

## IT ONLY COUNTS IF YOU CAN MEASURE IT

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Abstract: It appears that the majority of mainstream economists hold the view that the only kind of research that counts in economics must concern numbers and measurement involving empirical data. One reason for this view is that it is supposed to be the only, or main, kind of research that results in a contribution to objective knowledge. However, the relationship between science and values has in the last decade or so become the subject of renewed methodological discussion. The results of this discussion lead towards the conclusion that limiting research to 'facts' and supposedly excluding 'values' not only impoverishes the research, but arbitrarily limits its scope by excluding a whole realm of our 'ordinary' language in which facts and values are inextricably interrelated.

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It appears that the majority of mainstream economists hold the view that the only kind of research that counts in economics must revolve around numbers and measurement. Other kinds of research represent, to use Lord Kelvin's phrase, no more than knowledge of 'a meagre and unsatisfactory kind'. Research involving numbers and measurement concerns research involving empirical data. One reason that such research counts is the positivist view that objective scientific knowledge is to be gained by working only with analytic statements (numbers) and with synthetic statements (observation statements).

It may be that this view reflects the vestiges of the influence of logical positivism on mainstream economists. This is the argument of Putnam and Walsh (2012). It may be that this view reflects the influence of 'contemporary scientism' (Putnam 2002, 43). Or it may be that this view reflects recent rise of naturalism within the philosophy of science. Whatever the case, perhaps the most deeply held conviction of mainstream economists is that, so long as they uphold the positive-normative distinction and eschew normative issues, the results of their quantitative analysis of empirical data sets will reflect objective knowledge i.e. it may be mistaken on technical grounds but it will definitely represent value-free research.

Until relatively recently, apart from the lone figures of Hutchison (1964), Amartya Sen (1970), and Blaug (1980), reluctance to discuss the issues of ethics, values and ideological bias in

economics appeared to reflect the case that these had become a taboo subject. However, in the last decade or so, following Hausman and McPherson (1993, 2006), the relationship between science and ethics, values and ideological bias has become the subject of renewed methodological discussion. The paper draws on this literature, and the issues it raises, in attempting to question the dominant view that 'it only counts if you can measure it'.

Accordingly, the first section begins by considering some of the historically better-known claims for and against the mainstream view of economics as a value-free science. It then looks briefly at the generally accepted position in economic methodology today. This position accepts that value judgments are present in economics but is not clear on the extent to which this poses significant difficulties for the practice of positive economics. While the generally position is that value judgments are present, this does not appear to be the viewpoint of a post-Quinean naturalism. Indeed this approach appears to suggest that there are few, if any, problems at all with the mainstream view of economics as a value-free science. The third section, following Mongin (2006), argues that both the extreme views -- that economics is completely value-free or completely value-laden -- are claims that are difficult to sustain. Instead it is more reasonable to accept that value judgments do enter into economics but that the consequences are as yet unclear for the value-free scientific status of economics.

The final section questions this seemingly reasonable conclusion. One of its underlying assumptions is that it is possible to distinguish 'facts' from 'values'. However, if we accept the argument (e.g. of Putnam and Walsh), that judgments of fact are entangled with judgments of value, then this implies that an essentially value-free scientific economics is neither possible nor desirable.

### **1. Economics as a value-free science? -- today's consensus amongst economists versus economic methodologists**

The standard view amongst most economists today is that 'economics is a positive, value-free science with no place for value judgments of any kind . . . economics operates as a value-free science, and society then decides what value judgments to apply to its results (Boumans and Davis 2010, pp. 169-70). In an article examining the role of the positive-normative distinction in economics, Hands (2009, p. 18) concludes that economists generally consider it to be a strict dichotomy and support Robbins's (1932, 1935) view that 'the normative had no place in, and should be prohibited from, economic science'.

The history of how this standard view came about involved much controversy amongst economists. While the history of claims, for and against, economics as a value-free science stretch back to the early 19<sup>th</sup> century, perhaps the most influential claim for economics as a value-free science was that of Robbins (1932). It is generally supposed that Robbins's claim arose as a response to then recent conclusion of the old material welfare school of Marshall and Pigou (1920, 1932) that redistribution of income would raise the overall welfare of society.

However, Backhouse (2009) has argued that Robbins was responding rather to the increasing pressure from the growing British Labour Party for socialist alternatives. For example, the more radical socialist welfare economics originating from the Oxford Movement attempted to

achieve their socialist aims by getting economists to become more directly involved with politics. By contrast the material welfare school of Marshall wanted to achieve certain milder 'social welfare' aims by distancing the subject of political economy from politics. Hence Marshall used the new term 'economics' rather than the older expression of political economy.

