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The Viewpoint of No One in Particular

*"The whole of science is nothing more than a refinement of everyday thinking."*¹

My title is drawn from the little book (*Space, Time and Gravitation*) written in 1920 by the physicist Arthur Eddington.² I am grateful to Thomas Ryckman, who has been working on Eddington, for bringing him and his delightful book to my attention. I hope that Eddington's "point of view of no-one in particular" may call to mind some more recent notions: Thomas Nagel's "view from nowhere,"³ or Bernard Williams "absolute conception,"⁴ expressions that are supposed to single out the domain of natural science. It is these conceptions, especially as they relate to the issue of objectivity, that I want to talk about here today.

1. EDDINGTON

But first Eddington. Arthur Eddington was the leader of the British expedition of 1919 that verified the first dramatic prediction of Einstein's theory, the bending of light rays around the sun. He was also an outstanding theoretical physicist. His book is a lovely treatment of the general theory of relativity and of the program for a unified field theory where, finally, Eddington

believes, we fully achieve the point of view of no one in particular. According to Eddington we come to this view in stages. We first eliminate individual standpoints by taking into account the various spatial positions from which an object can be observed or described. This results in an instantaneous three-dimensional Newtonian worldview. It is truly a view from nowhere-in-particular. Eddington describes it as the viewpoint of a superobserver, where one “sees” things from all locations all at once. (Putnam would call this a “God’s eye” point of view, the perspective he associates with metaphysical realism and warns us against.⁵) After positions are accounted for, the next step is to take account of motion—all conceivable motion. We accomplish this by integrating time with space. The result is the four-dimensional manifold of relativity. Finally, and speculatively, Eddington suggests we also take into account the gauge or magnitude involved in our observations or descriptions. This is a step he attributes to Herman Weyl in Weyl’s (1918) field theory that unifies electromagnetism with gravity. In Weyl’s construction that unification depends critically on transformations of gauge. Although many now consider Weyl’s efforts at unification mistaken, as Einstein did at the time, Weyl’s ideas are also recognized as important heuristically in opening the path to contemporary quantum gauge field theory. Eddington, however, regards Weyl’s work as the culmination of the program we have been tracking, that of defining physical reality as the synthesis of all possible physical aspects of things: their position, their motion, and their magnitude. Anticipating Williams and Nagel, Eddington acknowledges that more personal points of view may be needed to describe “ultimate reality.” But they are not required, he thinks, for the real world of physics.

2. THE VIEW FROM NOWHERE AND THE ABSOLUTE CONCEPTION

Nagel’s view from nowhere and Williams’s absolute conception seek to mark out a point of view, or a way of knowing, that is distinctive of the natural sciences, and appropriate there, but a way not to be imported to other areas, especially not when we turn to thinking about people and their lives. Nor when we think philosophically either. The idea seems to be that science involves a special mode of thought, a distinctively scientific way of thinking about the world. This is an idea that may appeal to those who want to see science as something especially valuable and privileged. It may also appeal to those who want to see science restrained and limited in its claims. Actually, Nagel and Williams share both desires. They see science as a good thing, in its place, and they see their way of marking out science as a win-win strategy, one that does not undervalue science but that does not overvalue it either. Here are some of the elements that go into that strategy.

The style of thought that leads to a viewpoint of no one in particular combines the impersonal with the unbiased. Impersonal goes with nonperspectival, perhaps detached and disinterested. Unbiased goes with impartial and neutral. The style could also be abstract or disengaged. No doubt Sherlock Holmes employed this combination of the impersonal with the unbiased.⁶ In literature it can be the style of the omniscient narrator. In anthropology, it corresponds to the observer's pose of "strangeness," and in sociology it is the style of thought employed by what Kathryn Pyne Addelson calls the "judging observer" (as opposed to the participant observer).⁷ Its legal form is that of blind justice with her balanced scale. Notwithstanding Williams's reservations, John Rawls has made the style famous in ethics by featuring judgments that occur behind a veil of ignorance.⁸ Notice, however, that these illustrations, which come readily to mind, are drawn from arenas where it was presumed that an impersonal and nonperspectival stance would be inappropriate. I think we begin to see here a certain confusion of thought and distinctions that will need to be sorted. What then of that stance in the natural sciences?

