

The normative foundations of scarcity

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Abstract

The elevation of scarcity to the fundamental economic problem rests on some unstated normative assumptions. These include a political commitment to private property, a methodological commitment to not inquire about taste formation, and the idea that human welfare is roughly equivalent to preference satisfaction. The problem arises because current methodology is based on certain positivist principles, and needs revision in light of subsequent collapse of positivism.

1. Introduction

Foucault's research reveals that "modern human sciences (biological, psychological, social) purport to offer universal scientific truths about human nature that are, in fact, often mere expressions of ethical and political commitments of a particular society".¹ Our goal in this paper is to argue that the current grounding of economic theory in the apparently objective, neutral, and widely observable condition of scarcity is actually based on certain underlying methodological, ethical and political commitments.

Lionel Robbins (1932) argued the economics was not about "material welfare: the provision of goods to further prosperity and development" but rather, it was about "scarcity: the provision of goods to fulfill all wants", whether conducive to welfare or not. His arguments came to dominate the field, and drove earlier conceptions out of sight; see Cooter and Rapoport (1984) for details. Nearly all modern conventional textbooks use scarcity as the fundamental defining problem of economics. For instance, the opening paragraph of a microeconomics textbook by Perloff (2001) states that: "If each of us could get all of the food, clothing and toys we wanted without working, no one would study economics. Unfortunately, most of the good things in life are scarce – we can't all have as much as we want. Thus scarcity is the mother of economics".

Both logical positivism and Weber's idea that social science must be value-free strongly influenced the development of economic methodology in the early twentieth century. The full implications of the subsequent collapse of logical positivism have yet to be absorbed. Even deeper is the realization that facts and values often cannot be sharply separated. Even Quine, whose attack on the 'two dogmas' of empiricism was influential in destroying positivism, did not accept the idea that values were also involved in the formation and formulation, as well as acceptance and rejection, of scientific theories. Putnam (2002) provides a detailed exposition of these ideas, and shows how aesthetic and epistemic values of elegance, simplicity, coherence, power etc. are inevitably involved in the selection of scientific theories.

Some statements are clearly factual and objective, while others are clearly evaluative and normative. It does not follow that all sentences can be classified into one or the other category; see Mongin (2006) for several illustrations. Deeper examination, as in Hausman and McPherson (2006), shows that facts and values are entangled and cannot be separated in a large class of statements central to economic theories. As a whole, there has been only

¹This is a paraphrase of the entry for Michel Foucault in *Stanford Encyclopaedia of Philosophy* (accessed 23 February 2008): <http://plato.stanford.edu/entries/foucault/>; it has since been revised, but because it so aptly describes our main theme in this paper, we have retained the quote.

peripheral recognition of these issues among economists. A recent survey by Hands (2009) concludes that: “So most modern economists generally consider rational choice theory to be a positive, not a normative, theory; endorse the position that normative statements/concepts should be prohibited from scientific economics; and equate normative theories/presuppositions with ethics.” Learning to think without the empiricist dogmas that have been part of our training is a real challenge, with correspondingly great potential promise. Paraphrasing Putnam (2002), developing a methodology that takes into account the collapse of positivism as well as the collapse of the fact/value distinction will open up “a whole new field of intellectual possibilities in every important area”. In this paper, we hope to demonstrate the necessity of pursuing developments along these lines by showing how values are built into the foundations of modern economic theory.

2. Logical positivism and the elimination of values

The emergence of scientific knowledge in conflict with, and as a rival to, religious knowledge, led to a study of the ‘demarcation problem’ – how to differentiate (and prove the superiority of) scientific knowledge from other types of knowledge. This program reached a highly successful culmination with the emergence of the philosophy of logical positivism in the early twentieth century. Here ‘successful’ means that the philosophy was overwhelmingly accepted by scholars for a large part of the twentieth century, not that it was correct. Indeed, subsequent investigations revealed so many difficulties that even its main proponents were forced admit that it was nearly “all wrong”.² For example, a modern empiricist Van Fraassen (1980, p. 2) writes: “Logical positivism... even if one is quite charitable... had a rather spectacular crash”. Suppe (1977) provides the epitaph, a detailed and comprehensive discussion of reasons why empiricism was eventually abandoned by philosophers.

According to the positivist philosophy, scientific statements were based on observations and logical deductions from them. Statements that could not be verified or disconfirmed by observations were meaningless. In particular, values, ethics and moral judgments were not scientific, and in effect meaningless, except as an expression of an emotional attachment. This effectively relegated a huge portion of existing knowledge, which included religious knowledge, to the dustbin. Julie Reuben (1996) writes that:

In the late nineteenth century, intellectuals assumed that truth had spiritual, moral and cognitive dimensions. By 1930, however, intellectuals had abandoned this broad conception of truth. They embraced, instead, a view of knowledge that drew a sharp distinction between ‘facts’ and ‘values’. They associated cognitive truth with empirically verified knowledge and maintained that by this standard, moral values could not be validated as ‘true’. In the nomenclature of the twentieth century, only ‘science’ constituted true knowledge. Moral or spiritual values could be ‘true’ in an emotional or nonliteral sense, but not in terms of cognitively verifiable knowledge. The term ‘truth’ no longer comfortably encompassed factual knowledge and moral values.

