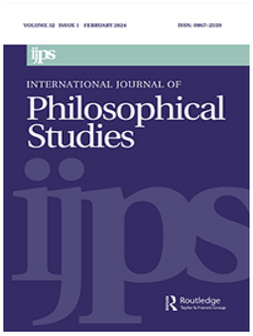

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Science Denial, Cognitive Command, and the Theory-Ladenness of Observation: A Postscript for a Time of 'Post-Truth'

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ABSTRACT

One worrying aspect of contemporary Western Society is the increasing prevalence of instances of 'Science Denial' in popular culture. Examples include both cases where well-attested scientific hypotheses are rejected and conversely, where scientifically discredited ideas are stubbornly retained. The paper raises the question whether the kind of argument for an anti-realist conception of empirical scientific theory considered in my contribution to the inaugural issue of this journal could in principle provide intellectual succour for these trends. The discussion proceeds through an examination of the role of 'takings for granted' in all reflective enquiry to the conclusion that a trusting acceptance of the general credibility of informants is a precondition for the exercise of individual epistemic responsibility, and that in that context an acceptance of at least the empirical adequacy, if not the truth, realistically understood, of the teachings of scientists in general is rationally non-optional.

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KEYWORDS Scientific realism; post-truth; science scepticism; trust; epistemic entitlement; authenticity conditions

1. Introduction

We live at a time when the credibility of a range of scientific claims of considerable potential practical importance is widely doubted. The effectiveness and, more, the safety of vaccines is not unusually held to be questionable. Climate change is regarded by many as a mere hypothesis or even as the fiction of some kind of conspiracy. It has become common to hear experts derided as 'so-called' experts.

The suggestion has been put to me that the various arguments of the philosophers that challenge a Realist philosophy of empirical science or call into question the objectivity of empirical scientific theorising, may have

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contributed to this trend. In this short retrospect on my 1993 paper[1] I want to consider whether the central argument presented there, if sustained, could indeed properly provide comfort, or at least an excuse, – were they to pay any attention to it – to the merchants of science denial. I shall argue that it would be a serious misunderstanding to think so, and moreover a quite impractical uptake of the gist of the argument.

2. Two Disclaimers

First, I should stress that, in engaging this question, I do not mean to suggest that I actually think it likely that the ruminations of philosophers have indeed played, or are liable to play, any significant role in generating or sustaining the phenomena of science-scepticism that recent decades have witnessed. It is not because the folk have been reading Rorty, Latour or Feyerabend that many are wary of the reality of global warming, the efficacy of vaccines, or are more generally doubtful of the dependability of the teachings and warnings of scientific specialists. I know of no evidence that philosophical scepticism about the objectivity of science is among the causes of these phenomena. But caution is perhaps merited: philosophers should probably not simply take it for granted that, marginal though their debates may be, the ideas in play therein, 'more or less mangled and watered down', as Wittgenstein said,[2] cannot over time leach out into the public consciousness, if only in cartoon form, and then exert some degree of influence on folk thinking. And, on the upside, if when the philosophical question is raised, there should indeed prove to be a convincing case to be made for the objectivity of scientific thought and the cogency of best scientific method, we philosophers might conceivably do some good by making that case loud and clear.

Second, on the example, in particular, of scepticism about climate change, I should remark that I am aware that what we have been witnessing is not a matter of a simple mistrust of the claims of climate scientists. Rather, at least three different forms of reluctance to heed their messages have been manifest. One is, to be sure, the denial that climate change is happening at all, or that the evidence for it is convincing. But another, while conceding that there is evidence for the phenomenon, denies that human activity is among its causes. A third type of scepticism acknowledges the reality of the changes taking place, and the role of human activity in their causation, but doubts that the changes will have any serious impact on the ecology of the planet in the mid- to long-term. There is even a fourth kind of 'push-back' manifest in the current debates among politicians in the United Kingdom but irrelevant to the issues here, which contends that while there is indeed a problem, it needs to be addressed in 'reasonable' ways that preserve jobs and foster economic growth. In none of these forms of resistance is any issue about

the objectivity of climate science in particular or science in general necessarily involved.

