

PHILOSOPHY OF ECONOMICS

RATIONALITY – SUBSTANTIVE OR PROCEDURAL?

AS-IF HYPOTHESES Economists are very loyal to rational choice theory. This, for Vanberg (2012), is largely due to the theory’s intuitive appeal: intuitively, people choose what they most prefer. This principle (which he calls the “rationality principle”) is apparently irrefutable: if observed and predicted behaviour do not coincide, the blame may be always put on the specific assumptions made about given beliefs and preferences, and not on the rationality principle itself. Yet, precisely because the principle is irrefutable, a theory built on such a principle is unexplanatory:¹

A theory for which we cannot even imagine contradicting evidence [...] is irrefutable because it has no empirical content and, hence, no explanatory power [...] (505)

For the theory to explain, empirical content must be “infused” into it in the form of assumptions that go beyond the principle, and which make the theory refutable.

The way in which neoclassical economists do that is by assuming that agents are utility maximizers, namely that they forecast the outcome of each course of action based on all available information and choose the course of action, which makes them best off. In this model of choice, thus, action depends on *preferences over (expected) outcomes*. This model of rationality is thus *substantive*, in the sense that it is based on the content of individual outcomes (whatever the agent’s preferences towards that content).

However, it is doubtful that agents really behave as the theory says. Economists have addressed the problem in one of two ways: either by defending the theory in spite of its unrealistness; or by “adding realism” by revising the as-

sumptions. However, neither reply is successful, for Vanberg.

Friedman, who champions the former strategy (see WEEK 5), maintains that one can proceed “as if” agents were utility maximizers, as long as the theory yields correct predictions—in the same way it is justified to assume that a tree’s leaves are positioned as if each leaf deliberately aimed to maximize sunlight, or that expert billiard players make their shots as if they deliberately aimed to make the ball travel in the direction indicated by complex mathematical formulae. Such stories, for Vanberg, are deficient, because they may correctly say *what* happens without saying *why* it happens. In the economic case, the assumption that businessmen are utility maximizers is not only questionable based on whether agents behave as if they truly maximized behaviour² but also on whether the as-if assumption has the right credentials to explain anything. Friedman defends the hypothesis by invoking natural selection: the businessmen’s behaviour has been selected. Vanberg, however, contrasts Friedman’s use of natural selection with the biologists’ use. Biologists demand a deeper explanation for why one is justified in assuming that the organisms’ traits have been selected, namely for why the traits are suitable means to certain ends (e.g., survival and reproduction), in the presence of given natural constraints. For this reason, biology is a progressive science. Neoclassical economists, by contrast, content themselves with assuming that agents behave as if their behaviour had been selected to maximize utility, without looking for a deeper explanation of why this is so. This makes (neoclassical) economics a regressive science.

¹Notice that not everyone agrees that rational choice theory is unexplanatory (e.g., Hausman 1992, 2012) or that all of its explanatory power comes from just assuming that people choose what they most prefer (see Reiss, 2013, 46).

²This depends on conditions, such as perfect competition, that may not always be satisfied by real markets.

ADJUSTED UTILITY FUNCTIONS Neoclassical economists have also adopted a different strategy in response to the objection that the assumption that agents are utility maximizers is unrealistic. They have tried to add realism to the theory by modifications in the utility function, which allow for preferences not just for material self-interest but also for love, sympathy, and other altruistic motives. Vanberg's reason for dissatisfaction with this sort of response is not so much that it is *ad hoc*, but rather that it is inconsistent with the spirit of rational choice theory.

The intuitive reason for considering altruistic motives is to make room for altruistic traits, which are obviously important for explaining behaviour. Humans tend to act altruistically. They follow—whether deliberately or not—altruistic rules, or norms. They act in such and such a way because they endorse these rules, and not because of the consequences of endorsing them. However, rational choice theory is not equipped to account for this feature of human behaviour.

The very point of rational choice theory [...] is to explain actions exclusively in terms of the consequences the actor expects to result from them. [...] This explanatory logic allows one to speak of a person's 'preferences over actions' as long as such preferences are understood as pure derivatives of her preferences over outcomes. It does not permit one, however, to introduce as explanatory variables preferences over actions 'as such,' i.e. preferences for acting in certain ways that a person harbors for reasons that are prior to and independent of her preferences for the consequences she may expect to result from her actions in particular instances. (511-12)

It is certainly possible to include "other-regarding" or "social" preferences, such as reciprocal fairness, in individuals' utility functions. Nothing in the idea that preferences are self-regarding or self-centred, in fact, entails that selfish behaviour, namely behaviour that benefits only oneself, or that benefits oneself at the others' expenses, is preferable to altruistic behaviour (514; cf. fn. 3). Rational choice theory entails no commitment to the content of one's preferences. At the same time, this is not enough to

account for the fact that humans are altruistic, in the sense that they have *preferences for altruistic actions—irrespective of their consequences*. Indeed, what proponents of adjusted utility functions seem to want is not just the inclusion of other-regarding preferences as determinants of the outcomes from which one chooses, but the inclusion of predispositions or propensities (or "internalized norms"; cf. 513) as themselves the object of choice. However, so Vanberg claims, this extension of rational choice theory involves a misapplication of the theory. The theory can only make sense of behaviour as resulting from a preference over outcomes, and behavioural rules are not outcomes. In support of this statement, he cites Sen's view that there is a categorical difference between sympathy (towards an outcome) and commitment (to a rule). Commitments do not enter preference orderings; rather, they interact/conflict with one's preferences in determining behaviour (515, 524-25; on this point, see also [Hausman 2012, 3](#)).