In natural science we recognize the viewpoint of no one in particular right away in the peculiar literary genre known as the scientific paper or report. Just as Eddington proceeds by making salient particulars (position, motion, magnitude) disappear, so in the contemporary scientific paper the author herself disappears along with time and place. Moreover, in the experimental report particular circumstances are described so as to be reproducible by anyone—which is to say, precisely by no one in particular. The scientific paper is frequently regarded as the public face of the scientific method and, I believe, it is not to literary form but to the demands of scientific practice that the idea of a distinctively scientific mode of thought is meant to attach.

3. SCIENTIFIC METHOD

The idea of method, whether with Bacon's roughly inductive spin or with Descartes roughly deductive one, is a way of drawing a line between common sense or everyday thinking, and scientific thought. Bacon warns of a whole tribe of idols, or pitfalls, in everyday thinking. Notoriously, Descartes is obsessed with the avoidance of error. The idea of method, then, comes with a charge and a claim. The charge is that everyday thinking is flawed and easily liable to lead us astray. The claim is that in science we have a better way, a way more rigorous and more accurate than that of common sense. To do better than everyday thinking we need to be detached, impartial, disinterested, unbiased. We need to abstract from our everyday concerns and disengage from common habits and private perspectives. We need to consider

things from an impersonal and neutral point of view. In short, the ideal of method requires us to be no one in particular.

One might think that feminists would be delighted with this ideal. It is certainly gender neutral. It treats masculine perspectives and feminine perspectives equally—like the authors of scientific reports, it disappears them. On the whole, however, feminists have not been delighted; indeed, they have not been amused. The ideal of method, we are told, is a masculine ideal that functions to exclude specifically feminist perspectives from science. In so doing, it degrades the openness and democracy of science. This is not a good thing especially because, as Helen Longino and others argue, democracy in science has epistemological weight and is not just an abstract ideal.⁹ For evidence only emerges against background beliefs. So, to the extent to which different voices and points of view are not active in the background, the range of hypotheses that can be challenged or confirmed is restricted, and knowledge itself becomes impoverished. That is a strong line of argument, but against what?

In Paul Feyerabend's hands it appeared to be an argument against method.¹⁰ However, contrary to the impression that Feyerabend conveyed (and, mostly, was pleased to convey) the actual lesson to be learned from his writing was not deconstructive; it was not that anything goes. It was the Hegelian attitude embodied in John Stuart Mill's lesson that good scientific practice involves many (and competing) voices. Despite the image that Feyerabend cultivated as philosophy's anarchist bad boy, his argument was actually standard libertarian pleading on behalf of open, democratic, Millian ideals. Indeed, what Feyerabend's arguments support, and what recent feminist writings underscore, is an openness to many methods. The lesson was that many things go.

4. PROCEDURAL OBJECTIVITY

That lesson concerns objectivity, where objectivity is conceived as procedural. In this conception objectivity has to do with the process of inquiry which, when objective, can be thought of as impersonal and impartial, unbiased and neutral, and the like. The view from nowhere, or of no one in particular, thus levels the playing field. This procedural conception of objectivity derives from Kant. It was taken up by logical positivism, and in recent years it has been deepened and developed by Habermas and critical theory. It regards objectivity as a form of intersubjectivity. By imposing conditions on the process of inquiry, including not only checks and balances but also requirements of publicity and responsiveness, this conception allows for more or less objectivity. In connection with the view from nowhere, Nagel endorses such a grading system even for the outcome of inquiry. He puts it this way: "A view or form

of thought is more objective than another if it relies less on the specifics of the individual's makeup and position in the world, or on the character of the particular type of creature he is."¹¹