² Ayer, a leading positivist in his youth, later remarked about Language, Truth, and Logic that it was “all wrong” – http://www.newworldencyclopedia.org/entry/A.J._Ayer (accessed 25 September 2009).

In this section, we briefly discuss three powerful and widely believed positivist arguments for keeping values out of scientific discourse. Variants of all three are contained in the following quote from Ayer (1936):

We can now see why it is impossible to find a criterion for determining the validity of ethical judgements. It is not because they have an 'absolute' validity which is mysteriously independent of ordinary sense-experience, but because they have no objective validity whatsoever . . . They are pure expressions of feeling and as such do not come under the category of truth and falsehood. They are unverifiable for the same reason as a cry of pain or a word of command is unverifiable [as a statement] – because they do not express genuine propositions.

2.1 Positivist objections to values

Hausman and MacPherson (2006, Introduction) provide a more detailed discussion of all three of these objections and answers to them.

1. Values are not scientifically meaningful because they do not correspond to any observable phenomena ("independent of sense experience", Ayer).

The positivist idea that facts must be verifiable by confrontation with direct experience ran into trouble with gravitational fields, charges on electrons, and many other theoretical entities that could not be parsed out of existence as being convenient shorthand descriptions of sensory data. Mathematical concepts are meaningful even though they do not correspond to any observable entities, and are not *analytic* in the sense that the positivists sought to show. Putnam (2002) provides a sophisticated philosophical discussion, while Hausman and McPherson (2006) provide an intuitive approach. The upshot is that concepts like charges, cruelty, alienation and exploitation can be meaningful without having any direct connection with observable entities. Indeed, the charge of ambiguity and meaninglessness applied to ethical values can be reversed; Putnam and Walsh (2010, draft) cite an observation of White that the concept of 'stealing' seems crystal clear, when compared with the central positivist idea of 'observability', which has been critiqued and re-defined many times and continues to be controversial.

2. A moral judgment is an imperative – a demand for action, or an expression of 'ought' – which cannot be assessed for truth or falsity ("do not come under the category of truth or falsehood", Ayer).

The positivist conception of knowledge as statements to which the binary attribute of true/false is applicable is too narrow. Consider for example, alternative strategies for treating cancer, which have different implications on longevity and quality of life during and after treatment. Like choices among lifestyles, comparative statements like "strategy A is preferable to strategy B" may not have truth values, but nonetheless fall within the scope of scientific investigation. Subjective evaluation of relative tolerance of different potential side effects must be combined with gathering data on past comparable cases, and making inferences to potential probabilities of different outcomes. A more striking example arises from the Gödel undecidability of the continuum hypothesis (CH); see Cohen (1967) for a lucid presentation. Both CH and its negation are consistent with the Zermelo-Fraenkel axioms for

set theory, and therefore neither true nor false. Both Cohen and Gödel came to the view that choice among the two must be based on intuitive grounds.

The naïve view that empirical and objective issues can be isolated, and studied in separation from the value based and subjective issues can be challenged on many grounds. Some aspects of the complex interdependence between preference, beliefs, welfare, and normative policy choices are explored in Hausman and McPherson (1994, and also 2006 Section 8.3.1.).

3. Value judgments are subjective, arbitrary and cannot be discussed rationally. There is no way to resolve disagreements (“unverifiable... as a cry of pain”, Ayer).

To refute these positivist views, widely echoed in popular economics textbooks, it is enough to cite Sen (1987), Putnam (2002), as well as Hausman and McPherson (2006) both as counterexamples (rational discussions of value judgments) and refutations (they show how to discuss value judgments rationally). This positivist idea is predicated on the possibility of sharp separation of facts and values. Mongin (2006) and Putnam (2002) give several examples of statements that generate substantial controversy regarding whether they should be classified as facts or values. At the same time, it is easy to give examples of value judgments, which command substantially greater consensus.

2.2 Current philosophy of science

As we live and learn, we acquire a large amount of knowledge about the world we live in. The positivists conferred a special status on scientific knowledge, acquired by observation of indisputable facts and built upon by solid logical inference. Intuitively, I feel just as certain about my knowledge that it is wrong to wantonly murder innocents as I do about my knowledge that the walls around me are painted yellow. Positivists sought to show that the first kind of knowledge (of values) was an illusion and ‘meaningless’.

After describing the “spectacular crash of logical positivism,” and the “shifting sands of philosophical fortune”, Van Fraassen (1980, p. 2) devotes his book to the study of “what problems are faced by the *aspiring* empiricist today?” (italics in the original). The conclusions are surprisingly weak and tentative, and a far cry from the confident and sharp assertions of the early positivists. Philosophers of science have not abandoned the idea of establishing the superiority of scientific knowledge. The editors of the Handbook of the Philosophy of the Social Sciences set out to establish the distinguishing characteristics of scientific knowledge. In a review of this Handbook, Agassi (2009) writes that “it reflects fairly well the gloomy state of affairs in this subfield”, and describes the large number of unresolved controversies in the field.

