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Осмиленост, смисъл, опосредстваност

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Meaningfulness, Meaning, Mediation
Essays in honor of Prof. Dr. Dimitri Ginev

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та на социалното. От ключово значение е, че конкретното осъществяване на различни принципи на организиране и регулиране на социалния и политически порядък (като националната държава или европейският федерализъм на големите региони) предполага по-изначалното основополагане на самоуправление и легитимиране. Например днес този проблем е съвсем актуален в контекста на Европейския съюз и не може да бъде отминат от никоя страна, която иска да се присъедини към него. Засега у нас сякаш липсва осъзнаването, че в основата на Европейския съюз заляга (републиканско) равнище на отношения на даване и получаване между държавите. Не се създават предпоставки за скорошното демократично "само-определяне" на българското общество в полза на интеграцията в съюза, за да е възможно да се пристъпи практически към изключително трудния процес на превръщането в "наш" на този особен вид международно самоуправление. Приобщаването към Европа се превръща в предизборна платформа, щедро даряваща с мечти, или в също толкова предизборно плашило, накратко в поредната идеологическа линия на хоризонта (след светлото бъдеще) която обслужва само твърде тесни интереси. Очевидно е също, след няколко години безплодни напъни и вопиюща некадърност, че "висшата" политика в стремежа ни към Европейския съюз не може да бъде оставена единствено на управляващата партия или на действията на не-избрани елитни експерти, а следва да почива на републиканска политика и начала.

Републиканската традиция показва, че колкото и зловеща и абсурдна да е конкретната политическа ситуация, възможността да се изгради по-гражданско активно и толерантно общество съвсем не е илюзорна. Неимоверната трудност при постигането на тази цел е, че подобна възможност е осъществима единствено с повече и по-качествено политическо участие на всеки гражданин. Другото съществено е, че подобна убеденост съвсем не е безвъпросна, защото е ясно, че участието в политическия живот в повечето случаи далеч не е гражданско, че патриотичните чувства често са помрачени от шовинизъм и че публичното пространство, много повече от поле за упорито разискване или активна толерантност, е удобен терен за всяка демагогия и едва прикривани злоупотреби с езика на общото благо. Но така или иначе, това всъщност са различни страни от вече добре известния ни въпрос за крехкостта на свободата. Републиканските размишления само преобразуват по един или друг начин този проблем, като традицията, в която се вписват, е своеобразна политическа феноменология на условията на свободата при различните исторически обстоятелства.

TOWARD A NEW MODEL OF SCIENTIFIC RATIONALITY

Howard Sankey

Introduction

In the 1960s Thomas Kuhn and Paul Feyerabend led a revolt against the traditional view of philosophers of science that science is governed by a universal, ahistorical scientific method. The revolt against a universal method initially tended to be seen as irrationalist and relativist. But later some philosophers began to view things differently. Such philosophers claimed that what the work of Kuhn and Feyerabend really shows is that a new way of thinking about rationality is needed. Rather than see the Kuhn-Feyerabend revolt against traditional philosophy of science as an anti-rationalistic and relativistic attack on science, it should be seen as an attack on an outmoded philosophical conception of scientific reason.

What new way of thinking about reason may be found in the Kuhn-Feyerabend attack on traditional philosophy of science? Philosophers such as Richard Bernstein, Harold Brown and Richard Rorty have suggested that Kuhn and Feyerabend lead us away from a rule-governed conception of rationality, and toward a non-algorithmic conception. In the view of such philosophers, while traditional philosophy of science analyzed scientific rationality as adherence to a fixed, algorithmic method, Kuhn and Feyerabend show that there is no fixed methodological basis for scientific rationality. In doing so, Kuhn and Feyerabend do not reject reason. They reject an algorithmic conception of rationality.

What sense can be made of rationality not governed by algorithmic rules? In this paper I will trace some of the steps which have led to the call for a new model of scientific reason, and attempt to show that the prospects for a non-algorithmic model thereof are very promising indeed. To introduce the issue, I will first discuss the Kuhn-Feyerabend revolt against traditional philosophy of science.