Whatever the case, Robbins attacked the basis for the material welfare school's conclusion that a redistribution of income was desirable. Their conclusion stemmed from the law of diminishing marginal utility (of money income) and interpersonal comparisons of such utility. Robbins argued that the satisfactions enjoyed by different people could not be compared since they were unobservable and so involved subjective value judgments. Such a comparison involves an 'element of conventional valuation. Hence it is essentially normative. It has no place in pure science' (1935, p. 139). Interpersonal comparisons of utility were thereby held by Robbins to be scientifically illegitimate. It is only a 'pretence that judgments of value are judgments of scientific fact' (p. 142 n).

'Economics deals with ascertainable facts; ethics with valuations and obligations. The two fields of enquiry are not on the same plane of discourse. Between the generalisations of positive and normative studies there is a logical gulf fixed which no ingenuity can disguise and no juxtaposition of space or time can bridge over' (p. 148).

Friedman (1953) famously reinforced Robbins's view that economics dealt with positive, and not normative, issues. Positive economics, he declared, is in principle independent of any particular ethical position or normative judgments. . . . positive economics is, or can be, an 'objective' science, in precisely the same sense as any of the physical sciences . . . . differences about economic policy . . . derive predominantly from different predictions about the economic consequences of taking action -- differences that in principle can be eliminated by the progress of positive economics -- rather than from fundamental differences in basic values, differences about which men can ultimately only fight (1953, pp. 4-5). (Compare Robbins's 'a case of thy blood or mine'.)

Perhaps the most well-known proponent of the view that economics was value-laden was that of Myrdal who argued that it is 'naïve self-deception' to believe or claim that there could be a positive economics if one only tried to keep economics free of normative issues. 'There is no way of studying social reality other than from the viewpoint of human ideals. A "disinterested social science" has never existed, and for logical reasons, cannot exist. The value connotation of our main concepts represents our interest in a matter, gives directions to our thoughts and significance to our inferences' (Myrdal, quoted in Hutchison 1964, p. 48). 'Our very concepts are value-loaded . . . they cannot be defined except in terms of political valuations' (Myrdal 1958, p. 1).

Throughout this book there lurks the idea that when all metaphysical elements are radically cut away, a healthy body of positive economic theory will remain, which is altogether independent of valuations. . . . This implicit belief in the existence of a body of scientific knowledge acquired independently of all valuations is, as I now see it, naïve empiricism (Myrdal 1953, p. vii).

Likewise, according to Coats (1960, p. 40): ‘Even the purest of theories is based on certain logical (philosophical) assumptions about the nature and purpose of economic activity, and these assumptions predispose the theorist towards certain types of political action’.

From a ‘Marxist’ viewpoint, mainstream economics was far from an objective science: ‘Some [economists] would state that their task was to collect and collate facts and to reason from them, and that in doing this they were uninfluenced by value-judgments. But such people are the most potent apologists. . . . The claim to be uninfluenced by value-judgments is a sham one. It is not possible to play about with social facts, whether they be historical or contemporary, without allowing bias to count for something. One cannot even select facts without bias. . . . Objectivity in the social sciences is an illusion’ (Allen 1960, p. 60).

Yet, in contrast to economists most economic methodologists accept that the standard view of economics as a value-free science ‘does not stand up to any reasonable examination’ (Boumans and Davis 2010, p. 170). Indeed Boumans and Davis (2010, pp. 170 ff.) examine the ways in which value judgments enter into economics. They point out that the question of value judgments in economics concerns the role of normative issues in economics. Normative issues involve evaluative statements (‘We had a great holiday’) and prescriptions (‘You should engage first gear up a steep hill’) without ethical content, as well as evaluative statements (‘It’s morally wrong to cheat’) and prescriptions (‘You should not cheat’) with ethical content.

While modern economic views can arguably be traced to Knight (1935) and Sen (1970, 1980), among the earliest attempts to systematically examine the relation between economics and moral philosophy were Walsh (1987) and Hausman & McPherson (1993, 2006). The latter seek to address the common view that competing moral claims concerning what ought to be done cannot be rationally resolved since they cannot be empirically tested. In particular, their ‘book is a response to the [Robbinsian] view that ethics and economics have (and should have) nothing to do with each other’ (2006, p. 9). However, rather than simply criticizing the ‘engineering’ vision which sees economics as entirely value-neutral, the major concern of their book is not so much to show that facts and values are ‘entangled’ thereby invalidating the fact-value dichotomy as to show that this entanglement ‘helps one to do economics and policy evaluation better’ (p. 3). They acknowledge that they borrow the term ‘entangled’ in this connection from Putnam (2002). An implication of the argument that facts and values are entangled is that facts can no longer be considered as standing independently of values (Hausman and McPherson 2006, p. 9).

