

TOWARDS A POSTMODERN CONCEPTION OF METAPHYSICS: ON THE GENEALOGY AND SUCCESSOR DISCIPLINES OF MODERN PHILOSOPHY

(An Alternative to Heidegger, Quine, Wittgenstein, and Rorty)¹

HERMAN PHILIPSE

ABSTRACT:

Postmodernism in philosophy holds that traditional philosophy has come (or should come) to an end, and that it must be succeeded by something else, such as “thinking” (Heidegger), empirical science (Quine), linguistic therapy (Wittgenstein), or an “attempt to prevent the conversation of the West from attaining the secure path of science” (Rorty). Clearly, the claim to be *postmodern* presupposes a view of traditional philosophy, of its characteristics, and of its genesis. In this essay, such a view will be developed, and its consequences for our conception of philosophy will be discussed. The view defended here is different from those of Heidegger and Rorty. For ease of exposition the discussion will refer to Rorty’s *Philosophy and the Mirror of Nature*.

*But Wittgenstein’s flair for deconstructing captivating pictures needs to be supplemented by historical awareness – awareness of the source of all this mirror-imagery – and that seems to me Heidegger’s greatest contribution (Richard Rorty, *Philosophy and the Mirror of Nature*, p. 12).*

As the first millenium of the Christian era neared its completion, western man feared the annihilation of the world. Presently, we are approaching the end of the second millenium. A devastation of the world has become more probable, but the general public dreads it less. Philosophers, however, compensate for this. They celebrate the destruction of their discipline.

In his 1964 paper “The End of Philosophy and the Task of Thinking”, Heidegger proclaimed the end of metaphysics. Traditional philosophy has exhausted its possibilities, Heidegger suggested, and all familiar philosophical problems are regarded with disdain by his disciples on the European Continent. In 1968, Quine argued that epistemology should be naturalized, that is, replaced by empirical science and linguistics. Progress in science, which seems to contrast painfully with philosophical

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stagnation, has long been the source of the naturalist temptation. Wittgenstein also rejected traditional theorizing in philosophy. He conceived of philosophical problems and theories as mental diseases to be cured by linguistic therapy. In the wake of these and other thinkers, Richard Rorty wants to "set aside epistemology and metaphysics" in favour of "the possibility of a form of intellectual life in which the vocabulary of philosophical reflection inherited from the seventeenth century would seem . . . pointless" (p. 6).²

Notwithstanding the judgments they passed on traditional philosophy, Heidegger, Quine, Wittgenstein and Rorty remained philosophers in some sense. Heidegger went on telling longwinded tales on the metaphysical tradition, because, he claimed, one cannot overcome this tradition without appropriating it. Linguistic therapy *à la* Wittgenstein will be needed as long as humans use language, followers assure us, because the misleading pictures which generate philosophical pseudotheories lie in language itself. Although Quine argued that epistemology should be replaced by natural science and linguistics, Quineans generally do not abandon philosophy in favour of these disciplines. And in *Philosophy and the Mirror of Nature*, while claiming to supersede the philosophical tradition, Rorty in fact tries to solve traditional (Kantian) philosophical problems, such as the problem of the relation between the scientific (Antipodean) image of man on the one hand and morality and poetry on the other.

If we are justified in calling these authors philosophers, we might call them *postmodern* philosophers, because they agree in repudiating the modern tradition. Since they do not concur on many other points, various kinds of postmodern philosophy may be distinguished. Varieties of postmodernism in philosophy are differentiated according to how their proponents answer the following three questions:

- (1) What characterizes the modern tradition which postmodernism claims to overcome? And what are the origins of this tradition?
- (2) What is the nature of the postmodernist process of overcoming?
- (3) What task does postmodernism assign to philosophers, assuming that modern philosophy has come to an end?

These three questions help to define kinds of postmodernism. But in order to evaluate the claim to be really *post-modern*, one should ask a fourth one:

² References to page and section numbers in the text are to Richard Rorty, *Philosophy and the Mirror of Nature*, Oxford: Blackwell, 1980 (originally Princeton: Princeton UP, 1979), except if indicated otherwise. In the notes I shall refer to this book as PhMN. I shall use single quotation marks for quotes embedded in quotes and for the *suppositio materialis* only (the *suppositio materialis pro ipsa dictione composita ex voce et significatione*).

- (4) Are the pictures of the philosophical tradition sketched by postmodern philosophers historically accurate? And, as a consequence, is what they propose as the new task for philosophers really new?

This essay focuses on the first and the fourth questions. To provide a common frame of reference, I shall link up the discussion with *Philosophy and the Mirror of Nature*, a book which by now has become a classic even in Europe. I shall briefly summarize Rorty's answer to the first question (§§ 2 and 3, below). Then I shall argue that Rorty's genealogy of modern philosophy, though it is full of fertile insights, is defective on some main points (§ 4). I shall argue this not by criticizing Rorty's tale in detail, but by putting an alternative historical sketch in its place (§§ 5–9). Finally I shall explore the consequences of this alternative sketch for our idea of epistemology, and draw the contours of a postmodern conception of metaphysics, which is more specific and less edifying than Rorty's "hermeneutic" notion of philosophy (§ 10).