Kuhn's irrationalism and relativism

As is well known, Kuhn (1970a) proposed a view of science which broke, more or less radically, with traditional views of science. His central idea was to replace the traditional image of science as an enterprise driven by a universal, invariant scientific method with

a view of science as a historical process occurring in a variety of changing epistemic and social circumstances. He saw scientific research as puzzle-solving activity consensually based on a theoretical paradigm interrupted at intervals by periods of revolutionary upheaval.

Kuhn's account of the relations between successive paradigms, paradigm debate and choice between paradigms is largely responsible for the charges of irrationalism and relativism which were levelled against him. The aspects of Kuhn's account which bear principal responsibility for these charges may be summarized in the following five theses:

- (i) Observation is theory-dependent and varies with paradigm, so that observation cannot serve as a neutral court of appeal between paradigms.
- (ii) Evaluative standards also vary with paradigm, so that there are no neutral standards which can be used to objectively compare the merits of alternative paradigms.
- (iii) Paradigms are at least in part semantically incommensurable, so that there are difficulties in communication and comparison between paradigms.
- (iv) Choice between paradigms is not a matter that can be decided by conclusive argument or proof, but is rather a matter of persuasion and rhetoric.
- (v) The psychological process of paradigm choice involves shift of gestalt and quasi-religious conversion rather than rational deliberation.

These five theses present a picture of science on which there is no role for objectivity, and rational debate and choice between paradigms face potentially insuperable obstacles. For, on this picture of science, neither observation nor evaluative standards are neutral, paradigm debate is characterized by failure of communication, proponents of paradigms use rhetorical devices to convert their opponents to their paradigms, and shift of allegiance from one paradigm to another is a non-rational process. Or, in any event, this is how many of the philosophers in the first wave of critical reaction to Kuhn interpreted him.

To illustrate this initial reaction, I will quote briefly from three authors who are representative to Kuhn's early critics. The first quote is from Karl Popper, who took Kuhn for a relativist:

"Kuhn suggests that the rationality of science presupposes the acceptance of a common framework. He suggests that rationality depends upon something like a common language and a common set of assumptions. He suggests that rational discussion, and rational criticism, is only possible if we have agreed on fundamentals. This is a widely accepted and indeed a fashionable thesis: the thesis of *relativism*." (1970, p. 56)

The second quote is from Imre Lakatos, who took Kuhn for an irrationalist:

"There is no particular rational cause for the appearance of a Kuhnian 'crisis' ... it is a contagious panic ... a new 'paradigm' emerges, incommensurable with its predecessor. There are no rational standards for their comparison. Each paradigm contains its own standards. The crisis sweeps away not only the old theories and rules but also the standards which made us respect them. The new paradigm brings a totally new rationality. There are no super-paradigmatic standards. The change is a handwagon effect. Thus, *in Kuhn's view scientific revolution is irrational, a matter for mob psychology*." (1970, p. 178)

The third quote is from Israel Scheffler, who took Kuhn for an idealist on whose view science has lost touch with reality. On Kuhn's view, Scheffler says:

"Independent and public controls are no more, communication has failed, the common universe of things is a delusion, reality itself is made by the scientist rather than discovered by him. In place of a community of rational men following objective procedures in the pursuit of truth, we have a set of isolated monads, within each of which belief forms without systematic constraints." (1967, p. 19)

These quotes are indicative of what was once, and still is to a certain extent, a standard way of interpreting Kuhn. It is not difficult to see why philosophers have interpreted Kuhn in this manner. For one thing, on Kuhn's account, it is hard to see how choice between paradigms can be rational. Kuhn denies that adherents of rival paradigms communicate fully, rejects appeal to objective grounds for deciding between paradigms, and assimilates the change between paradigms to religious conversions and gestalt switches. Thus, he seems to make decisions about which paradigm to adopt completely irrational. For another thing, Kuhn's model of science appears relativistic. He holds that both methodological standards and observation depends on paradigm. He denies that there are either theory-neutral observation or paradigm-independent standards which might stand outside of and adjudicate the dispute between paradigms. Thus, he appears to make the rationality of scientific belief entirely on adherence to paradigm-relative observation and standards, so that scientists' acceptance of paradigm is unable to be given an objective rational justification.