Most economic methodologists today accept that ‘the normative is involved (ethically and otherwise) in economic theorizing’, that the fact-value distinction is a relic of the hegemony of positivist philosophical ideas and that it should have disappeared along with the other rigid dichotomies of the positivist era (meaningful-meaningless, theory-observation, analytic-synthetic, etc.) (Hands 2009, p. 19).

In the final section we will detail Putnam’s (2002) explanation of why facts can no longer be considered as standing independently of values, why the fact-value distinction is a such a relic

and, importantly, how work by economists needs to change in order to take account of, what Putnam refers to as, the collapse of the fact/value dichotomy.

## 2. The implications of Post-Quinean naturalist views: economics as a value-free science

While most economic methodologists accept that the normative is involved in economic theorizing, this does not appear to be the view of those who approach economics from the perspective of post-Quinean naturalism. From this perspective economics appears to be a value-free science so long as it adopts a naturalized epistemology.

Metaphysical naturalism is a philosophical worldview and belief system that holds that there is nothing but natural elements of the kind studied by the natural sciences (Wikipedia). Among its opposites is idealism which views minds or mental states as the only things that really exist (Quinton 1977, p. 297). Epistemological naturalism is the view that the theory of knowledge is not a priori but a part of empirical science. (Mautner, 1999 p. 373). According to Quinean, or naturalized, epistemology it should 'employ the same scientific tools we use to investigate any other aspect of nature' (Hands 2001, p. 129). Hands distinguishes naturalized epistemology from 'methodological monism' which is the positivist view that the social sciences should follow in the methodological footsteps of the natural sciences (p. 129). There appear to be two types of naturalism: the generic science camp would naturalize on empirical science broadly defined; the result is an empiricism without the traditional epistemological justification of that position. The second approach, specific science naturalism, reduces epistemology, or bases it on, some particular scientific theory e.g. cognitive psychology (pp. 133-134).

Ross (2012) appears to follow a naturalism of some kind. Although naturalism seems to turn traditional foundationalist philosophies of science such as positivism upside down, it appears on the face of it to lead to the same conclusion concerning normative issues as positivism: economics under the naturalist wing appears to be a value-free science. Instead of arguing from philosophy to science to human science, specific naturalism, as we saw might start with human sciences (e.g. psychology, economics) arguing that it is from these that natural science and the philosophy of science follow. Nevertheless it seems to imply, along with positivism, that the normative is non-cognitive i.e. the opposite of idealist views. In this regard, Mittermaier (1986) decries the attempt to extend the purge of anthropomorphisms (i.e. of implications of mind and purpose) from natural science to 'fields concerned with human actions and purposes'. Mainstream economics is 'so unmistakably conceived along mechanical lines' that he argues that subjectivists should carry out a counter purge of 'mechanomorphisms' (Mittermaier 1986, p. 236). Ross (2012, p. 7) argues that "anti-economists'" hatred of economics is because they regard economics as no more than a free market ideology. Ross (2012, p. 9 ff.) distinguishes five variations of this thesis and proceeds to refute them despite economics' 'close and unremitting dance with ideology' (p. 7). He concludes that he has successfully refuted the view that economic theory cannot be 'fully purged of ideological elements' (p. 1).

## 3. Mongin's four-way classification of theses about value neutrality in economics

We have so far encountered opposing views concerning the question of value neutrality in economics. On one side are those who insist that economics is a value-free science: Robbins,

Friedman, the 'standard view amongst most economists today' and more recently, it seems, supporters of naturalized epistemology such as Ross. On the other side are those who insist that economics is value laden: Knight, Hutchison, Myrdal, 'Marxists', Sen, the 'standard view amongst most economic methodologists today', and most recently, Walsh and Putnam. However, within each camp, there are different types and variations of these views. In this regard, Mongin (2006) has performed an invaluable service in setting out a clarifying classificatory framework. Here we will briefly outline his four-fold classification.

### *The strong neutrality thesis*

The strong neutrality thesis is that economists can and should avoid making value judgments i.e. the view is of economics as an entirely neutral science. According to Mongin (2006, p. 274), it relies on Hume's 'is-ought' thesis and the (crude) positivist outlawing of value judgments from science. Scarantino (2009) refers to this thesis as the 'naïve positivist view'.