§ 1. A Definition of Modernity

Definitions of the modern era in philosophy depend partly on our systematic focus. Political philosophers will define modernism by reference to notions such as methodological individualism, the rejection of tradition and religion as legitimations of power, the social contract, the idea of eternally valid norms (human rights), the salubrity of revolutions, and the belief in progress. For them, modernism is the project of the Enlightenment. But if one concentrates on metaphysics and epistemology, which are also Rorty's targets, modern philosophy may be defined by the following criteria of modernity:

- a. Belief in the very idea of philosophy as something fundamentally distinct from the sciences in the broad sense of *Wissenschaften* (pp. 9, 131 ff., and passim);
- b. Foundationalism (pp. 3, 4, 7, 8, 131 ff., 59, 155 ff., and passim);
- c. Adherence to the principle of evidence or the myth of the given (pp. 95, 104–112, 169 ff., and passim);
- d. Subjectivism or the idea that mind is better known than, and ontologically different from, matter (pp. 3, 6, 7, 37, 88 ff., and passim);
- e. Representationalism (pp. 3, 6, 9, 11, 60 ff., 139 ff., 148 ff., and passim);
- f. Attention to the problem of the external world, which made epistemology central to philosophy (pp. 46, 51, 139 ff.); and
- g. Acceptance of the notion that epistemology is the foundation of the sciences and of culture in general (pp. 4, 131 ff., 169, and passim).

These characteristics adequately define the period of mainstream modern philosophy from Descartes to Husserl and Russell, although there are minor deviants such as Hume, and perhaps Russell (who would reject **a**), and major deviants such as, perhaps, Hegel. Characteristic **g** became explicit in the nineteenth century only, when the term 'theory of knowledge' (*Erkenntnistheorie*) was coined, although the germ of the conception of epistemology as first philosophy is contained in Descartes' writings. One might accept Rorty's definition of modernity as an ideal type, which to various extents fits the actual historical figures.³ But there are also philosophers, such as Husserl, whose work satisfies each of the characteristics listed.⁴

§ 2. Rorty's Genealogy of Modernity 1: the Mind as a Mirror

The evaluation of postmodernism in philosophy is related to the genealogy we attribute to modernity. Are the characteristics of modernity derived from a "noble" origin? For instance, were they originally as well justified on rational grounds as decent scientific theories usually are? In that case we will hesitate to reject the modern tradition and we will require strong arguments for doing so. Or are these characteristics, and the philosophical problems they imply, "optional", because they originally derive from a metaphor which we might simply "set aside"? Or, even worse, did traditional philosophy spring from conceptual confusions? If we have the latter picture of the history of philosophy, postmodernism will attract us as a new and promising game we might engage in. It is at this point that the question of historical accuracy arises. If the postmodernist reading of philosophical history is inaccurate, why should we play the postmodernist game? At least we will require compelling reasons for doing so.⁵

³ Rorty's definition of modern philosophy must be gleaned from his book as a whole. He nowhere lists the many characteristics he attributes to the modern tradition.

⁴ See my "Husserl's Place in History: The Problem of Transcendental Idealism", in *The Cambridge Companion to Husserl*, ed. by B. Smith and D. W. Smith, Cambridge: Cambridge UP, 1994 (forthcoming).

⁵ From a purely logical point of view, "it is not necessary to engage in detailed discussion of Rorty's claims about the history of epistemology" in order to evaluate his deconstruction of epistemological problems, as Susan Haack correctly observes in "Recent Obituaries of Epistemology" (*American Philosophical Quarterly* 27, 1990, p. 200); "for even if it were true that the problems now thought of as central to epistemology have come to be perceived as problems only since Kant, it wouldn't follow that those issues are misconceived or not genuinely problematic. Nor is it necessary to engage in detailed consideration of his claims about the influence of the optical metaphor; for even if it were true that the problems of epistemology have come to be approached as they now are because of the dominance of this metaphor, it wouldn't follow that those approaches are wrong or fruitless". In other words, one should beware of the genetic fallacy. Nevertheless, there are at least three good reasons for analyzing and criticizing Rorty's historical narrative: the narrative is a powerful rhetorical device in PhMN, which

Rorty, of course, was brought up in a philosophical tradition where rational argument prevails. Accordingly, *Philosophy and the Mirror of Nature* is a deeply argumentative book, and I assume that according to Rorty the defining doctrines of modernism are simply *refuted* by systematic argument. However, the historical thesis Rorty defends extolls the power of rhetoric. The modern philosophical framework and its catalogue of canonical problems, Rorty claims, are "optional", because they originate in "Greek ocular metaphors", which we have no good reason to accept. Therefore, Rorty suggests, the epoch of modern philosophy may "yield to one in which the philosophical vocabulary incorporating these metaphors seems as quaint as the animistic vocabulary of pre-classical times" (p. 11).