Contemporary critiques of scientific method, and related suggestions regarding public responsiveness and a plurality of methods in many voices, are sometimes taken as criticism of objectivity itself, criticism raised by those who oppose it. It would be better to see the issue as one about the character of objectivity, with the critics claiming that inquiry will be more objective (not less) the more it is open and democratic. Where objectivity is procedural and embodied in forms of intersubjective action, that certainly seems like a viable claim.¹² It is, moreover, a claim of some practical importance. For example, due in large part to the political protests of AIDS activists and the killer nature of that disease, the Federal Drug Administration (FDA) has modified its long entrenched guidelines for placebo-controlled, double-blind experiments. In certain cases the guidelines now open the process (somewhat) by requiring a supervisory panel, including a medical ethicist. The panel is charged with monitoring the clinical trials expressly to determine at what point (if any) the drug should be offered to all the participants. This was the procedure followed in the important recent study of Tamoxifen in the prevention of breast cancer.¹³

5. THE LIBERTARIAN CRITIQUE

The libertarian critique of scientific method, however, involves an internal difficulty. If more voices need to be brought into the process, then how many more, whose voices, how responded to, and who is to determine where (or whether) boundaries are to be drawn? In the political arena questions of this sort are addressed by means of the several devices available for resolving political disputes. In a liberal democracy one looks to voting and lobbying, to forms of public conversation and education. Various organizations weigh in and eventually compromises are achieved that one expects to be negotiated and renegotiated over time. Similar processes are at work in the scientific arena. Those processes involve specialists, who act as consultants and advisors to the agencies that fund and promote scientific research. Sociologically and historically this is old news. Science is a social institution, like others, and it has a history. One can trace shifting conceptions of objectivity from the seventeenth century onwards.¹⁴ One can look at the professionalization of science and the development of scientific elites. One can track the institutionalization of procedures that secure objectivity, the introduction of quantitative methods such as cost-benefit analysis, and examine how they are shaped, for example by the pressure to resolve political disputes over such things as rivers and the building of bridges.¹⁵

Still, the difficulty for the libertarian critique remains. The question is whether the social history of objectivity is constrained by general norms built into the very conception of objective inquiry, or whether nothing more than local practice (some would say, mob rule) governs. The worry is that unless there are universal principles governing the procedures that make for objectivity, or at least some very general principles, then. . . . Well, I don't know how to finish that sentence, but I know that unless there are universal constraints, something very bad is supposed to follow, probably something that involves relativism and irrationalism.

How did we get to relativism and irrationalism? We began by exploring the viewpoint of no one in particular as characterizing a distinctively scientific way of thinking. What appeared to distinguish that way from everyday thinking was a matter of process; it was the scientific method. It seems, however, that scientific method, which marks a procedural conception of objectivity, needs to be reconfigured. What counts as objective inquiry needs to be opened and made more flexible. How open? How flexible? More generally, how do we go about determining the boundaries of objectivity? Do we proceed on the basis of universal or general principles, or do we go local and political? Are there general standards to which we can appeal, or do we just adopt the customs of the natives? That is how we got to relativism and irrationalism.

I hope everyone can see one big, false step along the way. It is in the alternative between proceeding on the basis of perfectly general principles (or standards) or of no principles (or standards) at all. Much of the fervor in contemporary discussions of objectivity derives from this false alternative. It is false because there is middle ground, and lots of it. There are intermediate standards of all sorts that one can explore as we examine answers. Depending on subject and context, we can propose temporary rules for the discussion. As a principle, we can agree to accommodate some local customs. We can set up feedback procedures. (We can, for example, put an ethicist on a scientific panel and see how that works.) We can encourage the equivalent of what Mill called experiments in living and see who prospers. In a large variety of ways we can negotiate compromises that are stable enough for a while, and then renegotiate. There is no relativism in working out procedures that are neither absolutely universal nor specifically local. Looking for intermediate standards is not irrational either. To the contrary, it would be irrational to suppose that we need general procedural rules a priori; that is, that we need them even before we can begin to sort out in different areas which procedural rules might be good ones to adopt. Correspondingly, it would be relativist to take the need that some feel for general principles constitutive of objectivity as making it true (or even plausible) that there really are such constitutive principles. We can do better than irrationalism and relativism. We do do better—even the FDA does better!