3. Preliminaries (A): Two Familiar Doubts About a Realist Attitude to Empirical Science

The phenomena mentioned are relatively new. Up until quite recently ordinary, philosophically unsophisticated thought has been encouraged and accustomed to regard the propositions of empirical scientific theory as objectively true or false, and of empirical science generally as having made spectacular progress towards a better understanding of how the world really works and what Nature is really like. Such a view has for a long time been absolutely orthodox and entrenched in conventional education in the Anglophone west. Those who instead have promoted the idea that even the most rigorously tested scientific theory might be no more than some kind of 'social construct', have been liable to be dismissed as cranks, or as merely thoughtlessly intoning a post-modernist mantra or, worse, indulging in a kind of attention-seeking.

Nevertheless, while the spirit of a naïve realist view is supported in the writings of many recent and contemporary eminent philosophers of science, two outstanding challenges to it are to be found in the analytical philosophical literature. One, famously associated with Quine's writings,[3] focuses on the thesis of the so-called Underdetermination of Theory by Data to argue that no amount of empirical findings can sufficiently constrain the rational choice of theory to a point where we could be justified in thinking we had the uniquely correct account of the data. To be sure, this is strictly an epistemological claim and as such presents no challenge to the idea of scientific hypotheses as objectively true or false, though it does abrade with the 'spectacular progress' claim. The other significant challenge, driven especially by the work of Mary Hesse,[4] argues that the content of scientific theories tends to be irreducibly *metaphorical* in a way that obstructs any claim to literal objective truth in the spirit of the intuitive realist idea. For, while a metaphor may be *literally* true – 'No man is an island' – or (more usually) literally *false*—'He's a snake,' – when taken metaphorically such sentences are not strictly true or false, though they may be apt, suggestive, perceptive, inapt, crude or unfair. Surely the ultimate truths about the world of microphysics, e.g. cannot be expressible only in metaphor.

There is a major question about how should one best argue against these ideas and *for* a fully realist conception of empirical science. And prior to that comes the question how we should best, beyond the loose and intuitive formulation gestured at, characterise the view of empirical science that Quine's and Hesse's arguments challenge. One immediate problem is that

mere truth-predicability is somewhat of a limp wand in this context. For our habit is casually to predicate 'true' and 'false' of indicative statements generally, including not only metaphors but those concerning what is morally right or not, what is funny or not, what is tasty or not, and what is fine, noble or beautiful, and even statements concerning fictions – 'Casaubon should never have taken a young woman as his wife' – any or all of which we may be very reluctant to compare to science in respect of objectivity. What is the notion of strict and literal, fully objective truth that is the focus here?

Wright (1993) is centrally concerned with this question and with one line of argument, distinct from those concerning underdetermination and metaphor, whose upshot, if sustained, might indeed seem to be to offer succour to the idea of scientific theories not as dealing in objective truth but rather as 'social constructs'. It is this argument to which I want to return here, not so much with a view to evaluate further what force it may carry as to ask whether if sustained it would indeed provide some measure of philosophical grounding for a climate of 'science denial'.

One key component in ordinary thinking about the objectivity of science is the requirement of the answerability of scientific theory to repeatable, stable patterns of observation. So the correctness of observations had better be an objective matter if scientific theory is to be so. True, the latter is indeed not assured by the former if the Underdetermination thesis is correct – provided it takes the strong form which maintains that, for any body of data, there are always alternative incompatible theories which, all things considered, accommodate it equally well. But whatever about the Underdetermination thesis, the argument of Wright (1993) develops a different and perhaps yet more radical doubt that builds on the idea that observation itself lacks the kind of objectivity needed to sustain ordinary realist thinking about scientific theory. The question for the sequel will be whether there is any plausible route from this argument to even a qualified endorsement of the attitudes to science characteristic of an era of 'Post-Truth'.