Kuhn's clarifications

Kuhn was taken aback by the accusations of irrationalism and relativism. In later work he attempted to play down the radical tone of his position. He argued that, since, in his view, science does make progress, and later scientific theories are better than earlier ones, his position is not a relativist one (1970b, p. 264). He responded to the charge of irrationalism by specifying a variety of rational factors which contribute to the choice between paradigms (e.g., 1970a, p. 199). I will now discuss two key themes which emerge from Kuhn's

rebuttal of the charge of relativism and irrationalism. The first involves Kuhn's rejection of algorithms of theory choice. The second involves his claim that there exists a set of methodological criteria which are independent of paradigms.

In response to the charge of irrationalism, Kuhn insists that his aim was not to deny the role of rationality in paradigm choice. His idea was not that paradigm choice is a completely irrational affair totally exempt from rational considerations and absolutely incapable of rational reconstruction. He holds, rather, that scientists make significant use of rational argument, and that in choosing between paradigms some such argument will ultimately prove persuasive (1970a, p. 158). Nevertheless, there are important limitations on what rational argumentation can achieve in the context of a paradigm debate. It can persuade, Kuhn says, but it cannot prove (1970b, pp. 260-1).

In the "Postscript" to *The Structure of Scientific Revolutions* Kuhn puts the point as follows:

"There is no neutral algorithm for theory-choice, no systematic decision procedure which, properly applied, must lead each individual in the group to the same decision." (1970a, p. 200)

If Kuhn is right, then there does not exist a methodological rule or set of rules, which is both neutral between paradigms and able to deliver an unequivocal verdict on which of two competing paradigms ought rationally to be accepted. In other words, such rational considerations as are applicable to choice of paradigm leave sufficient flexibility for scientists to differ in their appraisal of the relative merits of conflicting paradigms.

In addition to the denial of an algorithm of theory-choice, Kuhn makes a closely related claim about the limited role played by methodological standards. On the basis of his early work, he was frequently interpreted as denying the existence of extra-paradigmatic scientific standards. But Kuhn insists it was not his intention to deny the existence of such standards. There are shared standards independent of paradigm. The problem is that these standards are unable to yield a definite decision between paradigms.

Kuhn claims that there is in fact a set of general scientific standards, which serve as values rather than rules, and which are shared across paradigms.¹ These values influence and guide scientists in their choice of paradigms. But they do not unambiguously determine choice of paradigm. As examples of such values, Kuhn mentions such factors as predictive accuracy, internal and external coherence, scope, simplicity and fruitfulness. The problem, Kuhn argues, is that the value-system does not have a priority ordering, since none of the values is intrinsically more important than any of the others. One paradigm might be accurate and coherent, while another might be simple and broad in scope. But since the system of values is not

1 Cf. Kuhn, (1970a, pp. 184-6, 199-200), (1970b, pp. 261-2) and (1977, pp. 321-33, esp. 331).

ranked into a priority ordering, such considerations of value are unable to dictate a choice between the two paradigms.²

To sum up, in later work Kuhn claims not to have meant to present theory-choice as inevitably irrational. Rather, he meant to say that in the context of such choice rational considerations are subject to limitation. His point was not that rational considerations play no role and that choosing a paradigm is an unavoidably irrational episode in a scientist's life. His point was that while rational factors play a significant role in such choice, they are unable to uniquely determine the choice.

Feyerabend's epistemological anarchism

At the opening of *Against Method*, Feyerabend claims that anarchism is "excellent medicine for epistemology, and for the philosophy of science" (1975, p. 17). History, he says, "is full of 'accidents and conjunctures and curious juxtapositions of events'" (1975, p. 17). "Are we really to believe", he asks, "that the naive and simple-minded rules which methodologists take as their guide are capable of accounting for such a 'maze of interactions'?" (1975, p. 17). The key point of Feyerabend's anarchism is that the actual processes of scientific change cannot be summed up by means of a single set of step-by-step rules.