Rule-following behaviour falls outside the remit of rational choice theory. Accounting for it, for Vanberg, requires a paradigm shift.

RULE FOLLOWING A theory that explains actions in terms of rule-following dispositions, for Vanberg, does not ignore their effects on behaviour; rather, it shifts the focus "from the effects of expected consequences on present behavior to the effects that the actual consequences of past behavior have on current choices and on the effects that the actual consequences of current choices will have on future behavior" (515). Also, the theory does not dispute the view that human action is based on a "calculus of advantage", but distinguishes between two levels at which such calculus occurs, the level of single actions and the level of rules of action (516). This model of rationality is not substantive but *procedural*, in the sense that it is not based on the content of individual outcomes, but on the process by which they are chosen.

What justifies rule following? Following

Hayek, that idea is that we live in a complex world, where the limitations of our knowledge and our powers of reason make it difficult, if not impossible, to behave as rational choice theory demands. As a matter of fact, we cannot consider all of the facts that bear on a particular situation, and thus cannot but act on the basis of selective knowledge. Given this limitation, Hayek claims, the mode of selection based on rules is superior to the mode of selection based on situational, case-by-case choices, as it leads to overall more preferable outcomes.

A similar argument is made by Heiner, who claims that case-by-case maximization is only optimal for a perfect agent, but not for a limited agent. A limited agent, who follows rules, is bound to sooner or later act in a less-than-optimal way. Whether the attempt to maximize or to follow the rule is overall preferable depends on the complexity of the problem situation, the competence of the agent, and the quality of the rule. Simple rules, which may often miss the optimal target, may however be more reliable than maximizing. The issue for a limited agent, then, is to find the right balance between “unreflectively” following rules and “reflectively” disobeying them.

Hayek’s and Heiner’s arguments provide a rationale, or possible justification, for rule following. This does not by itself explain why we follow rules. For that, according to Vanberg, we need a story on how we come to form behavioral dispositions that are advantageous without requiring deliberate calculations. The story must include some “method of accounting”, which keeps track of the comparative performance of different behavioural practices in different types of situations (519). For Vanberg, the method of accounting, which is operative at three different levels—the level of biological evolution, the level of cultural evolution, and the level of individual learning—is in all cases driven by the same process, namely natural selection—trial and error elimination or variation and selective retention (520). This behavioural model is based on evolutionary epis-

temology. Vanberg approvingly mentions a few evolutionary theorists. One is Popper, who theorizes that the acquisition of knowledge—whether animal knowledge, pre-scientific knowledge, or scientific knowledge—is a form of problem solving, and works by using pre-existing conjectural knowledge or dispositions, by retaining successful conjectures and discarding unsuccessful conjectures, and by making new conjectures by varying old conjectures. Other examples of evolutionary theories are Hayek’s theory of rule-based behaviour and Mayr’s theory of programme-based behaviour.

Holland’s theory of “adaptive agents” is an attempt to more formally model the process of behavioural learning, which Popper, Hayek, and Mayr have in mind. In Holland’s theory, agents possess a repertoire of rules on which they act. New rules are continuously generated, due to random mutation and re-combination of existing rules, depending of their past success. Learning consists in selecting beneficial rules and discarding inferior rules. The theory’s algorithmic implementation represents an interpretation of the idea that one forms preferences over rules by some calculus of advantage, which differs however from the calculus of advantage over outcomes proper of rational choice theory.

Vanberg concludes that, if the view that all problem solving behaviour is based on conjectures, programmes or rules is taken seriously, there is no qualitative difference between rational choice and rule-following behaviour. There is only a difference in how reflectively we follow such rules. This means that we always follow rules to some extent, and even the most deliberate choice is partly governed by rules.

Simon’s theory of bounded rationality is a vivid illustration of this view. Although Simon distinguishes between “programmed” decisions and “non-programmed” decisions, he maintains that, ultimately, all decisions are programme-based. One may understand this statement by considering that his theory of rationality models human decision-making as “satisficing” be-

haviour, namely behaviour that aims for “good enough” solutions (“local” optima) rather than optimal solutions (“global” optima). Why? Because imperfect, boundedly-rational agents have—strictly speaking—no utility function they (try to) maximize. Without a well-defined global optimum, the deductive reasoning of rational choice theory cannot be realized. Any choice must necessarily proceed by boxing off possible courses of action by means of rules, or procedures, that are inductively and contextually justified. These rules can more or less reliably make one *better* off. They cannot guarantee (contrary

to utility maximization) that one will be *best* off.

References

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