In greater detail, Rorty's genealogy of modern philosophy is as follows. *Philosophy and the Mirror of Nature* starts by tracing the origins of *d*, the idea that the mind is ontologically separate or separable. This notion presupposes a hypostatization of universals (§§ I.1–2) and is, in its Platonic and Aristotelian varieties, based on an *ocular metaphor* (§ I.4). For if one models universal knowledge on the paradigm of vision, one will think that there have to be universal *objects* which are perceived by *spiritual eyes*. Consequently, the intellect has to be an immaterial mirror, because it mirrors immaterial objects, the universals or *natures*.

Rorty stresses that the Cartesian conception of an ontologically independent mind is very different from the Greek one (§ I.5), although "both lend themselves to the imagery of the Mirror of Nature" (p. 45), and even though both are "equally optional" (p. 46). He discusses two differences between the Greek and the Cartesian conceptions. First, whereas according to Aristotle in acquiring knowledge the mind becomes *formally identical* with the known object, knowledge on the Cartesian conception involves having true mental representations (p. 45). Cartesianism coupled characteristic *d* with characteristic *e*, representationalism. Representationalism raised *f*, the problem of the veil of ideas, which made epistemology central to philosophy (p. 51). Secondly, whereas according to Rorty the Greeks placed sensations and perceptual awareness on the bodily side of the ontological divide, Descartes grouped them together with thoughts and emotions in the

might be destroyed by historical criticism; the question as to its historical adequacy is an interesting one in its own right; and the claim of postmodernists such as Rorty that they radically renounce traditional philosophy in favour of something new, a claim which risks to undermine our interest in traditional philosophical problems and their traditional solutions, can be evaluated only against the background of the history of philosophy. But up to this moment, nobody has attempted to correct the overall structure of Rorty's historical narrative by sketching an alternative reconstruction of the genesis of modern philosophy.

mind, and called them *cogitationes* in his new, broad sense (p. 47). Descartes' mind-body distinction was not a distinction between human faculties but a distinction between two series of events, mental and physical ones (p. 51).

When asked for the origin of this new, Cartesian conception of the mind, Rorty seems to be embarrassed. He finds "no explicit doctrine" in Descartes concerning the latter's criterion of the mental (p. 54), but ends up with "indubitability", i.e. the alleged fact that the items which Descartes calls "mental" do not allow a distinction between appearance and reality (pp. 54 ff.). Rorty claims that this answer "is never explicitly given by Descartes himself" (p. 55). A surprising statement, for it is the gist of Descartes' argument in the first two Meditations that the mental is what resists methodological doubt.

From the genealogical point of view, however, "indubitability" only postpones the question as to the origin of the Cartesian conception of the mind. What needs explanation, Rorty observes, is how Descartes was able to convince himself that his repackaging of sensations with the intellect was intuitive (p. 56). According to Rorty's ultimate explanation of the Cartesian conception. Descartes had the "badly argued hunch" that "the indubitably known mathematical truths (. . .) and the indubitable momentary states of consciousness had something in common – something permitting them to be packaged inside of one substance" (p. 56, cf. 58). Rorty quotes a well known passage on colours from the first Meditation to substantiate his hypothesis (p. 57), a passage which he connects with a quote on simple natures from the third Meditation (p. 56).

This genealogy of the Cartesian conception of a separable mind, however, lacks precision and is incomplete. It lacks precision because the passage on colours Rorty quotes occurs in the second phase of Cartesian doubt (the dream-argument), which undermines our belief in complex natures and leaves intact simple natures such as mathematical intuitions. But in the third phase (the argument of the deceiving God or demon) Descartes doubts the truths of mathematics as well, whereas consciousness in his new sense survives this third phase (second Meditation). Moreover, Descartes does not say or "dimly envisage" at all what Rorty suggests, namely that colours somehow resemble "the 'simple natures' which we know in mathematical physics" (p. 57). In the passage quoted, Descartes merely *compares* the relation between complex and simple natures to the relation between painted images, invented by the artist, and the colours of which the images on the painting are composed. However, Rorty's genealogy is not only vitiated by these gross errors of interpretation. It is also incomplete because it does not explain why Descartes thought that momentary states of consciousness are indubitable, nor why Descartes lumped together pain and colours as sensations in the mind (see, however, note 27 to p. 57).

According to Rorty, the fact that Descartes proclaimed the indubitable certainty of our “inner states” – which is, of course, one possible variety of characteristic **c**, the Myth of the given – explains why “empiricism began to edge out rationalism” (p. 59). This is because our certainty about inner sensations edged out the certainty of our knowledge of intellectual natures such as “substance”, “thought” and “motion” (p. 59). And empiricism, in its turn, is said to explain foundationalism (characteristic **b**): “With Lockean empiricism, foundationalist epistemology emerged as the paradigm of philosophy” (p. 59).