What I am supporting here is an experimental point of view. It is basically John Dewey's. The idea is that we learn in inquiry how better to conduct it. Thus I am urging that we move beyond heated debates over objectivity by trying out different conceptions of what counts as an objective process, that we learn from those trials and that we use this knowledge to move toward temporary equilibria about the characteristics of objectivity. Nothing guarantees that we will achieve acceptable equilibria, but nothing shows the contrary either.

6. OBJECTIVITY AS PRODUCT

I have been focusing on procedural objectivity, objectivity as process. That is the conception that drew us to Sherlock Holmes, to the omniscient narrator, to the anthropological pose of strangeness, to the judging observer, and to Rawls's judgments behind a veil of ignorance. Aspects of practically any subject matter can be approached this way, which is one reason why the attempts by Nagel and Williams to use objectivity as a criterion that marks a special way of knowing characteristic of the natural sciences fails straight-away. Their discussions of objectivity take processes that are impersonal and nonperspectival and runs them together with procedures that are impartial and unbiased. Impersonal ways of interacting may indeed threaten to treat people as means and not as ends or to substitute sympathy for empathy. To forsake a personal perspective may make it impossible for us to understand what it is like to be another, much less to be a bat. But impersonal does not imply unbiased, nor conversely.

Whoever has suffered from the bias of an impersonal bureaucrat and whoever has had the frustration of trying to get beyond the prejudices of orthodox medicine with their "personal" physician knows that, unfortunately, bias and the impersonal are quite happy companions. Conversely, what Daniel Dennett calls the "intentional stance,"¹⁶ which is about relating personally, is the stance that many scientists adopt toward the subjects of their investigation precisely in order to get beyond bias and to the heart of their subject. And not just in the human sciences. Look in the physics laboratory any day and you will see them talking with atoms and communing with the quarks. Moreover the interplay among scientists who are each personally involved with their pet hypotheses is one of the best ways that we have found to get beyond bias and partiality.¹⁷ Thus being unbiased and interacting personally are quite compatible, too. The objectivity that Nagel and Williams try to mark out is a hodgepodge and not a natural kind. Their attempts to demarcate a specifically scientific way of knowing fails for another reason as well, and that is because they do not separate process from product.

Objectivity certainly relates to both. The way inquiry is conducted can be objective, but so can the results of inquiry. The information, the data, the truths, the understanding, the theories, or the knowledge that we produce, they too can be objective. Eddington's central image, the viewpoint of no one in particular, displays this double edge nicely. When Eddington traces the historical development of an impersonal point of view in physics, he traces how we came to carry out physical investigations in a way that abstracts from the particulars of place, motion, and magnitude, but he shows as well how a synthesis of all those particulars is embedded in the physical theories themselves. It is not just that physicists investigate nature as though they were no one in particular (process), it is also that physical theories somehow represent nature that way (product). Williams describes his "absolute conception" as one that seeks "to represent the world in a way to the maximum degree independent of our perspective and its peculiarities." The payoff for achieving such an absolute conception of the world, according to Williams, is "that the natural sciences, at least, are capable of objective truth."¹⁸

Here lies an issue not only for Nagel and Williams but also for the libertarian critique of objectivity. That project, I believe, hoped to show that, when properly reconfigured in the direction of more open and democratic processes, objectivity attaches to a domain wider than that sanctioned by the old conception of scientific method—and properly so. The hope, thus, was to enlarge the scope of objectivity, to make more things objective. What things? Well, things in the category of the products of inquiry. Like Williams's absolute conception, the libertarian project is after objective knowledge, objective truth, objective understanding, and the like. But now it looks as though we may have an instance of the classical process-product fallacy. Even if we bridge the gap between the impersonal and the unbiased and also agree that considerable openness and democracy in the conduct of inquiry is part and parcel of what makes for an objective process, how does it follow that the outcome of that process will be objective?