Feyerabend claims that all methodological rules are "violated at some time or other" (1975, p. 23), and that in some situations it may be "advisable not only to ignore [a] rule, but to adopt its opposite" (1975, p. 13). If Feyerabend is right, then there can be no single, universally applicable, invariant scientific method which can and should be applied at all times and places. Feyerabend does not propose a new methodology in place of traditional views of scientific method. Rather, he says:

"My intention is not to replace one set of general rules by another such set: my intention is, rather, to convince the reader that *all methodologies, even the most obvious one, have their limits.*" (1975, p. 32).

This claim of the limited applicability of methodological rules constitutes Feyerabend's rejection of the traditional idea that there is a single scientific method. To signify this rejection, he calls his philosophy of science "epistemological anarchism".

Feyerabend sums up his rejection of a fixed method with the anarchistic slogan "anything goes". This slogan is often understood as a statement of radical relativism, since it appears to suggest that one choice of theory is as rational as any other. But this is not

2 Kuhn also argues that the values are ambiguous in application (cf. Kuhn, 1970a, p. 185). Advocates of rival paradigms may agree in their emphasis on the value of simplicity but differ on how to interpret simplicity. One paradigm might satisfy the value of simplicity interpreted one way, and the other might satisfy it interpreted the other way. Again, value-considerations would not themselves be able to determine a choice between paradigms.

exactly what Feyerabend claims. Here is what he actually says:

"It is clear ... that the idea of a fixed method, or of a fixed theory of rationality, rests on too naive a view of man and his social surroundings. To those who look at the rich material provided by history, and who are not intent on impoverishing it in order to please their lower instincts, their craving for intellectual security in the form of clarity, precision, 'objectivity', 'truth', it will become clear that there is only *one* principle that can be defended under *all* circumstances and in *all* stages of human development. It is the principle: *anything goes*." (1975, pp. 27-8).

This falls short of an epistemological relativism according to which the acceptance of any theory is rationally justified because rational justification depends on contextually variant standards and rules. Feyerabend's idea is substantially different from such epistemological relativism. His point is that, *if* one insists on formulating a single methodological dictum that is applicable at all times and places, then the only formulation which will fulfill this requirement is "anything goes". So Feyerabend's point in calling his position anarchism is not to announce that rationality is relative to context, but only to deny that science is governed by an invariant method applicable in all contexts.

Rationality according to Kuhn and Feyerabend

Three of the points which I have emphasized in my discussion of Kuhn and Feyerabend set the main contours of the new model of rationality. The first point is Kuhn's denial of an algorithm of theory choice. In denying an algorithm of theory choice, Kuhn rejects a mechanical model of comparative theory appraisal, according to which scientific method yields definite decisions between theories as a result of applying a deterministic procedure. The second point is Kuhn's claim that scientists operate with a system of extra-paradigmatic values which guide rather than determine choice of theory. The third point, which complements the second, is Feyerabend's claim that all methodological rules may justifiably be violated. The combined force of the latter two points is that methodological rules are to be viewed as rules of thumb suitable in some but not all circumstances.

These three points combine to yield a model of scientific reason according to which methodological standards need not uniquely determine choice of theory, and yet in spite of this scientists may rationally adopt conflicting theories. On such a model, methodological standards of the kinds traditionally discussed by philosophers of science continue to play a role in scientific decision-making, since they influence and guide theory-choice. But the inability of methodological standards to uniquely determine choice of theory means that some aspects of the decision-making process cannot be dictated by such standards. Such inability of methodological standards to determine

choice of theory leaves significant room for scientists to exercise their individual judgement in deciding between theories. It is at this point that the idea that rationality is not to be fully analyzed in terms of adherence to methodological standards begins to appear attractive.

Rorty and Bernstein on non-algorithmic rationality

While Kuhn and Feyerabend were often read as relativists attacking the rationality of science, which need to be defended from their attack, there was another possible reaction to their work. Rather than attacking the rationality of science, Kuhn and Feyerabend were instead challenging the traditional philosophical model of scientific reason as governed by a fixed, algorithmic method. Two philosophers who have taken the view that it is instead the classical rule-governed conception of rationality that is at issue are Richard Rorty and Richard Bernstein. Both Rorty and Bernstein suggest that something deep in our philosophical tradition is challenged by the Kuhn-Feyerabend attack on method. Both suggest that what is most directly under threat is an algorithmic conception of rationality.