In addition to positivists, Robbins (1932, 1935), as is well known, famously claimed that economics should be entirely separate from ethics. Mongin (2006) rejects this claim since it omits non-ethical evaluations, relying on a false dichotomy between economics and 'ethics'. 'Bizarrely, Robbins recognized that that an agent's ordinary preferences were evaluations of a non-ethical sort' p. 275. As Hands (2009, p. 4) points out, while J N Keynes distinguished between positive and normative economics he viewed these as 'different kinds of sciences', so allowing for the legitimacy of the welfare economics of the material welfare school of Marshall and Pigou. By contrast Robbins went much further, not only reiterating the positive-normative distinction, but declaring the normative to be scientifically 'illegitimate'. In addition it would seem that subscribing to a naturalized epistemology such as Ross (2012) also falls within Mongin's category of following the strong neutrality thesis.

### *The weak neutrality thesis*

The weak neutrality thesis accepts that there are occasions when economists make value judgments, but that these value judgments are limited e.g. 'that [Pareto] optimization is an essential part of rationality' (p. 260) and very generally accepted. For the most part, however, the strong neutrality thesis is applicable. The weak neutrality view underlay the stance adopted by the new welfare economics as well as the development of the social welfare function approach. In terms of this approach economists view themselves as engaged in the positive empirical analysis of detailing the technical means that would most efficiently secure society's goals, where these goals are determined from outside economics by the political institutions of the particular society being studied. The results of their analysis are available for non-economists to use in their policy deliberations. Blaug (1980, p. 149) has termed this view as that of 'the economist as a technocrat'. One of the problems with this view is that it relies on a false dualism between means and ends, as explained by Hutchison (1964).

### *The strong non-neutrality thesis*

The strong non-neutrality thesis (held by Myrdal (1958), neo-Marxists and some heterodox economists) is that the social scientist cannot and should not avoid making value judgments. Economics is seen as a thoroughly normative discipline. Scarantino's non-separatist view appears to apply to both the strong and the weak versions of Mongin's non-neutrality theses. In terms of this view, non-epistemic values enter into the scientific stage itself, or what Scarantino (2009) describes as the internal activities of scientific economists i.e. the core activities of formulating and testing economic hypotheses (p. 466).

A well-known representative of this view is Myrdal (1958). According to Mongin (2006), Myrdal's main argument is that 'value judgments and judgments of facts cannot be separated logically' (p. 261). Mongin dismisses this argument by showing that this is not necessarily the case.

#### *The weak non-neutrality thesis*

The weak non-neutrality thesis (supported by Mongin) contradicts the strong neutrality thesis by arguing that occasions do in fact arise in which economists might make (or not make) value judgments depending on the circumstances. Contrary, however, to the weak neutrality thesis, it contends that value judgments 'are neither easy to spot, nor few in number, nor always separable – practically and even logically – from judgments of fact' (p. 261). In order to support his weak non-neutrality thesis, Mongin develops a philosophical analysis indicating the conditions under which judgments of facts can be separated from judgments of values. In the process he shows that the positive-normative distinction must be founded on an analysis of value judgments, not on Hume's 'is-ought' guillotine. That is to say, contrary to Robbins, the value neutrality problem was not solved by Hume (p. 274).

Mongin's (2006) framework provides a perspective from which both the strong neutrality (Robbins) and strong non-neutrality (Myrdal) theses appear as extreme versions, and hence, on the face of it, more difficult to defend. The weakness of the weak neutrality thesis is that, while it accepts that value judgments enter into economics, this fact does not seem to imply that economists need to take value judgments into account in arriving at their predictions i.e. they can still practice economics as 'technocrats' (Blaug 1980, p. 149).

This leaves the weak non-neutrality thesis as the most promising position. It fits in with the position adopted by most economic methodologists. In particular his view, contrary to that of Robbins, that Hume did not solve the value neutrality problem agrees with the main thrust of the arguments of Putnam and Walsh that we need to abandon both Hume's 'is-ought' and the positivist 'fact-value' dichotomies in order to deal with the reality of the material with which both the social and natural sciences deal, namely, that in this material the 'areas' of fact and value overlap and interpenetrate each other. To deal with them as if they occur in separate compartments is to limit oneself to a kind of Procrustean bed.

#### **4. Putnam and the collapse of the fact/value dichotomy**

This section is still 'under construction': it is largely a paraphrasing of Putnam's (2002) argument and still mostly in his own words.