One line of response would be to claim that "objective truth" or "objective knowledge" simply designate truth or knowledge obtained by means of an objective procedure. The claim would be that the quality of the process attaches to the product. Bernard Williams believes something like that. He thinks that a conception of the world that could be arrived at by any investigators, however different from us, must be an absolute conception.¹⁹ But there are safe processes for producing bombs, and bombs are not safe products. Similarly there can be inquiries that embody the highest ideals of procedural objectivity but whose outcomes are not objective. For example, the outcome may consist in information about precisely those perspectival particulars that objectivity was supposed to abstract from, information about places and motions and magnitudes—as well as about colors and sounds, or about attitudes and feelings. An outcome of inquiry may be objective in the

sense of having been obtained by objective means, but it does not follow that the outcome is objective in the sense that the outcome represents the viewpoint of no one in particular. Procedural objectivity, no matter how liberally reconfigured, is not objective enough. Not even nineteenth-century models of scientific method, such as those proposed by Mill or Whewell or Herschel, could guarantee that objective procedures produce products whose contents are part of an absolute conception of the world.

7. OBJECTIVITY AND TRUTH

Williams and Nagel believe that the content of scientific knowledge needs to be nonperspectival. The libertarian critique of objectivity does not share that belief (quite sensibly!), and so it is not especially worried about the fact that a liberalization of objectivity as process is not enough to guarantee that the products of objective procedures represent a view from nowhere. There is a concern, however, as to whether a liberal conception of objective inquiry will guarantee objectivity in yet another sense: namely, in the sense in which to say that something is objective is to say that it really is true of the object. In her discussion of what she now calls “the secret life of objectivity,” Lisa Lloyd dubs this the conception of the objective as the “really real.”²⁰ In these terms the worry about liberalizing procedural objectivity is that it may break the traditional connection between objective inquiry and the really real.

Before we examine concerns over what connections are broken, however, let us look at what connections there are. If we first confine ourselves to the products of inquiry, we can ask how “objective” in the sense of *nonperspectival* relates to “objective” in the sense of the *really real*. It is easy to see that what is really real does not need to be nonperspectival. For example, even though, as Williams notes, “green” and probably “grass” too are concepts that would not be part of an absolute conception, our knowledge that grass is green will be objective, in the *really real* sense, just in case grass really is green. So the really real does not imply the nonperspectival. What of the converse?

Certainly Williams thinks that the absolute conception guarantees at least that the natural sciences *can* be objectively true. Nagel echoes similar sentiments in his view from nowhere. Taking an image from Aristotle’s cosmology, Nagel writes, “We may think of reality as a set of concentric spheres, progressively revealed as we detach gradually from the contingencies of the self.”²¹ Despite these bold claims, I see no entailment between a view of the world that is nonperspectival and what is really real. Consider relativity. Both Nagel and Williams share with Eddington the idea that relativistic physics embodies an absolute conception of the world. Maybe so. Still, we do not know whether the world really is relativistic, and long-standing difficulties in

building an account of gravity—one that would unify relativity with the quantum theory—may even make us wonder whether the world *can* be relativistic. In his last years Einstein had this worry. Moreover in a treatment of the quantum theory that derives from Louis de Broglie and David Bohm, the “absolute” view of relativity turns out to be phenomenal, a phenomenon whose viability depends on contingencies early in the universe.²² In the de Broglie-Bohm treatment the relativistic merger of space and time is only apparent, and relativity is not really real at all. So the viewpoint of no one in particular, in this case the relativistic viewpoint, does not tell us what *is* really real, not even what *can be* really real. Among the products of inquiry there is simply no logical connection between being objective in these two senses.