4. Preliminaries (B): The Epistemological Background – Trust and the Limits of Epistemic Responsibility

Before turning to the central argument of Wright (1993), it may be useful to offer some – perhaps by no means unobvious but nevertheless I believe salutary – reflections about the epistemological background against which the very phenomenon of distrust of experts needs to be set. For the conditions, or so I shall argue, under which such distrust can be rational are actually quite demanding.

Expertise as intuitively understood is a special case of *authority*: an authority about a subject matter M for an agent A is anyone who may be

presumed to know better about M than A. Liberally so characterised, authority may not be theoretically based: someone may, for example, be an authority for A simply in having witnessed a particular event M which A did not witness. Expertise, intuitively, is a matter of authority based on special cognitive competences, characteristically acquired through special training. But it is scientific theoretical expertise that is our special focus here, and more specifically expertise that has been acquired through training in and pursuit of the methods of empirical science. So we need to ask: under what conditions is it reasonable for a thinker with no such special expertise to doubt the claims of those who have it?

I think it is helpful to take that question in the context of the more general question: what are the limits of reasonable doubt? Consider Descartes' announced project in the *Meditations*: it is to undertake a drastic overhaul of all his presumed knowledge: to doubt everything he can coherently doubt, and then to rebuild from scratch. One lesson, I suggest, of Wittgenstein (1969) notes *On Certainty* is that such an implicitly foundationalist picture of our accumulated knowledge – the idea that you could in principle start with a clean slate and build your knowledge up – is fundamentally misconceived: we need to acknowledge the role of prior acceptances in all fully reflective enquiry.[5] Any particular inquiry has what I have elsewhere called *authenticity conditions*[6]— such that a doubt or even open-mindedness whether any of them are met – is not rationally consistent with reposing confidence in the overt results of the enquiry. Enquiry, in its very nature, has to start in a context in which, for a fully reflective thinker, a great deal is already accepted.

The point can be appreciated by reflecting that, as we ordinarily think, there are broadly just two kinds of subject matter about which we can aspire to knowledge. There are some states of affairs that are to be found in our *cognitive locality*, as we might express the point: situations which are directly – non-inferentially – accessible to various of our cognitive faculties, including our perceptual faculties, our capacities for episodic memory, our capacities for psychological self-knowledge and, perhaps, capacities for a priori non-inferential impressions of logical validity and mathematical fact. (Of course, exactly which capacities deserve inclusion in this register is controversial[7]). But other kinds of states of affairs are *cognitively distal*, so to say; they are not available to direct cognition – we depend for evidence about them on materials yielded by the former faculties, which evidence is then conceived to provide a defeasible base for propositions concerning, for example, other minds, the past beyond living memory, distant regions of space, counterfactual claims, and scientific laws. In proceeding as we do, we therefore assume, or implicitly take for granted, two corresponding kinds of condition: for the first kind of situations, those within our cognitive locality, we take it for granted, in

advancing any particular finding that those among our cognitive faculties which are relevant are functioning effectively in conditions suitable for their effective functioning. For the second, we take for granted the broad reliability of the species of local evidence on which we rely for distal conclusions.

We should distinguish three types of such 'takings for granted'. First, there are

(i) *Metaphysical 'Heavyweights'* – e.g. that there is an external material world, that there are other minds, that there has been a substantial past beyond living memory . . . . I suggest, though it is well beyond the scope of this short paper to argue, that the effect of the most challenging sceptical arguments is to put these very general theses beyond evidential corroboration – we just have to presuppose them as part of the framework of enquiry. (It is, naturally, another question whether, or in what sense, it is rational to do so.) Second, there are

(ii) *Local, project-specific authenticity-conditions*. Suppose I want to satisfy myself of the proposition e.g. that that I have ordered the correct number of slates to repair my roof – the authenticity-conditions will include that: my senses were functioning properly, that I understand how to determine the number of needed slates as a function of the area of damage and the area and shape of the individual slates, that I calculated the area of the roof to be repaired correctly, that I correctly calculated the area of each slate, that I correctly noted my results, that I was throughout generally cognitively lucid, that I used the correct email address for the supplier, that I remembered to hit 'send', that my mail software was functioning properly . . . . . .