In *Philosophy and the Mirror of Nature*, Rorty suggests that epistemology should give way to hermeneutics, that epistemology seeks rules that would constrain inquiry, and that hermeneutics displaces the need for such constraints. What lies behind epistemology, Rorty holds, is the thought that there is some "permanent neutral framework" which provides the basis for commensuration between all discourses. What Rorty means by 'commensurable' is:

"able to be brought under a set of rules which will tell us how rational agreement can be reached on what would settle the issue on every point where statements seem to conflict." (1981, p. 316)

According to Rorty, the idea of a framework of rules common to all discourse which is able to adjudicate all disputes is the core idea which animates epistemology.

"The dominating notion of epistemology is that to be rational ... we need to be able to find agreement with other human beings. To construct an epistemology is to find the maximum amount of common ground with others. The assumption that an epistemology can be constructed is the assumption that such common ground exists ... To suggest that there is *no* such common ground seems to endanger rationality. To question the need for commensuration seems the first step toward a return to a war of all against all. Thus ... a common reaction to Kuhn or Feyerabend is that they are advocating the use of force rather than persuasion." (1980, pp. 316-17)

In Rorty's view, such a reaction to Kuhn and Feyerabend is mistaken. The absence of a common framework of rules which guarantees agreement does not mean that theory-choice is necessarily irrational. Nor does it mean that such a choice can be resolved by force alone. Rather, Rorty says, the absence of shared algorithmic

rules "provide[s] room for endless rational debate" (1980, p. 327). That is, the possibility of rationality is not foreclosed either by the absence of rules which are capable of determining choice of theory or by the potentially interminable nature of rational debate. Without algorithmic rules, or even the guarantee of rationally bringing a debate to closure, there may still be rationality.

Rorty, however, does little to develop the idea of non-algorithmic rationality, since he is more concerned to dislodge epistemology in favour of hermeneutics. It is Bernstein, in his discussion of Rorty in *Beyond Objectivism and Relativism*, who extracts the appropriate moral. The bias of epistemology in favour of commensuration that Rorty detects can be removed, Bernstein suggests, without lapsing into an irrationalist view of theory change.

"To give up [the] assumption about commensurability is not to call into question the rationality of science but rather to change our understanding of rationality in scientific disputes and conflicts — an understanding that highlights the practical character of scientific rationality." (1983, p. 61)

According to Bernstein, rational considerations ultimately persuade scientists to adopt a given paradigm (1983, p. 55). The force of such rational considerations, however, falls short of that of a logically compelling or demonstrative proof. Rather, the rationality in question has the character of practical reasoning.

But what does it mean to say that theory-choice not determined by an algorithmic method may be rational in a *practical* sense? "In speaking of the 'practical' character" of rationality, Bernstein says he wants to "underscore the role of choice, deliberation, conflicting variable opinions, and the judgemental quality of rationality" (1983, p. 74). "Theory-choice", he says, "is a judgemental activity requiring imagination, interpretation, the weighing of alternatives, and application of criteria that are essentially open" (1983, p. 56). Moreover, the application of criteria involves "a mediation between general principles and a concrete particular situation that requires choice and decision", and this involves "interpretation and specification of universals that are appropriate to [a] particular situation" (1983, p. 54).

In treating theory choice as a matter of practical reason, Bernstein's point is that where rules fail to uniquely determine choice of theory, the process of weighing up the various considerations which count in favour of the alternative theories may nevertheless be a rational process. Such a rational weighing-up of alternative theories involves deliberative reflection on which factors deserve to be taken into account. It involves judgements that one factor outweighs another. It involves interpretation of general criteria in order to apply them to the specific features of a concrete situation. In this process, it may be necessary to make decisions concerning the relevance and relative importance of the factors on which the choice is to be made.