§ 3. Rorty’s Genealogy of Modernity 2: Foundationalism and the Idea of Philosophy

By stressing that the Cartesian conception of a separable mind is different from the Greek notion of the separable intellect, Rorty of course weakens his claim that the ocular metaphor which explains the Greek notion is also at the root of the Cartesian Mirror of Nature. The only link is Rorty’s misconceived idea that Descartes assimilated the indubitability of colours as sensations to the indubitability of *mathematics* which, interpreted on the ocular model, motivated the Greek conception of the intellect, and that Descartes for that reason grouped mathematical knowledge and colour sensations together in the mind. But in chapter III of *Philosophy and the Mirror of Nature*, the ocular metaphor recurs as an explanation of the modern epistemological tradition. Rorty opens with a bold claim concerning characteristic **a**: “The notion that there is an autonomous discipline called ‘philosophy’, distinct from and sitting in judgment upon both religion and science, is of quite recent origin” (p. 131). This notion, Rorty argues, depends on the idea of epistemology (**f**, **g**) and on foundationalism (**b**), which, as we have seen, he interprets as a consequence of Lockean empiricism (**c**). Locke and Kant are said to be the founding fathers of philosophy as a distinct discipline: “It was not until after Kant that our modern philosophy-science distinction took hold” (p. 131), for “the eventual demarcation of philosophy from science was made possible by the notion that philosophy’s core was ‘theory of knowledge’, a theory distinct from the sciences because it was their foundation” (p. 132).

How does the ocular metaphor explain this modern idea of philosophy as epistemology, and why is it “optional”, as Rorty repeats (p. 136)? Rorty endorses the traditional view that Cartesian representationalism (**e**) gave rise to veil-of-ideas skepticism, that is, to the problem of the external world (**f**), which in its turn led to (**g**) the idea of a theory of knowledge which investigates whether our representations are accurate in the sense of mirroring nature (p. 140). But, says Rorty, the idea of epistemology was impossible without a second ingredient, namely a confusion he attributes to Locke (pp. 140, 152). Locke did not clearly

distinguish between on the one hand justifying claims to knowledge by giving reasons, and on the other hand the causal explanation of mental states (p. 141). Rorty explains this Lockean confusion between the logical and the causal by the fact that Locke conceived of knowledge not as a relation between persons and propositions but as a relation between persons and objects (pp. 141–142). Consequently Locke substituted the causal question as to how objects imprint impressions on our minds for the logical question as to how our beliefs should be justified. But in last resort, Rorty argues, this substitution is due to an ocular metaphor, for only if one models knowledge on vision will one conceive of knowledge as a relation between persons and objects (p. 146).

According to Rorty, Kant in part corrected Locke's confusion. But unfortunately, Kant remained within the Cartesian frame of reference, which induces us to ask how we could get from the inner space of representations to outer reality (p. 147). And by transcendentalizing Locke's psychological epistemology, Kant finally separated philosophy from science (a), exalting it into the Olympian position of tribunal of reason and culture (g). Kant's claim that experience consists of a multiplicity of sensations synthesized by universal forms is not an eternal truth, as Rorty stresses. It presupposes "the assumption that manifoldness is 'given' and that unity is made" (p. 153). But because Kant's theory of constitution implies that we can never be conscious of non-united manifolds, Kant cannot justify this traditional assumption, except as a theoretical hypothesis needed for his Copernican revolution (pp. 153–155). Because Kant's account of experience is "causal" in one sense (p. 151), his conception of philosophy as transcendental epistemology remains under the spell of the ocular metaphor, which beguiled Locke into his confusion of reasons with causes.

§ 4. Why Rorty's Genealogy is Defective

What should one think of Rorty's genealogy, according to which ocular metaphors and a badly argued hunch are the main motivating powers behind modern epistemology and metaphysics? It would be cumbersome to criticize it in detail. Let me note its main flaws only.

One concerns Rorty's conception of epistemology. Locke mistook mental images for concepts and lacked a satisfactory notion of judgment or proposition. Nevertheless, the fact that Rorty attributes to him a confusion between reasons and causes (a confusion which in its turn is allegedly based on an ocular metaphor) is, at least in part, due to a confusion of Rorty's own. Rorty does not distinguish between two different notions of epistemology. A first notion goes back to Aristotle's *Organon*: epistemology as centred around the question of how we should justify our beliefs. Epistemology in this sense incorporates formal logic and normative philosophy of science. It is about giving

reasons for accepting propositions, and, *pace* Rorty, I do not think that we should leave this subject to the sociologist.

A very different notion of epistemology germinated in the seventeenth century: epistemology as the attempt to defeat veil-of-ideas skepticism and to solve the problem of the external world. Whereas the first kind of epistemology is merely about giving good reasons for believing propositions, the second kind is concerned also with perception. If, as Hume said, in perception we are conscious of ideas in the mind only, the question arises whether these ideas are really caused by, and give reliable information about, an external reality. Whereas in the first kind of epistemology causal considerations are irrelevant (unless reasons are considered as causes), they are relevant to the second kind of epistemology, even though they may turn out to be impotent. In general, causal considerations may very well be needed for the justification of specific beliefs. To the extent that Locke is concerned with veil-of-ideas skepticism, we may conclude, he is not guilty of the confusion Rorty attributes to him and, consequently, we do not need the hypothesis of the ocular metaphor to explain a confusion of his.

