture: many of the phenomena that are claimed to be completely beyond the economic model (e.g., aspects of behavior under uncertainty, internal conflict, and limits to rationality) are in fact being addressed at some level in current economic research, and the research is being published in top economics journals.

Because this book will acknowledge that there are limits to what a mathematical model of behavior can capture, it is easy to conclude that this is a book *solely* about the limits of economics. Many critics of the discipline will be eager to describe the book as a corrective to economics, as an effort to "put economics in its place." This is too narrow a framing of the argument of this book, however.

One may interpret the phrase "putting economics in its place" in two ways. In the first interpretation, "putting economics in its place" is a corrective and defensive measure: put a fence around economics and keep it from getting out and wrecking the yard. Put economics in a corner and tell it to shut up when it speaks about things that are beyond its understanding. In the second interpretation, "putting economics in its place" means putting economics in proper *perspective*, finding its place in a larger conversation about human action and well-being in society. In the terminology of economics, "putting economics in its place" means coming to a deeper understanding of how "positive" analysis can be placed more fully at the service of "normative" questions.

In my experience, external critics of economics often adopt the first meaning of "putting economics in its place," and economists, once they discern that there are limits to what their models can describe, are more open to the second interpretation. If there are things that economics cannot capture, then how should economists proceed? What does the world of policy and ethics look like from the perspective of an economics that cannot address every aspect of human choice and happiness? What is the relationship of economics to other disciplines, and of the disciplines together to policy and ethics? It is these questions that arise naturally from an acknowledgment of limits; at the end of this book, I attempt to orient economics toward these challenges.

Because I am an economist, I cannot help but write for an audience of economists, whom I would like to make more mindful of the place of their work in the larger conversation about politics and society. I hope, however, that this book will be accessible across a broad range of disciplines in the humanities and the social sciences, and to the general reader who is interested in economics and its relation to larger questions. Noneconomists may find the more mathematical discussions difficult to decipher, but I have tried to keep them few and brief, and to explain them in ways accessible to noneconomists. I hope this will not discourage anyone interested in the topic: one need not understand every detail to get the whole of the argument.

I have already noted the magnitude of the challenge of writing this book, of doing justice both to the huge literature on Aristotelian moral philosophy (a field in which I have no formal academic training), and to the ongoing efforts of economists to address the wide range of phenomena in human decision making and well-being (efforts that encompass fields to which I am not contributing new research). I will therefore certainly receive a measure of scorn and correction from not one but two groups of scholars, since I cannot hope to have read and incorporated every important work, recent or canonical, across all of these fields. Nevertheless, I believe the basic structure of the arguments in this book will survive criticisms of which works and lines of research I have overlooked or purposely excluded. Of course, I look forward to any future work that modifies, improves, or replaces this framework with something better.

ANDREW M. YUENGERT
Malibu, California
January 25, 2012

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I am grateful for the sabbatical granted to me by Pepperdine University during the fall semester of 2008, during which I wrote four early chapters of this work. A major debt of thanks is owed to Paul Oslington, who read these early chapters, and whose probing questions and suggestions for further reading convinced me to restructure my approach, and to start over. I believe his advice has resulted in a substantially improved book. I am not speaking for him, of course. Don Marshall's comments on an early draft of some of the ideas in this book likewise helped me to get my bearings on the topic.

Several people have drawn my attention to articles or literatures that have enriched the work. My colleague Jon Burke suggested several readings in the economics of incomplete and intransitive preferences. Patrick Fleming brought to my attention Ariel Rubinstein's reflections on economic models as fables, which helped me to organize my concluding thoughts in the final chapter. I am also grateful to one of my students, Ross Hutchason, whose interests in the capabilities work of Sen, Alkire, and Nussbaum forced me to read and discuss these important works, so relevant for this project.

The advice of Michael Zakian was invaluable in choosing the Durer engraving that graces the cover. After a brief conversation about what I wished to convey on the cover, he suggested *Melancholia*, whose allegorical figure, deep in thought and surrounded by mathematical tools that appear to have been used but that no longer seem relevant, is particularly apt and elegant.