What about the really real and procedural objectivity in general? Could procedural objectivity guarantee the really real? Here, surely, the connections are very tenuous, for method is always fallible, any method is. Retreating to probability will not help either. That is, we should not hope that some special advance in methodology will guarantee access to the truth with a high probability. To be sure we sometimes learn special, one-off procedures that produce certain goods with high reliability. That is what quality control engineers are good at, as are the manufacturers of interchangeable widgets. However, there is no magic method that is reliable all around. Science proceeds on the basis of trial and error, and what happens in most laboratories and in most centers of calculation on most days in most years is the methodical, procedurally objective production of errors. The whole conception of method, moreover, suffers from an incommensurability of ends. We want to maximize the attainment of truth, and for that purpose we need to take risks in the generation of hypotheses. We also want to minimize error, and for that purpose we need to avoid risk and flights of fancy. Sometimes we can strike a balance between risk taking and risk avoidance, but not always and not according to any general scheme. Procedural objectivity is terrific, but it scarcely guarantees overall reliability, much less access to what is really real.

We can now put to rest the worry that the libertarian critique of objectivity may break the traditional connection between objective inquiry and the really real. Indeed, a liberal version of procedural objectivity cannot ensure that objective investigations will produce what is really real. That is no special problem for the liberal version, however, since it is true of procedural objectivity in general, whether liberalized or not. The “traditional connection” turns out to be no connection at all, and so there is no connection for the libertarians to break.

There remains a worry that may be triggered by the libertarian critique. It is that going public, opening the door to many voices, allowing in different methodologies, making the investigation respond to several competing interests, and the like would actually diminish the overall reliability of the investigation. The liberal response to this criticism would be to invoke suitable

variations of Mill's classic argument that in the marketplace of ideas open competition works to weed out the bad and promote the good. Despite its pedigree, I do not see how that response can be valid in general. Think of Kuhn. While I do not defend Thomas Kuhn's overall dynamic for scientific change, he saw something important in his emphasis on "normal science." What he saw was the importance of consolidation and of articulation on the basis of limited techniques against a relatively stable background. This is important for the development of experimental practice as well as for the development of theory. When it comes to instrumentation, that sort of stability can be essential. Indeed, no social enterprise can flourish in the face of relentless critical disruption. On the other hand, no social enterprise will continue to grow and move forward with its windows closed and its wagons circled. The earlier example of a shifting paradigm for double-blind experiments would be a case in point. There will certainly be many investigations where opening the doors would be just what is needed to get the investigation on the right track. Who can possibly say in general what policy will always be best? What we need here are good, local judgments about particulars.

8. WHAT GOOD IS PROCEDURAL OBJECTIVITY?

Procedural objectivity does not guarantee objectivity for the products of inquiry. It does not guarantee that the contents of those products are nonperspectival nor that the products themselves are really real. Procedural objectivity does not ensure that such objectivity among the products will be likely either. So what good is it? My suggestion is that procedural objectivity speaks to our attitude toward the products of inquiry rather than to traits of those products themselves. The operative attitude is that of trust. Where the process of inquiry has certain built-in procedural features ("safeguards," we sometimes call them), we are inclined to trust it more than we would a procedure that fails to have those features. That is why the libertarian critique is important. In suggesting openness, publicity, responsiveness, and democratization, it is pointing to features that may enhance public trust. These are features we already value in the political context, even though we certainly do not believe that the best candidates necessarily win in fair elections. Electoral fairness, however, helps to bind the electorate together in a political community because it promotes mutual trust. Objectivity in inquiry promotes a similar faith in the process, even though we do not believe that we will necessarily get things right in an objective investigation.