It may be that Rorty's genealogy of modern epistemology and metaphysics is influenced by an implicit epistemology of his own, as Charles Taylor has argued: an epistemology saying that world views are closed systems.⁶ For if world views are closed systems, they cannot be argued for, their genesis must be explained by a-rational factors such as metaphors, and they are optional. However, the history of mainstream western philosophy is far more rational than Rorty claims. The second main flaw of Rorty's genealogy is that he overlooks the original rationale for the majority of the characteristics of modernity. This flaw is due to the fact that Rorty neglects the philosophy of science and, more importantly, the influence of science on philosophy. Rorty practises the history of philosophy as if it were entirely separate from the history of science. In other words, although he rejects characteristic *a* in theory, Rorty accepts it in practice, at least in his a-rational reconstruction of the history of modern philosophy.

Rorty claims that his conception of philosophy owes much to Wittgenstein (pp. 12, 367–372). According to Rorty, the traditional problems of philosophy are pseudo-problems, or, at least, they essentially depend on the “vocabularies in which they were stated”, and these vocabularies may and even should be “abandoned”. Like Wittgenstein, he explains traditional philosophical theories by assuming that they sprang from “pictures”. Even so, Rorty's suggestion that ocular metaphors lie at the root of modern metaphysics and epistemology

⁶ Charles Taylor, “Rorty in the Epistemological Tradition”, in Alan Malachowski, ed., *Reading Rorty, Critical Responses to “Philosophy and the Mirror of Nature” (and Beyond)* (Oxford: Blackwell, 1990), chapter 16.

is due to Dewey and Heidegger rather than to Wittgenstein: ocular metaphors are not necessarily “grammatical pictures” embedded in our language.⁷ And the notions of “pseudo-problems” and “optional linguistic structures” stem from Carnap rather than from Wittgenstein.

Karl Popper is not one of Rorty’s heroes. Popper’s name does not even occur in *Philosophy and the Mirror of Nature*. Perhaps this is to be deplored, for there is an acute criticism of the Wittgensteinian conception of philosophy in chapter 2 of Popper’s *Conjectures and Refutations*, a criticism which, even if it may not touch Wittgenstein himself, is pertinent to Rorty’s version of Wittgensteinianism. According to Popper, genuine philosophical problems are always rooted in urgent problems outside “philosophy”, for example in science, mathematics, or in cosmology, politics or religion. But philosophy, especially when it becomes a school and claims to possess a proper philosophical method, is liable to degenerate, because it will lose contact with the original urgent problems. This tendency to degenerate is increased by what Popper calls “the *prima facie* method of teaching philosophy”, i.e. reading the great philosophers without exploring the historical background which explains the problems they tried to solve. Popper maliciously represents Wittgenstein as the intelligent student of philosophy who became the victim of this type of philosophical education:

What is the effect of such a course of reading? A new world of astonishingly subtle and vast abstractions opens itself before the reader; abstractions of an extremely high and difficult level. Thoughts and arguments are put before his mind which sometimes are not only hard to understand, but which seem to him irrelevant because he cannot find out what they may be relevant to. Yet the student knows that these are the great philosophers, that this is the way of philosophy. Thus he will make an effort to adjust his mind to what he believes (. . .) to be their way of thinking. He will attempt to speak their queer language, to match the tortuous spirals of their argumentation, and perhaps even tie himself up in their curious knots. Some may learn these tricks in a superficial way, others may begin to become genuinely fascinated addicts. Yet I feel that we ought to respect the man who having made his effort comes ultimately to what may be described as Wittgenstein’s conclusion: ‘I have learned the jargon as well as anybody. It is very clever and captivating. In fact, it is dangerously captivating; for the simple truth about the matter is that it is much ado about nothing — just a lot of nonsense’ (§ III).

In the next sections, I shall argue that Rorty fell in this very trap. He overlooked the real origin of characteristics **a**, **b**, and **c** because he

⁷ Cf. Martin Heidegger, *Sein und Zeit*, §36, and John Dewey, *The Quest for Certainty* (New York: Capricorn Books, 1960), p. 23. Rorty refers to Dewey only: PhMN, p. 39. Cf. for critical comments on Rorty’s interpretation of Dewey: Ian Hacking, “Is the End in Sight for Epistemology?”, *The Journal of Philosophy* LXXVII (1980), pp. 584–586.

neglected the philosophy of science. Features **d**, **e**, and **f** were the effect of problems concerning the new scientific conception of the world in the seventeenth century, a conception which Rorty discusses only in passing (pp. 63–65). In short, the need for postulating metaphors or pictures in order to explain the history of philosophy results partly from isolating philosophy from its context and its real problems.⁸ I shall argue this by sketching an alternative genealogy of the characteristics **a** to **g**. To give a foretaste of the differences between Rorty's narrative and my alternative account: Rorty suggests that modern empiricism "edged out rationalism because our certainty that our concept of 'painful' or 'blue' signifies something real edges out our certainty that we have a clear and distinct perception of such simple natures as 'substance' . . ." (p. 59). That is, he suggests that in the second half of the seventeenth century empiricism replaced rationalism *for reasons internal to philosophy*. Is it not more plausible to suppose that empiricism became fashionable after the so called rational first principles of Cartesian physics had been refuted by *empirical science*, a refutation which *eo ipso* falsified the rationalist philosophy of science?