According to Putnam and Walsh (2012a, p. 1), ‘few philosophical movements have had anything like as great an influence on the mainstream economics profession as that of logical positivism from the 1930s until quite recently’. The main idea that took root amongst economists was the ‘claim that a science answered questions about what is, but was utterly silent as to what ought to be’ (p. 1). Thus economists came to accept the validity and indispensability of sharply separating facts and values (Putnam 2002, p. 28).

While it is doubtful that Robbins (1932, 1935) knew much about logical positivism, his dismissal of interpersonal comparisons of welfare on the grounds that they were value judgments fitted in with the logical positivist view that value judgments were meaningless and therefore to be excluded from the language of science (Putnam and Walsh 2012a, p. 2). The political implication of dismissing interpersonal comparisons of welfare were equally if not more significant. The dismissal was meant to challenge the intellectual legitimacy of claims by Pigou and the old Marshallian welfare school that redistribution of income would increase welfare (Putnam 2012, p. 111).

But, apart from science, in virtually any discussion of policy or politics one might hear someone challenge a statement by asking if it is a value judgment (p. 111). The implication is that, if it is a value judgment then it is simply ‘subjective’, and a further implication being that if it is ‘subjective’ then ‘my value judgments are just as good as yours’ -- ‘that is, the whole notion of better or worse reasons does not apply’ (p. 111). This way of thinking was explicitly endorsed by Robbins (1932, p. 53): ‘If we disagree about ends it is a case of thy blood or mine . . . But if we disagree about means, then scientific analysis can often help us resolve our differences’. It is significant that Sen’s (1967) very first philosophical publication disputed this claim of Robbins by arguing that there is indeed room for rational argument about value claims (p. 112).

In place of the fact/value dichotomy Putnam proposes the idea of the ‘entanglement’ of fact and value. This entanglement is most easily seen in certain facts that only come into view through the lenses of an evaluative outlook e.g. ‘brave’, ‘cruel’. These have been called ‘thick’ ethical concepts because they simultaneously describe and evaluate (Murdoch 1970) (p. 112). However, Putnam argues that it is impossible to divide these up into a purely descriptive and purely evaluative part. The world we inhabit, particularly our human world, is not describable in ‘value-neutral’ terms. ‘Not without throwing away the most significant facts along with the value judgments’ (p. 112).

In rejecting the fact/value dichotomy Putnam is not saying that ‘there is no difference between facts and values’. This is because, in the first place, this very posing of the logical positivist dichotomy between ‘facts’ and ‘values’ involves conceptions of ‘facts’ as sense-impressions and ‘values’ as expressions of subjective feelings. In terms of these conceptions denial of a difference would not make any sense. But the conceptions are fatally misconceived (pp. 114-6). On a deeper level, Putnam says that the real problem is that the fact/value dichotomy is not a distinction at all but a thesis: the thesis that ‘no value judgment states a fact’.

*The logical positivist argument for the fact/value dichotomy*

Putnam (2002) argues that the logical positivist fact/value dichotomy had its origins in Hume's doctrine that one can't infer an 'ought' from an 'is' (p. 14). This famous dictum reflected his less well-known distinction between 'matters of fact' and 'relations of ideas' (e.g. an 'ought'). But this distinction, Putnam argues, presupposes a substantial metaphysics. Hume did not view his 'no ought from is' claim as one about formal inference but rather as one which assumed a metaphysical dichotomy between 'matters of fact' and 'relations of ideas'. For Hume, a 'fact' is simply something of which one could have a sense 'impression' (a complex of sense qualities) (p. 40). However, Hume's criterion for 'matters of fact' presupposed 'pictorial semantics' (p. 15). Concepts are a kind of 'idea' and 'ideas' are themselves pictorial: the only way they can represent a 'matter of fact' is by resembling it.

Hume therefore does not just tell us that one cannot infer an 'ought' from an 'is'; he claims, more broadly, that there is no 'matter of fact' about other 'oughts' such as 'right' or 'virtue' since their properties are not picturable 'in the way that the property of being an apple is picturable' (p. 15). According to Putnam, we can enlarge the class of 'oughts' beyond 'right' and 'virtue' to include that of all value, including ethical judgments (p. 16). Putnam argues therefore that Hume's distinction was essentially a metaphysical thesis, 'namely, the thesis that "ethics" is not about "matters of fact"' (p. 19).