Not all of those who are confronted with the choice between theories need agree on what is relevant and what is most significant. There may be disagreement on the relevance of a given factor, on the relative weighting of different factors, and on how to bring general criteria to bear on the specific situation.

So Bernstein's talk of practical rationality is not meant merely to emphasize that in choosing between theories a scientist is faced with a choice between alternative courses of practical action. Rather, Bernstein is emphasizing that the choice between theories is not of a kind such that there is a fixed, pre-selected set of considerations which must be applied in a uniform way to all theories, and which is capable of dictating the choice between alternative theories. Quite the contrary, there may be a whole range of factors that are of possible relevance, and, depending on the relative importance attached to the various factors, a variety of conflicting rational choices may be arrived at.

Algorithms and criteria

Rorty and Bernstein follow Kuhn in denying that methodological criteria operate as algorithms which mechanically and unequivocally determine choice of theory. But it does not follow from denying that criteria operate as algorithms that one must also deny that rationality consists in compliance with such criteria. Rational theory-choice might not be dictated by an algorithm; yet it still might consist in compliance with criteria. Scientific rationality might simply be conformity with non-algorithmic criteria. If so, one might deny an algorithmic conception of rationality without denying a rule-governed conception of it.

I wish to suggest that the mere fact that there are methodological criteria to which appeal must be made in rationally justifying choice of theory does not establish that the rationality of theory choice fully consists in compliance with such criteria. The reason is that the process of appealing to criteria to rationally justify choice of theory is a process which has to come to an end at some point.

On the picture of theory choice presented by Kuhn and Feyerabend, the scientist choosing between theories must decide which criteria to take as guiding values, and how to apply them. But this raises the question of whether choosing suitable criteria and deciding how to apply them are themselves rational processes. If selecting criteria may be rational, this raises the further question of whether the rationality of this process consists in being governed by some further set of meta-level criteria. And a similar question would arise with respect to the selection of such meta-level criteria. In other words, if rationality is thought of as governed at all levels by criteria, then we embark in an infinite regress.

To avoid the infinite regress, the decision to apply a criterion

must not itself be a process fully governed by criteria. We may allow that criteria serve as standards to which appeal may be made in justifying choice of theory. But we must deny that reason is to be equated with compliance with criteria. I wish, that is, to suggest that not only are methodological criteria non-algorithmic, but that reason itself is not to be entirely conceived in terms of following rules.

It might be thought that blocking the infinite regress by denying that rationality is entirely rule-governed faces a classical sceptical objection. For it may seem that denying that rationality is to be fully captured in terms of rules amounts to answering the Pyrrhonian problem of the criterion by calling a non-rational halting-point to the sceptic's infinite regress of criteria. Thus, it may seem that to deny that rationality is entirely rule-governed is simply to allow that rationality rests at bottom on a non-rational commitment to reason.

But this would be to misunderstand the argument. The point of saying that the selection of criteria may not itself be entirely rule-governed is not an attempt to call a halt to the sceptic's regress of justificatory reasons. Rather, the point is simply that no rational agent is capable of employing an infinite series of meta-criteria to select criteria. If rationality is to be something of which agents are capable, then use must at some point be made of a capacity to appraise criteria is not governed by rules.

Brown's theory of judgement

The capacity to appraise criteria in the absence of rules requires the ability to exercise judgement. What is therefore required to complete the present model of rationality is an account of the nature of judgement, which enables agents to choose between criteria and to weigh up conflicting considerations in the comparative evaluation of theories. The most fully developed account of judgement presently available is due to Harold Brown in his book *Rationality*. I will sketch the relevant idea of judgement by briefly summarizing Brown's account.

Brown presents the idea of judgement within the context of a model of rationality on which the notion of rational agency is taken as fundamental. For Brown, the capacity to make judgements is characteristic of a rational agent. Rationality does not reduce to compliance with rules since agents make rational decisions in the absence of rules. Indeed, it is precisely where there are no rules that rationality is most needed and that a rational agent must exercise judgement. Yet, while rationality is not fully governed by rules, rationality does not reduce to unconstrained judgement. To yield rational belief in the absence of rules, judgement must normally be subject to the constraints of logic and observation, as well as to evaluation by others with the relevant expertise (cf. Brown, 1994).