§ 5. Philosophy, Foundationalism, and the Principle of Evidence

Linguistic philosophers have tried to explain the principle of evidence (**c**) or its source, the quest for certainty, by attributing misunderstandings of logical grammar to authors such as Descartes. According to these philosophers, Descartes confused logical and epistemic necessity. From the logical impossibility that *a* knows that *p* whereas *p* is false, he allegedly inferred that *a* may know that *p* only if *p* is epistemically necessary or self-evident for *a*.⁹ This is why Descartes required that knowledge should be fundamentally indubitable.

⁸ There is much truth in Popper's criticism of Wittgenstein. Although Wittgenstein does not *exclude* that philosophical problems, which according to him essentially exhibit conceptual confusion, are rooted in problems and developments outside philosophy, he does not stress the external sources of philosophical problems either. This is a serious drawback of his conception of philosophy as it is expressed in *Philosophical Investigations* I, §§ 89–133, because it tends to minimize the cultural import of the discipline. And if one acknowledges the external sources of philosophical problems, there is no good reason any more to be convinced that these problems *must* exhibit conceptual confusion. This does not alter the fact, however, that many aspects of Popper's own philosophy, such as his theory of World 3, are open to a Wittgensteinian critique. Moreover, Popper does not substantiate his claim, in Chapter 2 of *Conjectures and Refutations*, that the history of Greek mathematics accounts for Plato's doctrine of Ideas, although it does account for aspects of Plato's cosmology. In order to explain the doctrine of Ideas, a Wittgensteinian approach is more fruitful. In general I would consider Popper's and Wittgenstein's views of traditional philosophy as working hypotheses for the critical historian of philosophy, which will both be fruitful, but on different points.

⁹ See, for instance, D. W. Hamlyn, *The Theory of Knowledge* (London: Macmillan, 1971), p. 12.

But in fact the quest for certainty did not have such a “linguistic” origin. The first three characteristics of modernity, foundationalism (b), the principle of evidence (c), and the idea of philosophy as something distinct from science (a) are implications of the philosophy of science Aristotle expounded in his *Analytica Posteriora*.

As philosophers of science generally do, Aristotle based his normative conception of science on the best scientific (in the broad sense of *Wissenschaftlich*) theory of his time, in his case, I guess, a pre-Euclidean version of deductive geometry. Science, Aristotle inferred, should have the form of an axiomatic-deductive system. Geometry also inspired Aristotle to adopt a specific epistemological interpretation of such a system. We would first accept the axioms of the system as true, and then accept the theorems because we can deduce them directly or indirectly from the axioms. If an axiomatic-deductive system is represented as a pyramid with the axioms at the top, we may say that according to Aristotle’s conception of science (*Wissenschaft*) there is a top-down flow of truth and knowledge. This conception was perhaps plausible for geometry. But it led into great difficulties when applied to the natural sciences.¹⁰

Many present-day philosophers of science still accept the ideal of axiomatization. However, their epistemological view of axiomatic-deductive systems differs from Aristotle’s. In natural science, it is not the case that we accept an axiomatized theory because we first accept the axioms as true and then derive the theorems. We accept the theory as a whole because the set of predictions which follow from the system together with bridge laws, initial conditions, and background theories is superior to the sets of predictions which follow from competing theories.¹¹ According to this contemporary conception, there never is a top-down flow of truth, because we can never know for sure that the axioms are true. The idea that verification of predictions verifies the axioms or anything else in the system involves the fallacy of affirming the consequent. There are, at best, a bottom-up flow of falsity (which, however, is subject to strategic decisions) and an inference to the best explanation for accepting the theory.

Aristotle’s conception of science implies a cardinal epistemological problem which drops out in the contemporary conception, the problem

¹⁰ No doubt, geometry was *also* one of the sources of inspiration for spectator-theories of knowledge, but there will have been many sources of these theories, such as astronomy or the Greek ideal of the leisured gentleman. Moreover, although the spectator theory of knowledge, which holds that the known object exists independently of the knower, is false for geometry, it is largely correct for traditional astronomy.

¹¹ I am simplifying considerably. As Larry Laudan and Jarrett Leplin argue in “Empirical Equivalence and Underdetermination”, *The Journal of Philosophy* LXXXVIII (1991), on pp. 460–466, being an empirical consequence of a hypothesis is neither necessary nor sufficient for being evidentially relevant to a hypothesis.

of the first principles. Aristotle defines scientific knowledge (*epistêmê*) as knowledge by proof. We can be said to "know that p only if we have deduced p from premises higher in the pyramid, premises we also know to be true. But this definition leads to a circle or to an infinite regress, that is, to skepticism, if we do not assume that there is another and more fundamental kind of knowledge, knowledge of the first principles or axioms of the system. This knowledge must be more certain than that of the theorems, for we accept the theorems only because we accept the axioms first. As Aristotle said, the first principles must be "better known". And it must be general knowledge because scientific deduction is of the *Modus Barbara*. The problem of the first principles is central to traditional epistemology: how is *certain* knowledge of *general* first principles possible?