Putnam's argument is that the fact/value dichotomy was defended on the basis of the positivist notion of a fact which followed that of Hume: a fact is something of which one could have a sensible impression. The logical positivist confidence that ethical sentences could not be factual 'derived from their confidence that they knew exactly what a fact was' (p. 21). For the early logical positivists, a 'fact' was something (a Humean sense-impression) that could be certified by mere observation. According to their early verifiability principle of meaning, each individual meaningful statement is required to have its own "method of verification" (Putnam 2012, p. 114).

For the early Carnap, only observation terms and logical terms counted as the language of science (pp. 22-23). Since this excluded statements in the revolutionary science of the early 20<sup>th</sup> century about bacteria and atoms, Carnap (1938) dropped the requirement that a meaningful factual predicate must be an observation predicate. Instead, as long as the 'system' (science as reconstructed in a formalized language) as a whole enables more successful predictions of phenomena, its predicates are 'cognitively meaningful' (Putnam 2012, p. 114). In this way cognitively meaningful language, he said, could contain not only observation terms but also 'theoretical terms' i.e. terms referring to unobservables (bacteria, atoms) and introduced by the assumptions of a theory (p. 29).

Putnam argues that through Carnap's abandonment of the picture of 'factual' sentences as individually capable of confrontation with sense experience, the positivists destroyed their basis for the fact/value dichotomy (pp. 30, 21). First of all, a fact no longer corresponded to an individual (observation) statement: it was only the system of scientific statements as a whole that had factual content (p. 24). Secondly, the system as a whole gained this factual content only through its better predictions. But to predict means to deduce observation sentences from a theory (p. 29). And deduction involves both analytic (factually empty) and synthetic (factual)

statements. Therefore, following Carnap, defining the factual (system) now depended, following crucially on the analytic-synthetic distinction (p. 29).

Quine (1953) is generally accepted to have demolished the (metaphysically inflated: it included mathematics) positivist notion of the 'analytic' (p. 29). He showed that the system of scientific knowledge depends on both 'conventions' (which the positivists equated with analytic) and on empirical descriptions without there being a single scientific sentence that is true simply by convention or any single scientific sentence that is true simply in terms of experience (Putnam 2012, p. 114). Quine's insight was that there are large ranges of statements that are neither statements of analytic truths nor of observable facts (p. 13). In a famous metaphor, he argued that the lore of our fathers (inherited knowledge) is a pale grey fabric of sentences black with fact and white with convention but with no quite black or white threads in it (p. 12). In other words, there is no sense in distinguishing between analytic and synthetic statements. Since the notion of the factual depended on the analytic/synthetic dichotomy, Quine's intervention also demolished the positivist basis of a clear notion of fact and thereby the fact/value dichotomy. As Walsh (1987) has reasoned, if a theory is black with fact and white with convention, it might well be red with values. 'Since for [logical positivists] confirmation or falsification had to be a property of a theory as a whole, they had no way of unraveling this whole cloth' (p. 30).

Apart from Quine's intervention, the logical positivists' belief that their 'language of science' (observation, logical and theoretical terms) encompassed all 'cognitively meaningful' language was self-refuting: terms related to their famous verifiability principle of meaning (the meaning of a proposition consists in the method of its verification) such as 'cognitively meaningful' and 'nonsense' are terms which would not be admitted to their 'language of science'.

#### *Putnam's argument for the entanglement of fact and value*

Despite widespread acceptance of Quine's demolition of the analytic/synthetic dichotomy, and despite the fact that hardly any philosophers subscribe to Carnap's verifiability criterion of meaning, many current analytic philosophers continue to think that meaningful language must be understood on the model of the language of physics (p. 25). For them, ordinary language psychological terms must refer to 'brain states' (either neurological – like Carnap -- or computational) (p. 26). But to say that, for example, all cruel people are in a particular 'brain state' (and un-cruel people are not in that brain state) appears to be science fiction. To force all the descriptive terms that we employ in our everyday discourse into being classified either as observation terms or as theoretical terms is to force them into a Procrustean bed (p. 26). And there are very many descriptive terms such as 'cruel', which is but one example of what is known as a 'thick' ethical concept to which we now turn.

To make clearer his argument that the fact-value dichotomy is a false one, Putnam turns to the issue of 'thick' and 'thin' ethical concepts. 'Thin' ethical concepts are concepts such as 'good', 'ought', 'right', etc. Putnam uses examples of 'thick' ethical concepts (e.g. 'cruel', 'crime', 'brave') since the entanglement of fact and value are easiest to see in these. For example, someone said to be a 'cruel' teacher is both not a good teacher as well as not a good man. Yet 'cruel' can also be used purely descriptively. For example according to a historian a certain king

was exceptionally cruel (p. 34). Hume denied that there was any 'matter of fact' corresponding to 'crime' and so classified 'thick' ethical concepts as emotive or noncognitive. But there are so many thick ethical concepts that few have followed Hume. Instead modern day defenders of the fact/value dichotomy have formulated their own defenses.