Academic explorations on the boundaries of economics and philosophy are often disconcerting and discouraging to someone trained in only one of these disciplines. Many colleagues have encouraged me along the way, through kind words, sound advice, and inspiring example: Fr. Al Barrera, Charles Clark, Steven Cortright, John Davis, Daniel Finn, Mary Hirschfeld, Robert Kennedy, and Deirdre McCloskey. Particular thanks are due to Mark D. White, who encouraged me to submit this book to Palgrave Macmillan's "Perspectives from Social Economics" series, for which he is an editor.

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The picture of me in Figure 2.2 on page 24 was taken by my wife, Elizabeth Yuengert. I am grateful for her permission to use it; taking it was the least of her contributions to this work. Her ongoing prayers, forbearance, friendship, and love have been and are a great support to me in my research and writing.

Chapter 1

Practical Wisdom and Economic Models of Choice

Every art and every inquiry, and similarly every action and pursuit, is thought to aim at some good.

Aristotle (1941a, 1.1)

The first line of Aristotle's *Nicomachean Ethics* ought to warm the heart of every economist. Here is a philosopher who begins by observing that people, when they act, are aiming at something they think is good. This rings true in the ears of economists, who regularly assume that people have objectives they seek to achieve in their actions. Of course, the Aristotelian account of human behavior is much richer than the maximization of utility subject to constraints (and some Aristotelians object in strong terms to the utilitarian economic account), but it begins in the same place: with human agency.

Beginning with this basic observation, Aristotle proceeds to develop an intriguing account of human action, which brings into play those faculties that humans share with animals along with a faculty that is uniquely human—reasoned self-awareness. His account is the foundation for a philosophical tradition, upon which Aquinas (1948) and modern interpreters build (Bowlin 1999; Finnis 1980; Flannery 2001; MacIntyre 1999; Stump 2003; van Staveren 2001). Human action in the Aristotelian tradition brings into play an impressive array of factors: knowledge, wisdom, technical skill, habit, weakness of will, friendship, and uncertainty. To be sure, it does not exhibit the mathematical exactness of the economic model, but what it lacks in precision, it makes up for in its comprehensive vision; there is no self-conscious simplification in the Aristotelian account. It is open to every human reality relevant to human action, including those realities revealed by economic science.

No economist denies that the economic model of the person abstracts from the comprehensive reality of choice. Unlike the Aristotelians, economists are not attempting to give an all-embracing account of human behavior, accurate in all its details. Simplification promotes the positive goals of economics: prediction and explanation of individual behavior and market outcomes. Nevertheless, because both economics and the Aristotelian accounts of choice are rooted in the reasoned pursuit of personal goals, fruitful communication between the accounts seems natural.

What sorts of productive exchanges can take place between a self-consciously simplified social scientific account of choice, whose purpose is the understanding of behavior in markets, and a comprehensive philosophical account of human choice, whose purpose is the understanding of human agency in all of its aspects and implications? Three kinds of exchange are possible:

1. The Aristotelian tradition ought to incorporate insights from economics, particularly what Sen (1987, p. 8) calls "the nature of social interdependence"—the nature of the undirected outcomes of market interaction. The formalized, abstract analysis of economics has made possible insights into markets and human interaction that are relevant to any account of human choice in society that purports to be comprehensive.
2. Because the Aristotelian account is more comprehensive than the economic account, it is a potential source of new hypotheses for economics. When faced with phenomena that the current generation of economic models cannot explain, it is natural for economists to turn to alternative accounts of human choice for new assumptions. These alternative accounts often come from other social science or natural science fields (as in the case of behavioral economics, economic sociology, and evolutionary economics), but philosophical accounts are potential sources of new modeling direction, too.
3. Economics can learn from the more comprehensive account of human behavior what its limits are—about which aspects of human behavior are beyond the reach of the mathematical models of economics.