The Pragmatic Tradition in philosophy was eclipsed by positivism through most of the twentieth century, but is now enjoying a revival. One of the key claims of this tradition is that all of our knowledge (scientific, religious, moral, social, etc.) is similar. Thus, as Agassi (2009) writes, “there is neither need nor possibility to justify science and forbid dissent from it”. Acceptance of this point of view would lead to a dramatic shift in the current methodology of economics – our knowledge of ‘science’ and ‘values’ are based on the same epistemological principles, and hence the exclusion of values from scientific discourse is arbitrary and unjustified. Some object to the idea of the epistemological parity of scientific and ethical theories because they do not see how to explain the possibility of ethical knowledge. Putnam

(2002, p. 45) raises this objection as the reason the fact/value dichotomy is tempting, and gives a surprising answer:

The very idea of explaining in absolute terms how ethical knowledge is possible... seems to me ridiculous. ...it seems impossible to explain how *thought, belief, and reference* is possible. ...Indeed, the long history of failures to explain in metaphysical terms how mathematics is possible, how nondemonstrative knowledge is possible (the so-called 'problem of induction'), and so on, suggests that nothing much follows from the failure of philosophy to come up with an explanation of *anything* in 'absolute terms'.

The attempt to keep economics 'scientific' and 'value free' has meant that values have been buried out of sight in the framework chosen and in the methodology. We will try to dig these values out from underneath the foundations of scarcity.

3. The three pillars of scarcity

In this section, our goal is to establish that mainstream economic theory is committed to three norms that serve to make scarcity the central economic problem. We also sketch a history of how these norms were adopted in economic methodology. The first of these three is a commitment to private property; the political nature of this commitment is clear from the existence of societies with radically different notions of property. The second is a methodological decision not to investigate the formation of tastes. This demarcates a discipline boundary, and is a methodological norm. We are defining what an economist should and should not study, and textbooks argue that this is the proper role of an economist. The third pillar is the equation of welfare with preference satisfaction. This means that economists should try to satisfy preferences of all members of the society. Before proceeding, it is important to clarify that we use norms in a much broader sense than just 'ethics' or 'morality'. Also, the significance of examining the history of thought requires some justification, presented below.

Why study history of thought? The positivist view of science as a collection of universal truths, arrived at by logical deductions from indisputable facts, allows no role for history. Closer examination reveals that the 'under-determination' of theories by observations is ubiquitous; see [Rashid](#) (2009) for an illuminating discussion. When a variety of theories fit all available observations, choice among them must be made on other grounds. Kuhn (1970, p. 4) writes that "an apparently arbitrary element, compounded of personal and historical accident, is always a formative ingredient of the beliefs espoused by a given scientific community at a given time". It is in light of this non-positivist understanding that it is useful to examine the history of thought. It highlights the historical contingency of apparently universal truths.

The definition of social norms: In order to function, every society must reach agreement on many issues, including ethical, social, political and legal structures. The set of implicit and explicit agreements as to how the society will be governed, how disputes will be settled, which types of education will be recognized as entitlements to jobs, which side of the road to drive on, behaviors which will be approved and those which will be subject to social or legal sanctions, etc. can all be termed part of the 'social contract'. Universally agreed upon elements of the social contract form part of the foundational framework in which discussions are carried out, and often remain unexamined. Putnam (2002) has emphasized that social

norms (all elements of the social contract) include judgments about relative aesthetic values of different scientific theories, agreements about methodological principles, and are not restricted to ethics and morality, the traditional areas covered by the Ten Commandments.

3.1 Locke's theories of property

The institution of private property is taken for granted, and alternatives do not receive serious discussion in most economics textbooks. Neoclassical models describe an abstract economy where all agents possess certain endowments. Common ownership and shared resources create 'externalities' and are ruled out *ab initio* in simpler models. How agents came into possession of their endowments, and whether the society can or should pool resources to solve economic problems does not receive any discussion. We sketch some key historical developments that led to the emergence of current widespread social norms regarding private property. More recently, the extension of these concepts beyond the paradigmatic 'land' has led to renewed interest among economists. See Dragun (1987) for a survey.

Philosopher John Locke was among the leading architects of modern thought. Locke's theories of property are his most important contribution to political thought. Variants of these theories continue to provide the philosophical basis for capitalist economies to this day. One of the key ideas is that private property exists as a natural right of human beings *prior* to the formation of governments. Furthermore, legitimate governments are created by mutual consent of citizens so as to protect the natural rights of the citizens. For example, Locke (1690) writes that: "The reason why men enter into society is the preservation of their property".

One of the main goals of secular political thought is to allow people with different religions to coexist peacefully under a common rule of law. An essential ingredient in achieving this goal is the idea of individual freedom. To make room for diverse religious rules, we allow for maximum possible freedom compatible with a social order. Thus the social contract in general is not subject to a priori constraints. Any set of rules that all people agree to will serve. So this move of providing privilege to property so that it is not subject to the social contract is a bit odd. When we negotiate among ourselves to create common rules to live by, we may not discuss the idea of private property. Locke (1690) writes that those entering into a social contract "*cannot intend to give any one or more an absolute arbitrary power over their persons and estates, and put a force into the magistrate's hand to execute his unlimited will arbitrarily upon them*". Locke requires both "persons *and* estates" to be protected from the arbitrary power of any magistrate, inclusive of the "power and will of a legislator". Depredations against an estate are just as plausible a justification for resistance and revolution as are those against persons.