Brown describes judgement as 'the ability to evaluate a situation, assess evidence and come to a reasonable decision without following rules' (1988, p. 137). He allows that much of the time we reason and act by following rules, and that it is rational to do so when appropriate ones are available. Yet while he grants a role to rules, Brown insists that:

"we do have an ability to think and reason beyond the range that is captured in our ability to follow rules. We exercise this ability when we are creating rules, when we modify existing rules, and when we recognize that we have an unusual case at hand, and decide how to deal with it." (1988, p. 156)

Thus, in Brown's view, while we are capable of reasoning in a rule-governed manner, situations may arise in which our reasoning cannot proceed in accordance with rules. In such cases, we make use of our capacity for judgement.

While judgement is not rule-governed, however, it is subject to an important internal constraint. Judgement must be based on expertise. In order to exercise judgement in some matter, one must have expertise in the area and be well-apprised of relevant information. Given the nature of expertise, the ability to make judgements in an area is a learned ability that requires training, and having the ability to exercise judgement is having a certain kind of skill. However, since even the most skilful and well-informed expert can arrive at erroneous conclusions, the capacity to make judgements must be viewed as a fallible capacity.

In sum, according to Brown, judgement is a fallible, acquired capacity to make decisions, on the basis of relevant information and expertise, without following explicit rules. Such a capacity is precisely what is required by the process of selecting criteria described in the previous section. For the capacity to form a judgement without following rules is a capacity to make rational decisions. Thus, the acceptance of a theory on the basis of criteria, which have not been selected by a fully rule-governed process, is capable of being a rational decision.

Judgement and justification

I will close this paper by briefly considering an objection to the role assigned to judgement in the present model of rationality. The objection is based on the traditional distinction between justification and discovery. According to this distinction, the rational acceptability of a theory is an objective epistemological matter which is to be treated within the context of justification. By contrast, the subjective psychological processes of scientists which occur in the course of scientific research are located within the context of discovery. The merely psychological processes which occur in the context of discovery have no bearing on the rational acceptability of theories, and therefore

fall outside the context of justification. In light of this distinction, the objection arises that an act of judgement is a psychological process which has no place within a model of rationality, whose proper domain lies within the context of justification.

Quite apart from the fact that this distinction is no longer widely taken to be as plausible as it once was, the objection rests on at least two mistakes about the epistemic status of judgement. In the first place, there is no apparent reason why the distinction between justification and discovery cannot be applied to the notion of judgement. In precisely the same way in which we distinguish merely psychological processes of belief-formation from normative grounds of belief, we may distinguish merely psychological from normative aspects of judgement. We might say, for example, that a judgement provides rational justification when it is based on an appropriate use of expertise and thorough knowledge of relevant information. There may at the same time be merely psychological processes accompanying the act of judgement which are of no relevance to either the basis or the deliverance of judgement.

In the second place, the objection rests on a misconception about the nature of epistemic objectivity, and therefore obscures the sense in which judgement may be rationally justified. It might be thought that methodological criteria provide objectivity because compliance with criteria eliminates the influence of merely personal considerations. But in fact the principal epistemic function of criteria is not to eliminate subjectivity but to insure credibility. Criteria provide beliefs with rational support because satisfaction of criteria has a positive bearing on the truth-aptness of belief. The epistemic role of criteria is not merely to remove subjective factors, but to provide grounds for accepting a theory as true.

But now it should be clear that an appeal to judgement is not necessarily out of place in the theory of rationality. There is nothing specific to criteria which makes them uniquely capable of providing epistemic warrant. It is rather the case that compliance with criteria is a reliable indication of truth. But compliance with criteria need not be the only reliable indication of truth. It may very well be the case that the sort of non-rule-governed judgement described by Brown yields similarly reliable indications of truth. There are, after all, constraints on judgement, such as expertise and information, which are not dissimilar to the epistemic basis of criteria. Given the ability of judgement to incorporate epistemically relevant constraints, I conclude that judgement may well play a role in rational justification.

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