It is this third potential exchange between Aristotelian and economic accounts of behavior that is the focus of this book. I do not mean to slight the first two sorts of exchanges; the Aristotelian tradition can be enriched by the incorporation of the economic understanding of the nature of market interactions, and economics may find in Aristotelian accounts of choice a rich source of alternative assumptions for its models. Nevertheless, economics can learn much about its limits from Aristotle, who describes aspects of choice behavior that cannot be precisely modeled, and who begins his reflections on human action with a warning not to seek more precision than the topic warrants.

Economists do not think much about the limits of their models. In part, this lack of interest stems from a professionally ingrained disdain for the realism of economic assumptions. Economists are comfortable with the need to simplify their account of human behavior; as a result, they are not particularly curious about the distinction between what they cannot model and what they can model but choose not to for the sake of analytical ease. The distinction is important, however, because it affects the nature of economic analysis, and the attitude of economists toward other modes of inquiry into human behavior—modes that may capture aspects of behavior that are invisible through economic lenses.

Economists may be forced to simplify for two very different reasons, each of which has very different implications for economic analysis. First, it may be that it is possible to model human behavior fully, but that the benefits of improved prediction and explanation are not worth the substantial costs of increased mathematical complexity. In this event, there are no gaps in the model of the person except those deliberately left there by economists—all behavior can be modeled, but the tradeoff between more complete insight and ease of application often justifies simplified models. On this account, as innovations in computer models and mathematics reduce the cost of more complex modeling, we should expect more realistic models of human motivation and behavior, and richer insights into human behavior and economic phenomena.

This first justification for simplicity has a certain plausibility; economists leave things out of their models—things they might include—in order to generate sharper insights into particular aspects of larger problems. Already, economists are comfortable leaving out of models certain aspects of decision making that they know well how to include, but whose inclusion would mask the insights they wish to highlight. For example, household production is left out of many labor market search models; transportation costs are left out of many trade analyses. Economists are used to these compromises, and qualify the results of simplified models with the caveat that more complex analyses may modify their conclusions.

This plausible justification for simplification begs an important question, however: are there aspects of human behavior that cannot be modeled in the economic framework, using the analytical concepts of objective functions (however complicated), constraints, strategy, and risk? As our models become more sophisticated, and our computing power continues to grow, are there any aspects of human behavior that will remain hidden from even the most aggressive attempts to model them? If this is the case, then there is a second reason for simplification. To "simplify" means to accept inherent limitations in our ability to model human behavior. Simplification is no longer the result of a cost-benefit analysis of model complexity. It is not a case of researchers choosing not to model behavior because it would be too analytically costly to do so; it is instead a case of researchers confronting aspects of choice behavior that lie outside of the domain of the economic model—aspects that will always be mysterious to those committed to the optimization of objective functions subject to constraints.

Two consequences follow from the admission that important aspects of human behavior cannot be captured, even by sophisticated economic models. First, economists cannot hope to offer a comprehensive account of human behavior in society with the tools they have chosen. This limitation on the prospects for positive analysis has important normative consequences; statements about the impact of policies on human well-being are only as good as the positive description of human well-being on which they are founded. Policy advice based on models of human choice that leave out important aspects of human well-being must be incomplete and partial. Second, the recognition that there are uncloseable gaps between the economic model of the person and the reality of the person ought to encourage economists to accept that there are other approaches to human behavior which may fill in the gaps left by economics. These alternative approaches may become a rich source of hypotheses for economists, precisely because they approach human decision making from another direction. The contributions of disciplines that are not as mathematically rigorous as economics—survey research, philosophy, and even the humanities, for example—deserve respect to the extent that they offer insights into human behavior and the human constitution that are inaccessible via economic methods.

This book is an exploration and description of the limits to the economic model of the person. Crucial to this project is a careful account of human action and motivation that is both nonmathematical and comprehensive. The two requirements are related: any attempt to give a comprehensive account of human action capable of serving as a target for economic models must go beyond mathematical formalisms. The Aristotelian tradition's description of human action governed by practical wisdom (Aristotle 1941a; Aquinas 1948; Finnis 1980; Simon 1991; McInerny 1997; Stump 2003) satisfies these two requirements. It is both comprehensive and nonmathematical.