Why did Locke's theory of property emerge as the dominant one in England, eventually removing all alternatives from view? History provides important clues. Battles among monarchs were common, and taking property from the losers and awarding them to supporters was extremely common. Cromwell's rebellion was a watershed event in British history. Even though monarchy was eventually restored, the power of the landed aristocracy against the monarchs was firmly established and continued to increase after this time. Secure property rights for landowners, not subject to the arbitrary will of monarchs, supported this power configuration and therefore emerged as the dominant theory. Tawney (1926, Chapter 3) provides details of how political and religious upheavals in the post-Cromwell world made possible the social revolution created by the movement of 'enclosures,' or the privatization of

public property. [Kogl](#) (2005) summarizes how ‘enclosures’ of common lands in the post-Cromwell period led to the emergence of modern notions of private property. This political commitment to private property is an essential ingredient in the emergence of scarcity as a central economic problem of a society.

3.2 *De gustibus non est disputandum*

It is a methodological decision on part of economists not to analyze tastes. For example, Samuelson and Nordhaus (1989, p. 26) state that economists “must reckon with consumer wants and needs whether they are genuine or contrived”. Note the imperative form, which nonetheless appears meaningful, and subject to rational argument. Similarly, Stigler and Becker (1977) make the normative claim: “Tastes are the unchallengeable axioms of a man’s behavior”. An economist is not allowed to question how tastes and wants are determined. Stigler and Becker (1977) also write that “On the traditional view an explanation of economic phenomena that reaches a difference in tastes between people or times is the terminus of the argument: the problem is abandoned *at this point* to whoever studies and explains tastes (psychologists? anthropologists? phrenologists? sociobiologists?)”. This delineates a sharp discipline boundary, and a subliminal suggestion that it is not altogether respectable to study tastes.

Modern textbooks reflect this methodological commitment by taking utility functions as given. The origins, causes, flexibility, variations and intensities of these preferences are not the subject of economic analysis. Cooter and Rapaport (1984) provide a history of the transition from cardinal to ordinal utility, and argue that contrary to what is widely believed, this did not represent scientific progress. Similarly, Wong (2009) argues that Samuelson’s attempt to replace ordinal utility by ‘revealed preference’ fails to achieve its methodological goals. It is this last transition, discussed in greater detail below, which led to the idea that we cannot question tastes. Attempts to study how tastes are formed, how they change, and how they relate to satisfaction, welfare, happiness, etc. require going beyond observable choices, and hence are not ‘scientific’ according to positivist views.

3.2.1 Positivism leads to revealed preference

The positivist program of focusing on observables alone was extremely influential in the development of all sciences in the twentieth century. For instance, behavioral psychologists sought to study observable behaviors instead of unobservable emotional states. Similarly, economists sought to replace cardinal utility based on unobservable states of satisfaction and pleasure with more scientific and observable counterparts. This is why the Hicks-Allen reformulation of utility theory, which showed how all relevant economic concepts could be formulated using ordinal utility was hailed as a ‘revolution’.

Because ordinal utility is still based on the unobservable preferences of the consumer, the attempt was made to replace it with observable choices. Samuelson (cited in Wong, 2009) writes of “The discrediting of utility as a psychological concept” as the reason for his development of ‘revealed preference’ theory. Wong (2009) provides an illuminating discussion of the methodological developments which led to ordinal utility and onwards to revealed preference. He has also shown how this research program fails in its methodological objectives. Because of the close correspondence between choices and preferences, assumptions about choices amount to assumptions about preferences. The mathematical

equivalence of ordinal utility theory with revealed preference theory was demonstrated by Houthakker (1950).

3.2.2 Errors of positivism are reflected in revealed preference

Since choices reflect preferences, we cannot avoid reasoning about unobservables by focusing on choices alone. Any observable patterns in choices can only be due to patterns in the underlying preferences; if preferences do not exist (or are complex, conflicting and incomplete) then choices would not be subject to any logic at all. This issue is still not clearly understood by many. For example, Binmore (2009) writes: "We accept that people are infinitely various, but we succeed in accommodating their infinite variety within a single theory by denying ourselves the luxury of speculating about what is going on inside their heads. Instead, we pay attention only to what we see them doing". Binmore, like Samuelson before him, fails to recognize that assumptions about (or descriptions of) choices are necessarily assumptions about preferences, or motivations for these choices. If observable choices follow simple rules, then motivations of people are *not* infinitely varied in the context under discussion. We focus on choices because of our strong intuition that the underlying preferences are stable enough to build a theory upon. Modern utility theory places strong, testable, and falsifiable restrictions on choice behavior, and by implication, equally strong restrictions on possible motivations for these choices. Therefore, Binmore's assertion that "modern theory of utility makes a virtue of assuming *nothing whatever* about what causes our behavior" is not correct. In fact, extrapolations, predictions and explanations of patterns in choice behavior are *only* possible if we postulate underlying preferences which give rise to these patterns. Wong (2009) provides a more detailed and complete discussion.