I intend this second category to include only conditions whose satisfaction, in contrast to the metaphysical heavyweights, *could in principle* be independently scrutinised. Obviously, however, it cannot be a requirement of rationality that you should place confidence in an inquiry only if you have indeed in fact corroborated *all* such relevant conditions – for in each case, such a check would be a *new* enquiry, so the demand would be viciously regressive. The result is that some such local authenticity conditions have to be what we may call *props (*that, is conditions for the project in hand which it is reasonable to 'take for granted') rather than *lemmas* which we may define as authenticity conditions which it would be *epistemically irresponsible* to take for granted. (An interesting question concerning any particular inquiry is thus: what determines which are the props and which the lemmas?)

These reflections establish that unevidenced acceptances are an integral part of rational enquiry of every kind. You cannot learn anything unless you are prepared to take much on trust. To be sure, the point has no immediate bearing on science-denial. Excepting the case, possibly, of the metaphysical heavyweights, there must after all be circumstances in which a suspension of trust in some particular condition required for the authenticity of a particular cognitive project is reasonable. But what, I think, we may conclude is that the

onus is on the critic. Such suspension must be justified, and since accomplishing such a justification is an extra cognitive project, the default stance should be to take for granted what the authenticity of a particular enquiry demands unless there is an extant reason not to do so.

(iii) In light of that point, let us move to consider the third most significant category of authenticity conditions. This is the most important for present purposes. We may call the members of this category 'Hinges of Cognitive Commerce'. These are authenticity conditions governing the receipt of *testimony* very broadly construed, so as to cover regular conversation, news media, textbooks, journal articles, political speeches, NHS pamphlets, medical consultations, estimates from specialist repairers (car mechanics, IT specialists. . .), etc. The general form of these authenticity conditions is, for any particular case: *this source is generally reliable, or is at least reliable on this point*.

Here is a pretty obvious point from the philosophical debates about testimony: a self-reliant, intelligent enquirer A cannot practicably undertake to accomplish 'track-record' corroboration of the reliability of each and every one of their particular sources, even when it is reliability with respect to one specific subject matter that is at issue. It is simply not practicable to check their record in general before trusting a source. Moreover, whenever the reliability of a source is a question of *expertise*, or other kind of *authority* (e.g. that of a witness), A may in any case be in no position to check for reliability since themselves lacking the relevant expertise or other basis for authority.

The pretty obvious point spawns another, this time what I will call the very important point (VIP). Divide the questions (facts) on which you may have an interest in getting reliable answers into two kinds: *alpha questions* — those which you can unilaterally competently investigate to a conclusion – and *beta questions*: those to settle which you will, to some perhaps extensive degree, need to rely on testimony, broadly construed as above. Then, the VIP is that very often the reliability of a source will itself be a beta question. Yet receiving and acting on information from sources, rather than independent enquiry, and doing so to a massive extent, is simply a basic necessity of quotidian life. In general, then, the reliability of information-sources has to be a prop.

It is one thing to recognise that each and every enquiry one undertakes rests on a range of authenticity conditions for which one lacks independent evidence, and that this situation is in principle irremediable, so that part of what it is to enquire is to take for granted. But the more pertinent point for present purpose is the drastic limitation of the scope for each of us of *autonomous* enquiry – of enquiry resting absolutely on no kind of testimonial lemmas or props. It is not just that no-one is a cognitive island, so to speak. There is simply no viable strategy for a fulfilling life in a modern society that is not permeated through and through by testimonial, presumed

authoritative input. This raises the major question: in what could epistemic responsibility come to in circumstances of widespread informational corruption: how would one best plot a rational strategy for information-reception in what one takes to be a Post-truth world?

It is clear that an individual can no more comprehensively and self-reliantly manage their cognitive health than – unless they are very lucky – they can, without specialist medical assistance and advice, their physical heath. We need the support of a what we might term a *cognitive welfare state*: a system of incentives for inquirers to encourage those who are able to delve for knowledge of value for everyone and of checks and balances to safeguard against the corruption of the products of inquiry with mistakes and agenda-driven lies. And we need to trust that our institutions approximate that condition.