Noncognitivists have two responses. According to Putnam both responses founder on the entanglement of fact and value. First, they maintain that thick ethical concepts are purely factual and not ethical concepts at all. Hare's example concerns a boy in class who explains 'Teacher, I hit him because he spit in my face'. Teacher: 'That wasn't polite, it was rude'. The boy agreed that his action of hitting was rude (p. 36). Hare (1981) argues that this action by itself describes rudeness without the need for evaluating it adversely, even though rude normally has negative connotations (p. 36). Putnam disagrees: see below.

Second, they claim that thick ethical concepts are factorable into a descriptive and attitudinal component (p. 36). Hare says we do not need to use the word 'cruel' to describe a cruel action. We can say 'he was caused to suffer deeply' (descriptive component) and an evaluative implication that the 'action is wrong' (p. 38). But this 'two-components' approach founders on the impossibility of saying what the 'descriptive meaning' of, say, 'cruel' is without using the word 'cruel' or a synonym (p. 38). For example, 'cruel' does not simply mean 'causing deep suffering'. 'Suffering' does not just mean 'pain' and 'deep' does not just mean 'a lot of'. A surgeon who causes pain is not normally cruel while behavior that does not cause pain may be extremely cruel (p. 38).

What is characteristic of thick ethical concepts is that to use them with any discrimination one has to be able to identify imaginatively with an evaluative point of view (p. 39). That is why someone who thought that 'brave' simply meant 'not afraid to risk life and limb' (descriptive use) would not be able to understand the distinction between rashness or foolhardiness and genuine bravery. The descriptive use of 'brave' therefore depends upon evaluation of whether the act was rash or not (p. 40).

The third, and most popular, response is to defend the fact/value dichotomy on metaphysical grounds. The most common metaphysical ground is physicalism, e.g. Williams's (1985) relativism (p. 40). For Williams, a fact is something that can be described in the vocabulary of a physics that describes the world in terms of primary qualities alone (p. 41). In this world the physicalist language describes what is 'absolutely' the case. By contrast in our actual world what is described in ordinary language (both factual and ethical statements) is only true relative to one or other 'perspective'. Putnam points out that Williams is here not concerned with the fact/value dichotomy, but with dismissing the actual world in which we live (with its statements which are only relatively true) in favour of a perfect metaphysical world of 'finished science' (with its absolutely true statements). In this case, he throws 'much more than ethical judgments into the bag of truths that are only valid from some "local perspective" or other' (p. 43).

Putnam argues that noncognitivists such as Mackie (1978) and Hare (1981) have been strongly influenced by the emotivism of the logical positivists for whom ethical judgments were,

semantically speaking, no more than expressions of desire and preference (p. 43). Relativism is derived from contemporary scientism. Putnam argues that we are tempted by the fact/value dichotomy because it is easier to say 'that's a value judgment', meaning 'that's just a matter of subjective preference' than to examine our deepest convictions.

### *The philosophers of science's evasion of values*

The classical pragmatists (Pierce, James, Dewey) all held that value permeates all of experience. This implied that value judgments are essential to the practice of science itself (p. 30). According to Dewey value is not just one special corner of experience; it is something to do with all of experience (2002, p. 135). In light of this, Putnam (1) explains the way in which value judgments are presupposed by scientific inquiry and (2) contends that many leading philosophers of science have tried to avoid admitting that this is the case (p. 136).

Concerning the first issue, Putnam sets out the following four points, seemingly stemming from William James, which help summarise the pragmatist view that science presupposes value judgments (p. 136):

- a. Knowledge of (particular) facts presupposes knowledge of theories (generalisations). For example, to know that something is an oak tree is to know that it belongs to a particular kind of tree i.e. science can't 'start' with 'data' and build up to generalisations.
- b. Knowledge of theories presupposes knowledge of (particular) facts i.e. there are no a priori generalisations.
- c. Knowledge of facts presupposes knowledge of values: (i) justifying factual claims presupposes value judgments and (ii) these value judgments are capable of being 'objectively' right (to avoid subjectivism).
- d. Knowledge of values presupposes knowledge of facts i.e. there is no a priori ethics.

Putnam now takes up the second issue – how philosophers of science in the last half century have evaded dealing with the issue that science presupposes value judgments. In doing so he rebuts their epistemological claims that science can proceed without making any value judgments.