3.3 Welfare is preference satisfaction.

Lerner (1971) writes that "as an economist I must be concerned with the mechanisms for getting people what they want, no matter how these wants were acquired". Similarly, Samuelson and Nordhaus (1989, p. 2) write that economists "must reckon with consumer wants and needs whether they are genuine or contrived. Shakespeare's King Lear said, "Reason not the need" – and economists do not; rather they analyze how limited goods get rationed among whatever wants a society generates." After establishing that classical economists did not share these views, Hausman and MacPherson (2006) describe the transition to these modern views as follows:

In modern economic theory as developed in the 1930s, economists put aside substantive conceptions of well-being, such as wealth or happiness. Because they found that the basic propositions of demand theory and consumer behavior could be accounted for simply by supposing that people had stable preference rankings with certain properties, most economists took well-being to be the satisfaction of preferences.

If we follow positivist dicta, it is almost inevitable that we will equate welfare with preference with choice, since only choices are directly observable. Also, avoiding discussion of the deep and complex notion of human welfare creates the impression that we take no stand on this issue. In fact, discussions of market failures, optimal taxation, advantages of free trade, etc. are all predicated on implicit views about human welfare. Hausman and Macpherson (2006, Chapter 8) make these views explicit and provide a clear and detailed discussion of how

these are not tenable. Below, we briefly examine some objections to the 'standard view' of human welfare implicitly espoused in modern economic theory.

1. It is immediately obvious from introspection that welfare, preference and choice are three different things. Spinach is good for me (welfare), but I may prefer ice cream. I may override my preferences and choose spinach to please my mother. Because mental states are not observable, Ayer initially denied their existence. He later recanted, saying that denying the existence of my own internal mental states is tantamount to 'feigning anesthesia'; logical consistency demands accepting the same for others.
2. Cooter and Rapaport (1984) write that classical authors regarded utility from consumption as being based on observables like health and productive capacity rather than internal mental states. Thus objective and quantifiable measures of welfare are available. Construction of indices of well-being based on ideas of Sen, Mahbubul-Haq, Nussbaum, and others is an active area of research.
3. In practice, governmental bodies routinely arrive at consensus on 'basic needs', which can be considered as the most urgent preferences. Such consensus is required to design welfare programs in operation in most countries. Thus as a purely empirical matter, people can argue, resolve disputes and arrive at consensus regarding welfare.
4. For assessing welfare, it is crucial to distinguish between needs and wants. Restricting attention to choices make it impossible to make this distinction. Raiklin and Uyar (1996) argue that eliminating the needs/wants distinction "has meant also that the moral and social implications of such comparisons and discussions could be kept out of economic theory and analysis".

4. Alternatives to scarcity

We have discussed how modern economic theory is based on a political commitment to private property, a methodological prohibition on exploring taste formation, and a preference satisfaction view of human welfare. We now show how considering alternative commitments has the potential to replace scarcity as the fundamental principle of economic theory. This will also show some of the new vistas for research opened up by explicit consideration of values.

4.1 Alternatives to private property

The Cherokee Constitution of 1839 states: "The lands of the Cherokee Nation shall remain common property". In a society where land is common property, and provides amply for basic necessities of food and shelter, scarcity would not emerge as the fundamental economic problem. 'Economists' in such a society would probably spend time on studying rules for sharing, and methods for resolving the commons problem, and settling intra and inter-tribal disputes regarding usage of common property. This is made more plausible by looking at the case of England, below.

In England, Polanyi (1944, p.37) has colorfully described the social revolution that occurred as a result of the conversion of commons to private property:

Enclosures have appropriately been called a revolution of the rich that is against the poor. The lords and nobles were upsetting the social order,

breaking down ancient law and custom, sometimes by means of violence, often by pressure and intimidation. They were literally robbing the poor of their share in the common, tearing down the houses which, by the hitherto unbreakable force of custom, the poor had long regarded as theirs and their heirs'. The fabric of society was being disrupted; desolate villages and the ruins of human dwellings testified to the fierceness with which the revolution raged, endangering the defenses of the country, wasting its towns, decimating its population, turning its overburdened soil into dust, harassing its people and turning them from decent husbandmen into a mob of beggars and thieves

Traditional ideas of how to handle sharing of common property were forgotten. Kogl (2005) writes that:

Commons rights enabled persons to meet many everyday needs: not only by pasturing livestock and raising crops in the open fields, but cutting turfs (peat for fuel) and wood (for building and fuel), hunting game, and foraging for wild foods and building materials as well. All these rights were precisely named (e.g. right of turbary, right of botes) and lands were precisely delineated as pasture (mead or meadow), agriculture lands (the open fields), or "wastes" and woods. The precision with which the commons systems defined lands under different types of ownership is reflected in a rich vocabulary – of carrs, gores, selions and so on – that we have largely lost today. The English common property regime was far from a vague, first-come first-served system in which everybody and nobody owned the land.

This shows that institutional and social structures evolve to handle common property rights. Polanyi (1944) has argued at length that market societies are exceptional, and that production and distribution are handled via a variety of different social institutions in non-market societies. Economic problems are formulated and solved quite differently in such societies.

As a third example, consider an idealized communist society, based on public ownership of means of production and an ethical commitment to providing to 'each according to his needs'. In such a society, the central economic problem might well be providing suitable incentives to workers to ensure high productivity. Substantial recent economic literature shows that non-monetary incentives can be more effective than monetary incentives in improving labor productivity; see, for example, Ariely (2008, Chapter 4). This literature, which studies the impact of social mechanisms like gift exchange on efforts put in by laborers, may be a central concern in such economies.