Suppose this is correct, suppose that the virtue of objectivity is that it promotes trust in the process. What about the product? Does trust in the process make for trust in the product? Curiously, in this instance, it does. We know perfectly well that, however objective it is, inquiry can turn out the

wrong answers. Indeed, from the history of the natural sciences, we know that over the long run the best scientific practices turn out wrong answer after wrong answer. The history of science shows the repeated overthrow of scientific theories, the revision of so-called facts, the removal of "things" from the supposed ontology of the world. Often science even discards the best tools and instruments of the preceding generations as no longer reliable. Still, as though defying induction, we continue to place considerable trust in science.

That trust is not generated by counterinduction. Rather, it arises in conformity with what I call the Fundamental Axiom of Inquiry. That axiom (actually a schema for producing axioms) simply states that the proper sort of inquiry is the best way to get things right. When the process of inquiry is objective, in a way that is suitably tailored to its subject matter, we trust the process because, in conformity with the Fundamental Axiom, we believe it is the best way to get things right. Recall Churchill's remark about democracy: "the worst form of government except all those other forms that have been tried from time to time."²³ According to the Fundamental Axiom, the same is true of objective inquiry.

9. CONCLUDING THOUGHTS

Eddington's image of the viewpoint of no one in particular brings together several aspects of objectivity that I have tried to separate. It cuts across both the process of inquiry and the product. Within the process it assimilates unbiased inquiry to impersonal inquiry. Within the product, those whose contents are not perspectival are lumped together with those that correspond to what is objectively real. I have tried to show that the objectivity of the process does not in fact attach to the products. I have also tried to show both with respect to process and product that neither aspect singled out is logically connected to the other.

Eddington's lessons for physics are not damaged very much by crossover effects, for in the end he is not fooled into taking the world of physics as the real world. Rather he thinks "the mind's search for permanence has created the world of physics."²⁴ Eddington is after an understanding of natural necessity, which he locates in the mind. The crossover effects of treating the many aspects of objectivity as one are more pernicious for those whose aim is a form of realism. Nagel and Williams use their framework to this end. They support a realist attitude toward natural science as the realm of the truly objective, and they want to say that elsewhere, in dealing with mind and human affairs, objectivity would be misplaced. Their considerations are riddled with crossover effects, the false assimilation to one another of independent aspects of objectivity. What is important to learn from this is that realism and

objectivity are not logically tied together. Unless objectivity is simply defined as real-making, irrealism can be objective and realism can fail to be.

If we rely on the Fundamental Axiom, we can fashion a better conception of objectivity: namely, as that which in the process of inquiry makes for trust in the outcome of inquiry.²⁵ Here objectivity is fundamentally trust-making, not real-making. In this conception there is no special provenance for objectivity. It is not special to the natural sciences, nor excluded when we inquire into the mind or human affairs. Similarly, in this conception, there is no list of attributes of inquiry that necessarily make it objective. What counts as an objective procedure is something that needs to be tailored to the subject matter under consideration in a way that generates trust. It follows that attributes like “unbiased” or “impersonal” may be objective here and not there. It also follows that other attributes, like the publicity and democracy that go into the libertarian model, need to be topically indexed as well. In every case the question is whether a process marked out as objective makes for trust in the product. According to my Deweyan experimentalism, that is among the things we learn by doing.

I want to draw a final lesson about science. It is that no distinctive mode of thought goes into its making. Insofar as its methods promote trust, science is objective. But its methods are many and varied, as varied as the laboratory manuals for the several special sciences. Perhaps the first false step in this whole area is the notion that science is special and that scientific thinking is unlike any other. The best antidote to that is contained in my epigram from Einstein, with which I will end,

“The whole of science is nothing more than a refinement of everyday thinking.”

NOTES

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1. From Albert Einstein, “Physics and Reality” (1936) reprinted in *Ideas and Opinions* (New York: Crown Publishing Co., 1954), 290.