While Quine's (1953) statements on epistemology might lead one to expect that he would be friendly to the doctrine that fact and value interpenetrate in science, this is not the case (p. 138). Putnam argues that Quine (1969) essentially abandoned epistemology. His 'naturalized epistemology' simply means 'settling for (Skinnerian) psychology' (p. 139). Reichenbach (1952) denied the need for the hypothetico-deductive method and instead was concerned to show (deductively) that induction was a viable method. In order to avoid the idea that epistemic values ('coherence', 'simplicity') are needed in order to select scientific theories, Carnap (1950) tried (unsuccessfully) to show that science proceeds by a simple sampling algorithm (p. 141). Popper hoped to reduce the scientific method to a simple rule: test all strongly falsifiable theories and retain the ones that survive. Putnam responds to Popper by making two points. First, although sometimes the theory is given up, sometimes we give up the supposed fact for reasons of coherence, simplicity etc. Secondly, testing every theory (using only deductive logic) is impossible in practice. For example, both Einstein's theory of gravitation and AN Whitehead's

1922 theory agreed with special relativity and both predicted the deflection of light by gravitation etc. Yet Einstein's theory was accepted and Whitehead's theory was rejected fifty years before anyone thought of an observation that would decide between the two. 'That general relativity was accepted before there were any decisive experiments in its favor of course contradicts completely the whole Popperian account, which can be characterized as mythological' (2002, p. 180).

Putnam now turns to address his claim that value judgments are capable of being 'objectively' right. According to Rorty's (1991) relativist position, there are no objective values. Instead all we can say is that different cultures have different values. Putnam contends that these cultural differences are not incommensurable (p. 142). He rejects Rorty's view that we should scrap the whole notion of an objective world and speak of views that 'our culture' would accept instead (p. 143). Talk of 'cultures', Putnam points out, only makes sense if the idea of a common world is already in place. If the notion of an objective world makes no sense, then neither does the notion of 'our culture'.

Finally, Putnam turns to address the most common alternative to admitting that value judgments are presupposed by scientific inquiry. According to Goldman's (1986) 'reliabilist' epistemology, a belief in science is justified because it was arrived at by a method which is 'reliable' in the sense of having a high probability of resulting in the acceptance of true hypotheses (p. 144). Instead of going into the sophisticated criticisms and reformulations of Goldman's theory, Putnam elects simply to point out that Einstein's 'method' neither made use of probability theory, nor avoided making value judgments. Einstein tells us that he arrived at the special theory by applying an empiricist critique to the notion of 'simultaneity' and that he arrived at the general theory by seeking the 'simplest' theory of gravity compatible with special relativity (p. 144). Both these methods are completely topic specific (so that probability theory is inapplicable) and both presuppose judgments of reasonableness which cannot be assigned probabilities and which therefore cannot be reduced to non-normative judgments (p. 145).

## 5. Conclusion

The single most important theme of this paper is the issue of the extent to which Putnam (2002) has 'demolished' the fact/value dichotomy in much the same way as Quine (1953) is generally acknowledged to have demolished the analytic/synthetic dichotomy. So far, there appears to have been little acknowledgment that Putnam has successfully completed the demolition job. One possible reason for this state of affairs is that much more politically hangs on the fact/value dichotomy than the analytic/synthetic. Another reason is that the methodology of economics appears to remain focused on the philosophy of science which has taken a 'substantive turn' towards naturalism (Hands 2001, p. 129). This trend appears to reflect a continued defence of the fact/value dichotomy on the metaphysical ground of basis of physicalism (Putnam 2002, 40). 'Values' appear to have no scope whatsoever in such naturalized epistemology.

If Putnam's arguments are accepted, this would seem to 'free ourselves from the last dogma of empiricism' (that facts are objective and values are subjective) (p. 145) which would

revolutionize the scope and method of mainstream economic theory. Instead of Sen occupying the anomalous position of being a Nobel prize winner and yet being off-centre mainstream, his work would move more centre-stage.

It may be that many people wrongly interpret Putnam's 'demolition' of the fact/value dichotomy as his saying that there is no difference between facts and values or that it implies a postmodernist position à la Rorty i.e. that we should scrap the whole notion of an objective world. It does no such thing.

The main objective of this paper, in the unfinished form in which it currently stands, has been to make more widely known the argument of Putnam (2002): what it says and what it doesn't say. Wider, and more careful, argumentation about the whole neglected topic of 'facts' and 'values' in economics remains the work of future papers.

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