Some would argue, like Fukuyama (1992), that all alternatives have proven non-viable, and history has converged to the optimal economic and political structures of capitalism. However there are several empirical and normative claims within such a statement, which have been discussed at length in associated literatures. In this paper, our purpose is not to discuss the relative merits of alternative arrangements, but merely to show that it is a normative decision for a society as a whole to choose among alternative ways of structuring property rights. Such structures may determine whether we live in wealthy societies with aggressive competitors, high luxury and inequality, or relatively poorer but more egalitarian societies with norms of cooperation and community. The idea that everyone would prefer to live in a wealthier society (since it would be, at least potentially, a Pareto improvement), is itself clearly normative. It is

harmful to bury the normative choices involved and present private property as a fact of nature, a part of a scientific and 'positive' theory.

4.2 Studying the formation of tastes

Putting the study of tastes outside discipline boundaries is not a viable option for economists, despite what Samuelson and Stigler say. We show how different possibilities lead to drastically different recommendations for economic policies.

1. Once basic needs are met, preferences and satisfaction is determined by comparisons with others. If average consumption in the society rises, I must acquire more to maintain the same level of satisfaction. This theory of taste formation has a radical implications for welfare and efficiency of economic policies. This externality in the utility function leads to a rat race. Everyone works hard to get ahead of others, but there is no net gain to society in terms of satisfaction and welfare (except for reductions in poverty). In such a society, encouragement to relax, enjoy life, not be competitive would be effective in increasing welfare. GNP per capita would be a very poor measure of progress; a headcount of the poor would be a more accurate indicator. Scarcity cannot be eliminated by increased production but by reductions in conspicuous consumption and envy, and teaching contentment. Given these radical implications, surely economists cannot afford to be agnostics on this issue.
2. Galbraith has argued that industrial societies over-produce and use advertisements to create artificial demand for the excess supply of products. If this is true, then refusal to analyze tastes serves corporate needs rather than society as a whole. On this view, over-production rather than scarcity is the central problem of industrial societies.
3. It is plausible to suppose that preferences depend on how children are brought up, and that this is subject to social consensus. If our movies lionize Buddha and Mahatma Gandhi, our children will learn to be ascetics. If we portray warriors as heroes, our children will learn to enjoy war. If we teach cooperation, self-sacrifice, generosity and community to our children, they will learn these values. There is substantial empirical evidence to support the idea that social consensus will determine what we consider to be the entitlement of the poor. As Sen (1983) has shown, it is this, rather than scarcity which creates famines.

Again, it is not our goal to argue for any particular theory of taste formation, but just to note that the issue is crucial to topics of fundamental importance in economics. Different theories lead to different roles for scarcity. As such, we cannot afford to place this issue outside the discipline boundaries of economics.

4.3 Direct measures of welfare

As we have argued earlier, modern economic theory implicitly assumes that human welfare roughly corresponds with preference satisfaction. Hausman and Macpherson (2006) have explained in detail why this is highly implausible, and suggested several alternatives. Below we discuss some alternative views on welfare that have the effect of displacing scarcity as the fundamental economic problem.

1. Suppose a society (like the Amish) considers simple lifestyles more conducive to welfare than consumerism. Scarcity or excess of material goods is not of concern except as a means to sustain life. Economists in such a society might formulate the following alternative to the Pareto principle:

Pareto-style longevity principle: A re-allocation of resources improves social welfare if life expectancy of some member is increased, while no one's life expectancy is adversely affected by the change.

This is an objective, apparently value free, criteria with radically different implications for economic policies compared to the standard Pareto criterion. It would re-define the role of scarcity in the economic system.

2. Basic Needs, the capabilities approach of Sen and Nussbaum, and the Human Development approach of Mahbubul Haq, are the intellectual heirs of the material welfare approach of classical economists. Adopting this idea of welfare, as opposed to preference satisfaction, would give 'scarcity' a different meaning. Conventional views hold scarcity to be a result of unlimited wants in pursuit of limited goods. In material aspects, these new approaches to welfare would focus on health, food and water, education, shelter etc. Scarcity would refer to inadequate food supplies, insufficient numbers of doctors, schools, homes, etc. Many studies suggest that material resources are sufficient to meet basic needs for everyone. The fundamental economic problem would then be one of distribution rather than scarcity.
3. Communitarians offer the polar opposite of the individualistic view of welfare espoused by economists. To see how placing community welfare above individual concerns affects scarcity, consider the case of precautionary savings. Suppose every individual has a small risk of a catastrophic event. Suppose also that due to adverse selection, moral hazard, unquantifiable probabilities, or ambiguities in specifying the event, insurance markets fail to exist. In an individualistic society, everyone must save for his potential rainy day, leading to a potentially huge demand for resources. If one can count on community support in case of disaster, far fewer resources would be required, averting scarcity.

In this section, we have demonstrated that replacing any one of the three pillars leads to substantial changes in the role of scarcity within an economic system. This shows how these normative commitments lead to the emergence of scarcity as the fundamental economic problem.