Aristotle's conception of science is foundationalist (b). It is the origin of foundationalism in the western philosophical tradition. And it requires a principle of evidence (c) which explains how certain knowledge of the first principles is possible. In the case of natural science, Aristotle's conception of intuitive induction was invented to meet this requirement. By absorbing in experience the essences of empirical substances, our mind would be able to know with certainty the general and necessarily true first principles of empirical sciences.¹²

Aristotle's philosophy of science lies also at the root of the idea of philosophy as something distinct from science (a). In his *Metaphysics*, Aristotle defines first philosophy or *sophia* as knowledge of the first principles and causes, in contradistinction to "second" philosophies such as physics. This definition derives from his philosophy of science: if knowledge of the first principles is more certain than, and not only logically but also epistemically prior to scientific knowledge, philosophy proper (*sophia*) must be distinguished from, and be more fundamental than, the sciences (*epistêmê*). First philosophy will not be concerned with all the first principles of the sciences. Some of them, in mathematics the so-called postulates, are about specific regions of being

¹² Pace Rorty, one might argue that the dominating metaphor of Greek epistemology was not ocular but tactual or even alimentary. According to both Plato and Aristotle, knowledge consists in some kind of contact of the soul with eternal forms. Plato thought that the forms exist separately in an immaterial realm, and that the mind inhabits this realm before birth. Hence his theory of knowledge as reminiscence. But Aristotle, who rejected *chôrismos*, had to explain how man is able to get in touch with the forms if they exist in the objects of the senses. The theory of induction as absorption of forms by the soul on the basis of perceptions was meant to solve this problem. An alimentary theory of knowledge was the result. As pragmatists, Dewey and Rorty object to spectator theories of knowledge, presumably because these theories do not fit knowledge in an industrial age. But it seems to me that if theories of knowledge are to be judged by the metaphors which inspired them in the first place, Aristotle's alimentary theory of knowledge suits our age of consumption very well.

only. But others, the axioms in the strict sense, are common to all sciences. They are concerned not with specific regions of being but with being as such (*to on hêi on*). Therefore, knowledge of these first principles may be called ontology. And because the divinity is a first cause of all motion, theology is part of first philosophy. First philosophy in Aristotle's sense is onto-theology or metaphysics, a discipline which is (a) distinct from and (b) fundamental to the sciences, whereas (c) it requires a principle of evidence (cf. characteristics a, b, and c).

§ 6. Subjectivism and the External World

According to Rorty, the idea of philosophy as something separate from science (a) was based on the Cartesian conception of the mind (d) and on representationalism (e). The Cartesian conception prompted recourse to empiricism, empiricism implied foundationalism (b), and representationalism caused the problem of the external world (f) which made epistemology central to philosophy (f, g). Rorty even makes the staggering claim that distinctions between fields of philosophy such as epistemology, ethics, and metaphysics were not drawn in the seventeenth century (p. 131), so that Descartes, when he denounced the philosophy of the schools, did not think of himself "as substituting a new and better kind of philosophy", such as "a better metaphysics" (*ibidem*).

We have now seen why all this is wrong. Foundationalism (b), the principle of evidence (c), and the very idea of philosophy as something distinct from the sciences (a) antedate representationalism (e) and Cartesian subjectivism (d). These first three characteristics of modernity originated in Aristotle's conception of science. Aristotle distinguished metaphysics or first philosophy from physics, ethics, and logic. It is true, however, that he lacked the post-Cartesian notion of epistemology (f, g). If we look for epistemology in the Aristotelian *corpus*, we find either the notion of normative epistemology in what the Schools called the *Organon*, or a naturalistic epistemology in *De Anima* and the *Parva Naturalia*, notably in *De Sensu*.

How, then, to interpret the Cartesian revolution in philosophy? Rorty concentrates on the philosophy of mind. His central question is how Descartes came to "repackage" intellect and sensations into one separable mind, whereas the Greek notion of a separable mind focused purely on the intellect as a mirror of universals or natures. I think this is an important question, but not the most fundamental one. In order to ask the deepest historical question, we have to see something, a triviality for the historian, which Rorty refuses to perceive: *that the very core of the Cartesian revolution in philosophy was the attempt to substitute a new physics and a new metaphysics for the old, Aristotelian ones*. Furthermore, as far as Descartes' conception of a separable mind is concerned, there is a preliminary matter which Rorty takes more or

less for granted: why was it that Descartes conceived of colours and other "secondary qualities" as sensations in the mind?

Undoubtedly, Rorty's own philosophical preoccupations were responsible for the fact that he reconstructed the Cartesian revolution mainly from the point of view of the philosophy of mind. But apart from the religious import of the notion of a separable and immortal soul, the Cartesian revolution was primarily concerned with physics, its method, and its metaphysical foundations. Descartes rejected Aristotle's logic and scientific method (see the *Regulae*), his physics (see *Le Monde*), and his metaphysics (see the *Meditationes*). But, as I shall argue, he endorsed the Aristotelian *conception* of metaphysics as a first philosophy which is the foundation of the sciences. What he wanted to do in his *Meditationes*, pace Rorty, was to substitute a new metaphysical or onto-theological foundation of the sciences for the old, Aristotelian one. This is particularly clear in the *lettre-préface* to the French edition of the *Principia Philosophiae*. Descartes there distinguishes five degrees of wisdom. The highest degree is knowledge of the first principles, that is, first philosophy. According to Descartes, Plato and Aristotle failed to obtain this philosophical knowledge. And where they failed, Descartes claims to have succeeded. It is no historical accident that Descartes' main philosophical treatise is called *Méditations Métaphysiques*. The title of the Latin original, *Meditationes de Prima Philosophia*, is a direct reference to Aristotle's conception of a First Philosophy.