According to Aristotle (1941a, 6.5), "practical wisdom" (or "prudence") is "a reasoned and true state of capacity to act with regard to human goods." Practical wisdom is the intellectual capacity by which a person "acts"—that is, by which a person deliberates about and achieves his or her goals. To the extent that human beings reflect on their actions, practical wisdom comes into play. Because human beings have both reason and will, they can think about what their ends are and about how to realize those ends in given circumstances, and they can order their actions toward those ends.

Practical wisdom makes universal goods (what is good for people in general) real in concrete circumstances (this person's good at this time in this place). Because what is good for a person depends crucially on circumstance, practical wisdom is inescapably particular. It resists the universalizing, formalizing tendencies of modern ethics and social science. Consequently, it is rarely honored, or even acknowledged, in the modern academy. Harriman (2003) asserts that practical wisdom is ignored in the modern academy because it "runs afoul of basic criteria of modern rationality: prudence [practical wisdom] antedates the fact-value distinction; it is difficult to quantify; it is largely retrospective; it is necessarily parochial; it is prescriptive; it is too general; it focuses too much on individual personality" (p. 18).

Practical wisdom provides an alternative account of human choice, to which economic models can be compared. Because practical wisdom has premodern roots, it transcends formalistic Cartesian approaches to knowledge. This makes the comparison between practical wisdom and rational choice potentially more fruitful. The brief account of practical wisdom given here will necessarily emphasize those aspects that are most likely to contrast with the economic account of choice: the nature of the ends of practical wisdom; the necessity to act in highly contingent environments; practical wisdom as virtue; the synthetic character of choice; and the social location of practical wisdom.

The challenge of this book is threefold. First, I must justify the project. It is not obvious to most economists that there is anything in human behavior that their methods might miss if they applied themselves to modeling it fully. Most economists relish the challenge of finding a rational choice explanation for even the most unusual behavior, and will be skeptical that there are aspects of human behavior invisible to their methods. Second, I must give a clear account of practical wisdom, emphasizing those aspects of practical wisdom that resist mathematical modeling. Third, I must give economists their due by documenting the creative attempts of economists to explain human choice on the boundaries of practical wisdom, in order to map the limits of economic models. The rest of this chapter outlines how I intend to meet these challenges.

Chapter 2 is a justification for the need to compare economic models against the background of a philosophical account of choice. Economists often acknowledge that their models are an "approximation." For this term to have any meaning, however, we need an account of the reality being approximated. I call this account a "background account" of choice. When economists do not reflect on the nature of this background account, it is natural that they implicitly adopt a background account that is simply a more complex version of the approximations they employ. In this way, for example, the optimization of well-specified objective functions subject to constraints becomes a default background account, and anything falling outside of that account becomes invisible to the modeler. To avoid the unthinking adoption of reductionist approaches as more comprehensive accounts, it is crucial that we have access to background accounts of choice that at least have the possibility of being more comprehensive than the economic account—that have the possibility of embracing a wider range of behavior than can be modeled by the optimization account.

Chapter 3 introduces the Aristotelian tradition's concept of "practical wisdom" as a background account of choice. According to Aristotle (1941a, 6.5), practical wisdom is "a reasoned and true state of capacity to act with regard to human goods." By "Aristotelian," I mean the philosophical reflection on human action initiated by Aristotle in the *Nicomachean Ethics* (1941a), as refined by Thomas Aquinas in the *Summa Theologica* (1948), together with the body of modern reflection (e.g., Finnis 1980; Bowlin 1999; Flannery 2001; Stump 2003). I emphasize those aspects of the Aristotelian tradition that are most pertinent to its value as a background theory of choice for economics. Practical wisdom integrates reason and animal nature, and thereby offers an account in which emotion, habit, and the cognitive limitations of humans play a crucial role, without turning to a deterministic, materialist account in which reason plays no role. Practical wisdom resists complete formal description: it is neither a technique for which detailed rules can guide conduct, nor is it purely theoretical and deductive. It is the separation of practical wisdom from technique and theory that makes it suitable as a background account; its object is the human good (so it addresses the same subject matter as economic rationality) and it is not fully formulable (so it can serve as a background against which the limits of formal mathematical accounts can be gauged).