A rational agent who subscribes to anything approximating our world view is going to allow that there are matters beyond their ken which may nevertheless be of consequence for them and which it may take specialised intellectual skills and techniques of investigation to form justified opinions about. Two corollaries of the foregoing are first, that no rational agent save one committed to the life of a hermit can coherently suppose that a practicable, let alone a fulfilling life is feasible without the most extensive trust in information from external – in the sense defined above, expert – sources and hence that a *general* scepticism about testimonial expertise is simply impractical. Science-scepticism, if it can be a practical stance at all, has to be highly selective. Second, the VIP raises serious questions about the extent to which such selectiveness could be justified. In any case, if it is to be rational, such selectiveness would have to be based somehow or other upon special considerations presumed peculiar to the credibility of the particular scientific sources concerned. We can tentatively conclude that no purely general argument, like those of Quine, Hesse or that on which we are about to focus, could justify such a stance.

5. The Argument of Wright (1993), and Introducing Pyrrhon

With these general misgivings noted, let's turn, now, to the specific critical challenge to the objectivity of theoretical science canvassed in Wright (1993), and to an imaginary character, —call them Pyrrhon – who is persuaded of that argument's cogency and tempted by science-denial on that basis.

The claim that observation is 'theory-laden', stripped of metaphor, is the extreme contention that what it is correct to report in response to any observation is always a function of background theoretical commitments in such a way that two theorists with differing such commitments may quite properly disagree about what is confirmed by – what may justifiably be claimed on the basis of – a shared episode of observation. If that is true,

then there are accordingly no observation statements in the sense that was dear to the Logical Positivists, no statements assent to which is rationally mandated simply by the course of one's experience, independently of collateral theoretical commitments. There are no *synthetic* statements in the sense of Quine's 'Two Dogmas'.

The principal potential consequence of interest of this idea in the present context is mediated by the principle I have called *Cognitive Command*.[8] This asserts that the statements in a certain class are apt to be conceived as *representational* of objective fact only if it is a priori that disagreements about the status of any member of the class – setting aside disagreements due to vagueness in the content of the statement in question – will involve something which may properly be regarded as a *cognitive shortcoming*. The notion of cognitive shortcoming here is general, and vague in some respects. But the intuitive rationale for the principle is clear: if a pair of agents come to conflicting views about an objective matter, then they cannot both have performed cognitively faultlessly: one or both of them must either have been reliant on imperfect methods of assessment or have made some kind of mistake in working with an adequate method.

While these ideas stand in need of further refinement, their immediate relevance is clear. If observation is theory-laden as interpreted above, then two theorists can – that is, it is a priori possible that they should – each respond in a sense perfectly properly to their observations of a common experiment and yet fetch up in disagreement about what they have observed, owing to divergent background theory. So if misrepresentation is somehow involved in such a case, it must therefore result from one or both of those respective background theories being defective. Yet each theory may have been so far perfectly properly grounded in the theorists' respective previous observations, which however again were met with divergent interpretations owing to further disagreements in background theory . . . .[9] So the notion that all observational reports are irrevocably theory-conditioned generates an a priori possibility of intractable divergence in which no-one can – by a neutral bystander, as it were – be identified as having made any mistake or fallen prey to anything more generally identifiable as a cognitive shortcoming. Viewed from the perspective of the constraint of cognitive command, the theory-laden character of observation is broadly inconsistent with the idea of scientific theorising as cognitively representational activity, apt for the generation of objectively accurate results.

6. Pyrrhon Confounded

However that conclusion leaves open two possibilities concerning the source of the compromise of representationality. The problem may lie

with the *subject matter*— there may be no objective material 'out there' for discovery. (This is the way we tend, most of us, to think about matters of basic taste for example.) Or consistently with the idea of the existence of an objective subject matter 'out there', the problem may be conceived to lie with the *methodology* of the kind of investigation concerned. The characteristic methodology of empirical science consisting essentially, for the present purpose, in the accumulation of repeatable experimental evidence, and the construction of, by appropriate criteria, good theories that purport to explain that repeatable evidence, may be conceived as capable of culminating in theory which systematically but undetectably misrepresents the nature of the target subject matter.