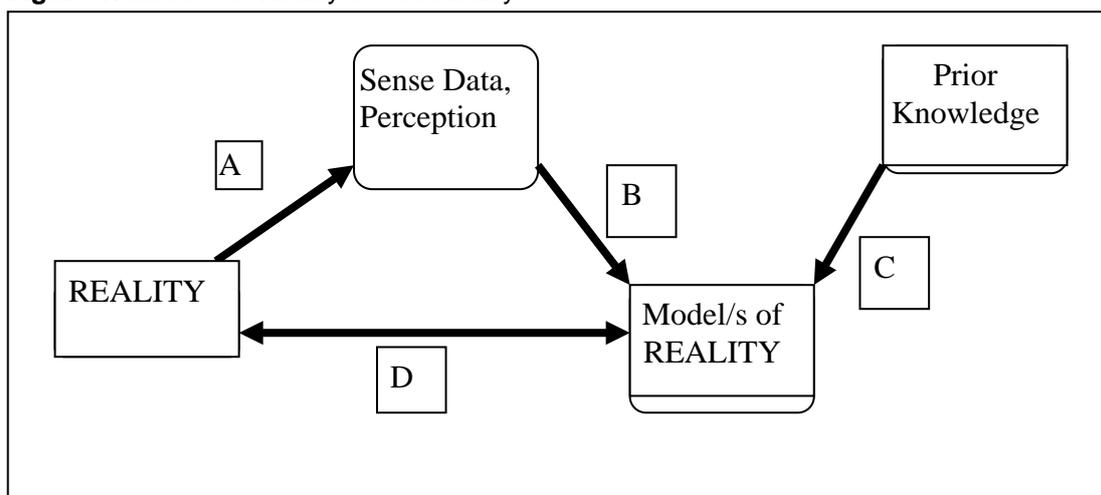
5. Entanglement of facts and values

We have argued that values are implicit in the idea that scarcity is the fundamental defining concept of economics. The idea that facts and values cannot be separated flies in the face of received wisdom in economics. In this section, we present two more general arguments as to why facts and values are inextricably entangled in all scientific theory.

5.1 The unobservability of values

Kant's philosophy prepared the ground for a non-realist understanding of the world, which became the basis of logical positivism. The complex story has been detailed by Manicas (1987), who has also explained how this led to a misunderstanding of the nature of science and scientific methodology. These errors led to the subsequent collapse of logical positivism. Following Gardner (1999), we first summarize aspects of the Kantian philosophy relevant to the fact/value distinction.

Figure 1: Model/s of Reality versus Reality



Reality generates signals that impact on our physiological equipment for detecting our environment as sensory data (A). This sense data is interpreted (by our mind) to create a model of reality (B). The process of interpretation also involves some prior knowledge represented in (C). According to Kant, a central concern of traditional metaphysics was the correspondence between our models of reality and reality itself, labeled D in the diagram. The question “Do electrons, charges, gravitational fields, energy exist?” reflects this concern – do these terms in our models of physics correspond to objects in reality out there? Two key insights of Kant which he termed a “Copernican Revolution” in philosophy are:

1. Negative. It is impossible to assess whether our representation of reality is a faithful and accurate representation of reality. This is because we have no independent access to reality, other than by our models of reality. We can and do construct, compare and evaluate different models of reality along many different dimensions. However, we cannot judge these models on the crucial dimension of which is a more accurate representation of reality, because models are all we have.
2. Positive. One can make progress in epistemology by focusing on (B) and (C), the process by which we transform the chaotic jumble of sense data about the real world into a coherent model of reality.

In accordance with this Kantian insight, “Do electrons exist?” is the wrong question – we can never know whether our models of reality accurately represent what is out there. A more modest question is: “Do electrons help in the process of sorting our sense data into a coherent model of reality?” Here the answer is clearly “yes, currently they do”. But a later theory may come along which dispenses with electrons and creates a more ‘interesting, informative, appealing, or elegant’ picture of reality.

At which point, electrons will blink out of existence, like ether. This pragmatic approach to ontology became the accepted resolution of debates about the existence of unicorns after Russell parsed them out of existence.

Following up on the ground prepared by Kant, logical positivists argued that scientific knowledge is about the relations between mental structures and sense data. Our mind organizes the sense data into patterns, and these patterns are the scientific laws. Every meaningful sentence can be translated into an equivalent statement regarding some collection of observations that confirm this statement. After making this definition of meaning, the positivists observed that there are no observations that can affirm or negate value judgments. Thus, according to positivist criteria of meaning, there are no meaningful value judgments or normative statements. These are merely expressions of emotion, which are human, but not scientific.

As discussed in the introduction, logical positivism suffered a spectacular crash in the mid twentieth century. A definitive epitaph is available in Suppes (1977). We briefly discuss the issues most directly relevant to this positivist objection to values.

Firstly, the question of what is 'observable' is very difficult to make precise. Putnam (2002) has given a detailed discussion of the problems faced by positivists in defining observability. If nearly every human being feels disgusted when he or she observes atrocities, this appears to be an observable and objective evidence for the existence of values. However, on certain definitions of observability initially favored by positivists, this does not qualify as an observable.