Chapters 4 through 8 each outline the extent to which economic models might capture, or fail to capture, some aspect of practical wisdom. In Chapter 4, a comparison of the objective function in economic models and the ordered chain of goods in the Aristotelian account suggests several shortcomings in the economic account, some of which can be overcome by mathematical models, and some of which cannot. First, the assumption that economic agents know the content and structure of their objective functions is problematic. The material goods X, which are arguments in the utility function $u(X)$, are easily measured, but the outputs are not. Even the higher order goods in Becker's household production functions (such as dinner parties and education quality) are imperfectly measured. Because the value of the Xs depends crucially on the human goods that are promoted by the Xs, and because these human goods are discovered through experience and through the advice of others, the utility function itself develops through the experience of choice. Second, even knowledge of the ultimate goods—life, truth, religion, beauty, and friendship, for example—does not make those goods comparable. It is not clear how a reasoned case can be made for trading off one ultimate good against another. This incomparability introduces incompleteness into the relationship among ultimate goods, and their connection to an overarching value: happiness. This incompleteness makes room in the account of choice for expressive rationality and identity. The choice of a constellation of ultimate goods commits the economic agent to a way of life, to a particular way of realizing human goods. This expressive function of reasoned choice is not arbitrary, nor is the autonomy of choice it grants unbounded. It is bounded by the nature of the goods chosen and the circumstances within which the choice is made.

Chapter 5 compares the economic concept of risk to the concept of contingency in the Aristotelian tradition. Expected utility theory is an attempt to incorporate probability theory into the account of choice under uncertainty in a way that preserves a single-valued utility function. Recent critiques of the expected utility model have created a tremendous ferment in economics, giving impetus to the rise of behavioral economics in general and to behavioral finance in particular (Camerer, Loewenstein, and Rabin 2004). Without denigrating the value of these new approaches to choice under uncertainty, I suggest that the new approaches are not themselves comprehensive background accounts, and that the Aristotelian account can offer a glimpse at what is missing in the field. Because the Aristotelian account never incorporated probability theory or formal mathematical methods into its descriptions of choice, its starting point is the individual's encounter with contingency. As a result, the ways in which contingency is handled are not analytical; the Aristotelian account does not turn to better data or diversification in the face of uncertainty. Rather, the Aristotelian account calls attention to the virtues, or habits, by which uncertainty is negotiated successfully: due caution, shrewdness, and docility, for example. When contingency is redefined as risk, the virtues that are part of practical wisdom disappear amid the formalizations of the optimization approach.

Chapter 6 explores the role of virtue in the Aristotelian account, and evaluates the ability of economic theory to capture virtue. The Aristotelian virtues are not simply states of mind, or preexisting abilities to handle uncertainty and to make decisions; they are habits that can be developed through repetition, and that can erode through neglect. The virtues introduce a complexity into decision making—a potential disconnect between the objectives of action and the motivation to pursue those objectives, between the objectives of action and the intellect's ability to recognize those objectives. Economics is beginning to develop concepts with which it can address the role of the virtues in decision making, and the role of habit and character in the economy. Nevertheless, because economists are deeply averse to normative evaluation, they are unable to fully take into account notions of freedom that go beyond an absolute freedom to choose, to distinguish between the freedom of the person to choose whatever she wants—whether these choices are driven by passion or by reason—and the freedom of the person to choose what she has reason to value.

Chapter 7 addresses the synthetic nature of choice in the Aristotelian account. By definition, something is necessarily lost when a social scientist simplifies reality in order to analyze it. Moreover, all too easily, those parts of reality stripped from our models become "extraneous." In actual decisions, however, nothing can be ruled extraneous beforehand, in order to make the decision "tractable." In making actual