Both interpretations may be presented as grist to Pyrrhon's mill. If even the best scientific theorising merely generates hypotheses whose content ill-equips them to convey literal truth about objective reality, then – while one may come to trust selected sources as sincere and performing competently by normal criteria – their pronouncements will not have *epistemic* authority, any more than various kinds of expressions of value, when anti-realistically construed, or of taste. It is salient that there is, plausibly, no such thing as authoritative testimony about what is funny or beautiful, or wrong. 'You have to judge for yourself'. So on this interpretation of the upshot of the 1993 argument, it may seem that Pyrrhon can no less rationally discount the conclusions of the scientists than the recommendations of a theatre critic, the reviews in the Good Food Guide, or the advice of his priest.

The second interpretation takes seriously the idea that there are fully objective scientific truths but holds that it would be a matter of serendipity or mere chance if best theory – theory constrained by what is conventionally regarded as best scientific method and optimal canons of theory construction – alighted on them. If that is accepted, then it may seem, again, that Pyrrhon would indeed be justified in treating the word of the experts with some scepticism – for testimony is rationally accepted only if one has evidence or can reasonably take it for granted that one's informant is in position to have knowledge or at least fully justified beliefs concerning the matter at hand.

Now though we have something of a paradox. The situation at the conclusion of section III was that a general science scepticism – that is a scepticism about the whole idea of competent testimony concerning matters beyond our local ken and requiring special intellectual and practical techniques for knowledge of them – would involve at best a wholly impractical way of living and arguably an incoherent epistemology, based on oversight of the role of takings-for-granted in all enquiry. But now we seem to be on the verge of accepting that the argument of Wright (1993) excuses, if not quite mandating, such a general scepticism.

The solution, I suggest, is to note a common assumption in play in each of the interpretations of the 1993 argument just distinguished. That assumption is that all that matters, as far as the credibility of expert testimony is concerned, is whether its content can reasonably be taken to be likely to be literally true. On the first interpretation the hypotheses of scientific theory are not so much as in the market for literal truth; and on the second, there is no discernibly reliable passage from a theory's compliance with best scientific method to its actual truth. Fortunately, though, the assumption is false. We are, after all, concerned in all relevant cases with *applied* science: with predictions of testable beneficial or deleterious, or perhaps disastrous, effects of our actions. And there is a well-established distinction, first emphasised by Van Fraassen (1980), between conviction of the truth of a scientific theory and conviction of *its empirical adequacy*: its ability to predict the phenomena it is fashioned, realistically viewed, to explain. The upshot of the argument against realism based on the theoreticity of observation and the principle of cognitive command is indeed, if it is sustained, either a doubt that scientific theories carry objective representational content or a doubt that best practices of data-gathering and theory-construction correlate to a significant degree with the attainment of objective truth. But Pyrrhon can, and arguably *should* have a thought along the lines of 'Whatever about that, I have been given no reason to doubt that best theory will predict my observations – my living experience – even if what I consider myself to experience will in turn be conditioned by theories that I myself, perhaps not fully consciously, hold.'

7. Conclusion

It's notable that the same point applies to the arguments of Quine, on underdetermination, and Hesse, on the putative metaphorical character of at least those parts of scientific theory that are remote from observation. The data that allegedly underdetermine the choice of scientific theory determine a class of theories that, albeit inconsistent with each other, have to accommodate those data, so that their empirical adequacy is built into the very statement of the problem that the Underdetermination Thesis is thought to pose. And, unlike metaphors in general which may suggest but do not strictly entail the consequences they are designed to bring before the mind, the putatively metaphorical character of the theories that motivate Hesse's claim has to square with their strict entailment via auxiliary hypotheses and definitions, of deterministic observational consequences. In brief, the scepticism about scientific realism that these various arguments converge on is not only quite consistent with belief in the empirical adequacy of the theories concerned but leaves the ordinary inductive justification of that belief altogether unchallenged.