A second problem raised by Putnam (2002) is that the selection of scientific theories often involves aesthetic judgments about simplicity, elegance and power. These are values, though often not recognized as such. Copernican theory was favored over the Ptolemaic system, even though it was less empirically accurate, primarily because it was substantially simpler and more elegant. Similarly, the currently popular string theory in physics is being explored because of its elegance, even though there is not a shred of empirical evidence in its favor. Thus values are involved in the selection of scientific theories.

A third problem is that each scientific theory organizes a collection of observations in an apparently objective fashion. However the collection of facts selected depends on values. These values are hidden, because the process of selection is not subjected to examination. For example, each economic policy has myriad implications regarding social, political, and economic structures. Following free trade policies and allowing an industry to collapse may increase wealth while destroying a community of workers. Focusing on one aspect and ignoring the other reflects hidden values, as has been pointed out by several authors – for instance, Nelson (2001).

All of these arguments show that facts and values cannot be separated in the expression of scientific theories, as is assumed in making the normative/positive distinction, and widely believed by economists.

5.2 The Duhem-Quine thesis

Exploration of positivist theories of knowledge led to the understanding that our theories about the world must be evaluated as a whole. It is not possible to separate an individual sentence

X of a given theory and ask whether it is true or false, analytic or synthetic etc. The interpretation of the sentence is only possible within the context of the theory as a whole. As a result, any analysis of the sentence is always conditional on the assumption of the validity of the background theory to which it belongs. This makes it impossible to distinguish sentences with empirical contents from those without. Several examples exist in the literature of definitions that are motivated by empirical regularities. On the surface, the definition is an analytic truth. Deeper examination shows that it has empirical content, since the definition was made to crystallize an empirical regularity, and summarize a pattern of observations. This is one reason why the dogma of the analytic/synthetic distinction does not survive a close examination.

It is widely agreed that epistemic and esthetic values are inevitably involved in the process of selection of scientific theories. The idea that scientific theories must be judged as a whole means that these values are reflected to some extent even in apparently purely observational sentences of the theory. To avoid this objection, Carnap tried to systematize the process of theory selection so as to avoid this problem, but could not succeed. A concrete example in the context of economic theory may be helpful in clarifying this issue.

The Pareto principle is widely accepted and regarded as a scientific and ethically neutral way of making welfare comparisons by economists. On the other hand, going further to recommend redistributions requires 'unscientific' value judgments. This is a faithful representation of Locke's theories of property: the initial property endowments must not be called into question, even if they leave some segments of the society starving, while others have far beyond their need. This leads to the paradoxical position that it is scientific and objective to support property rights over the basic needs of the poor, while it is unscientific and value-laden to advocate basic needs over property rights. The problem arises because the Pareto principle, which appears perfectly objective, reflects background commitments made elsewhere in the theory. As we have already seen, changing these commitments leads to equally objective alternatives, such as the Pareto-Style Longevity principle.

6. Conclusions

Carnap (cited in Putnam, 2002, p. 18) writes that "All statements belonging to... Ethics... are unverifiable... and unscientific. ...we describe such statements as nonsense". The positivist attitude of respect for science, and open contempt for the 'unscientific' was absorbed by the vast majority of the community of scholars in the twentieth century. Strangely enough, the philosophers subsequent rejection of positivism has not been equally influential. Positivism is sufficiently deep that efforts to prove its central propositions engaged some of the best minds of the twentieth century. Its rejection required even deeper considerations, the full implications of which have not yet been absorbed.

For economists brought up on positivism – and this is the majority, according to Hands (2009, quoted in introduction) – the idea that values underlie economic theories is threatening. It is an accusation that economists are irrational, ideological and emotional.

In a post positivist world, to say that values are entangled with facts is a description, not an insult. This is the case for all scientific theories, not just economics. Instead of burying values into the framework of our theories and in the selection of relevant facts, methodological progress requires an open expression and discussion of these values. Weston (1994)

enumerates four reasons why economics cannot be value free, and argues that, as a first step, we bring these ethical issues into the open air. Once this is done, it will be necessary for economists to learn ethical philosophy of a specialized sort.

Economist now generally agree that positivists were wrong about values; these exist, and can be meaningfully and rationally discussed, and even that this is useful and important. However, they feel that by focusing on observables alone, they can avoid wading into these murky waters. Forceful articulations of this argument and responses to it are available in Caplin and Schotter (2008). As we have argued at length in the present article, facts and values are inextricably entangled and we cannot discuss one without implicitly involving the other.

A second common argument is that mathematical optimization problems are crisp and clear, while ethical arguments are deep and murky, and have been discussed for centuries without resolution. Furthermore, economists are not equipped with relevant skills to solve them. This argument is the analog of looking for the key under the lamppost instead of where it was dropped in the dark. Sen has said that “it is better to be vaguely right than precisely wrong.” Once the inevitability of dealing with ethical issues is recognized, economists will acquire the relevant training. This should be considered as a challenge and an opportunity to explore new realms of intellectual possibilities. As Weston (1994) has noted, precisely the same process occurred when mathematical skills were seen to be necessary by the profession: requisite mathematical skills became part of the standard syllabus in economics. Substantial progress has already been made, and there exists sufficient material and in-depth treatments of ethics and economics for several courses at both undergraduate and graduate levels. We need to organize this material into courses, and make such courses part of the standard curriculum in economics.

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