2. Arthur Eddington, *Space, Time and Gravitation* (Cambridge: Cambridge University Press, 1921).

3. Thomas Nagel, *The View From Nowhere* (Oxford: Oxford University Press, 1986).

4. Bernard Williams, *Ethics and The Limits of Philosophy* (Cambridge, Mass.: Harvard University Press, 1985).

5. Hilary Putnam, *Reason, Truth, and History* (Cambridge: Cambridge University Press, 1981).

6. It is interesting to contrast Holmes with Mrs. Peters and Mrs. Hale, the women detectives in Susan Glaspell's 1916 play, "Trifles." C. W. E. Bigsby, *Plays by Susan Glaspell* (Cambridge: Cambridge University Press, 1987), 35–45. Unlike Holmes, the Peters-Hale team is both biased and personal. Nevertheless, they wind up trusting that they have it right—and so do we. For the connection with objectivity, see sections 8 and 9 below. (Thanks to Alexandra Bradner for the reference.)

7. Kathryn Pyne Addelson, *Moral Passages* (New York: Routledge, 1994).

8. John Rawls, *A Theory of Justice* (Cambridge, Mass.: Harvard University Press, 1971).

9. See Helen Longino, *Science as Social Knowledge: Values and Objectivity in Scientific Inquiry* (Princeton, N.J.: Princeton University Press, 1989). Similar themes run through the essays in Louise M. Antony and Charlotte Witt (eds.), *A Mind of One's Own: Feminist Essays on Reason and Objectivity* (Boulder, Colo.: Westview Press, 1993).

10. Paul Feyerabend, *Against Method* (New York: New Left Books, 1977).

11. Nagel, 5.

12. The claim is developed and defended by Lisa M. Heldke and Stephen Kellert, "Objectivity as Responsibility," *Metaphilosophy* 26 (1995): 360–378.

13. "Breast Cancer Prevention Trial Shows Major Benefit, Some Risk," *National Cancer Institute*, Press Office, Washington, D.C., April 6, 1998.

14. Recent work along these lines by historians and sociologists include Lorraine J. Daston, "Objectivity and the Escape from Perspective," *Social Studies of Science* 22 (1992): 597–618; Lorraine J. Daston and Peter Galison, "The Image of Objectivity," *Representations* 40 (1992): 81–128; and Steven Shapin, *A Social History of Truth* (Chicago: University of Chicago Press, 1994).

15. See Theodore Porter, *Trust in Numbers: Objectivity in Science and Public Life* (Princeton, N.J.: Princeton University Press, 1995).

16. Daniel Dennett, *The Intentional Stance* (Cambridge, Mass.: MIT Press, 1987).

17. This is a central point in Hull's evolutionary approach to science. David Hull, *Science as a Process* (Chicago: University of Chicago Press, 1988).

18. Williams, 139, 198.

19. *Ibid.*, 139.

20. Elizabeth A. Lloyd, "Objectivity and the Double Standard for Feminist Epistemologies," *Synthese* 104 (1995): 351–381.

21. Nagel, 5.

22. For the de Broglie-Bohm theory, see James T. Cushing, *Quantum Mechanics: Historical Contingency and The Copenhagen Hegemony* (Chicago: University of Chicago Press, 1994). Several essays among the following are also relevant, James T. Cushing,

Arthur Fine, and Sheldon Goldstein (eds.), *Bohmian Mechanics and Quantum Theory: An Appraisal* (Dordrecht : Kluwer Academic Publishers, 1996).

23. Angela Partington, *The Oxford Dictionary of Quotations*, 4th edition (Oxford: Oxford University Press, 1992), 202.

24. Eddington, 198.

25. Several people have suggested that “magic,” or other sorts of “trust-making” gimmicks, are counterexamples to this way of connecting objectivity with trust. If we reflect on why we regard these procedures as flimflam, however, we can see that they are not counterexamples at all but, rather, provide support for the thesis.