So: we find there is no support for science denial – that is, for regarding the *practical* predictions of science with scepticism – to be drawn from any of

the three general anti-realist lines of argument here considered. To be sure, there remains the possibility of a more general inductive scepticism about predicted practical consequences. But Pyrrhon will not be well advised to be interested in that – not if they want to be able to make a rationally informed choice of a dentist who can reliably provide a root canal treatment without complications, or of a mechanic whose maintenance work can expectably maintain the safety and performance of their motor car.

The overarching epistemological point I have wanted to stress, though it naturally requires fuller treatment, is that fully epistemically responsible belief management can only be exercised against the background assumption that one is operating in an effectively functioning 'cognitive welfare state.' You have to be able to work on the basis of trust that testimony, including expert testimony, is, in the round, reliable. Once forgo that trust, and the scope for effective cognitive agency is pathetically limited.[10]

Notes

1. Wright (1993).
2. Wittgenstein (1953) from the Preface at p. viii.
3. The locus classicus in Quine (1975). For an excellent overview, see Kyle Stanford (2023).
4. See also Haack (2019), Hesse (1986) (Hesse 1988), and (Hesse 1966).
5. It matters that we are here considering *reflective* enquiry, as opposed to what we might call, adapting terminology originated by Ernest Sosa (2001), 'animal enquiry'.
6. See for example Wright (2024).
7. In his (McDowell 1983), for example, John McDowell proposes that we may sometimes 'see another's pain in [their] face'.
8. See chapter 3 of Wright (1992)
9. For elaboration see Wright (1993) at pp. 244–7.
10. I am grateful to the editors of the *International Journal of Philosophical Studies* for the opportunity to contribute to this special issue to celebrate the thirtieth anniversary of the inception of the journal.

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References

Haack, S. 2019. "The Art of Scientific Metaphors." *Revista Portuguesa de Filosofia* 75 (4): 2049–2066. https://doi.org/10.17990/RPF/2019_75_4_2049.

Hesse, M. 1966. *Models and Analogies in Science*. Notre Dame: Notre Dame University Press.

Hesse, M. 1986. "Tropical Talk: The Myth of the Literal." *Proceedings of the Aristotelian Society, Supplementary* 51 (1987): 297–311.

Hesse, M. 1988. "The Cognitive Claims of Metaphor." *The Journal of Speculative Philosophy* 2:1–16.
McDowell, J. 1983. "Criteria, Defeasibility, and Knowledge." In *Proceedings of the British Academy*, vol. 68:455–479. Oxford: Oxford University Press.
Quine, W. V. O. 1975. "On Empirically Equivalent Systems of the World." *Erkenntnis* 9 (3): 313–328. https://doi.org/10.1007/BF00178004.
Sosa, E. 2001. "Human Knowledge, Animal and Reflective." *Philosophical Studies: An International Journal for Philosophy in the Analytic Tradition* 106 (3): 193–196. https://doi.org/10.1023/A:1013300923093.
Stanford, K. 2023. "Underdetermination of Scientific Theory." In *The Stanford Encyclopedia of Philosophy (Summer 2023 Edition)* , edited by E. N. Zalta and U. Nodelman. https://plato.stanford.edu/archives/sum2023/entries/scientific-underdetermination
Van Fraassen Bas, C. 1980. *The Scientific Image*. New York: Oxford University Press.
Wittgenstein, L. 1953. *The Philosophical Investigations*. Oxford: Blackwell.
Wittgenstein, L. 1969. *On Certainty*. Edited by G.E.M. Anscombe and G.H. von Wright. New York and London: Harper Torchbooks.
Wright, C. 1992. *Truth and Objectivity*. Cambridge, Mass.: Harvard University Press.
Wright, C. 1993. "Scientific Realism and Observation Statements." *International Journal of Philosophical Studies* 1 (2): 231–254. https://doi.org/10.1080/09672559308570771.
Wright, C. 2024. "Perceptual Justification: Two Conceptions Compared." In *Empirical Reason and Sensory Experience*, edited by chapter 36 of Ori Beck and Milos Vuletic. Berlin: Springer Nature.