When we call Descartes the father of modern philosophy, we often mean that modern epistemology, which centres around the problem of the external world, originated in his works. But Descartes himself did not have this modern concept of epistemology, and his revolution in philosophy did not aim at founding modern epistemology at all: it aimed at a new system of philosophy (physics, medicine, mechanics, ethics) founded on a new metaphysics and acquired by a new method.¹³ If so, the most fundamental historical question we should ask is the following: *how did it come about that Descartes founded modern epistemology, in spite of himself as it were, whereas in fact he wanted to rebuild metaphysics or first philosophy?*

I shall attempt to answer this question in three stages. First, the role

¹³ See again, the *Lettre-préface* (*Oeuvres philosophiques*, éd. F. Alquié, Tome III, Paris: Garnier, 1973, pp. 778–780) where Descartes prescribes the order of self-education as a philosopher: first one has to form a provisional system of rules of conduct; then one has to study logic, not the logic of the Schools but the Cartesian method of discovery, and to practise this method in mathematics; after that, one should apply the method to philosophy proper ("la vraie philosophie"), whose fundamental discipline is metaphysics, "which contains the principles of knowledge". Physics comes second, and the applied disciplines of medicine, mechanics, and ethics, come third. Descartes illustrates the architectonics of philosophy by his simile of a tree, whose roots are metaphysics, whose stem is physics, and whose branches are the applied sciences. The relation between physics and metaphysics clearly conforms to Aristotle's conception.

which the skepticist problem of the external world played in Descartes' philosophical project has to be specified (this section). Secondly, we will have to trace the conditions of the possibility of this problem (§ 7). Third, it has to be explained why the problem became central to philosophy, whereas it was not central at all in the Cartesian project (§§ 8, 9).

According to Descartes, the philosophical project of the *Meditations* consisted in the attempt to provide a new and firm metaphysical foundation for the sciences (first Meditation). Central to this project was the problem of the first principles of physics, a problem which, we saw, is implied by the Aristotelian conception of science. How did Descartes solve the problem of the first principles? And how does this problem relate to the quite different problem of the external world?

Descartes rejected Aristotelian natural science, with its distinction between the sublunary and superlunary spheres, its final and formal causes, its finite space and its four or five elements. Because he rejected the Aristotelian forms, he had to reject also Aristotelian induction as a solution to the problem of the first principles of physics. According to Descartes, physics is about matter in motion. In the second Meditation, he argues that his new concept of matter as extension is an essentially intellectual concept, which cannot be acquired by the senses and the imagination alone. Consequently, the basic principles and concepts of physics must be innate intellectual ideas, which are at best occasioned by experience and merely illustrated by the imagination. But how to guarantee that these basic principles, if they are innate, are also true, in the sense that they correspond to reality? This is the main problem Descartes wants to solve in his *Meditations*.

According to Descartes, Plato and Aristotle did not really possess knowledge of the first principles, because their first principles always remained a matter of dispute. The Aristotelian conception of science requires that the first principles be *certain*. In order to improve on Plato and Aristotle, Descartes forced up the requirement of certainty into that of indubitability. And the method for discovering indubitable first principles is methodological doubt. Because indubitability is the aim, the slightest and most improbable reasons for doubting are legitimate ones in Descartes' procedure.

Cartesian doubt has three phases: the argument of illusion, the dream-argument, and the argument of the deceiving God or demon. Each phase surpasses the limits of the former one. Whereas the first phase is local, the second is global. And whereas the second applies to complex natures only, the third casts doubt on simple natures, such as the elements of mathematics. It seems that the argument of the deceiving God or demon suffices to doubt everything, even the things of which we are most certain: mathematics and the existence of the material world. But in the second Meditation Descartes discovers that self-consciousness

survives the universal doubt of the first Meditation. Because we can understand what (my) consciousness is and know that it exists while doubting everything else, (my) mind is better known than matter (characteristic **d** from § 1, above). Reflecting on this discovery at the beginning of the third Meditation, Descartes hits upon his new criterion of truth: everything that is clear and distinct, is also true. This is the principle of evidence which founds Cartesian science (characteristic **c**). But mathematical principles, which satisfy this criterion, may be doubted if God is able to deceive us. Therefore, in order to validate his criterion of truth, Descartes has to prove that there is an infinite God which cannot deceive us (third Med.) and that the mistakes we make are not God's responsibility (fourth Med.). Thus validated, the criterion of truth enables us to know essences, such as mathematical structures and the essence of God (fifth Med.). God's veracity also dispels the doubt concerning the existence of the material world (sixth Med.), so that we now know with certainty that the clear and distinct principles of physics, which are concerned with the essence of matter, apply to this world.

From this survey of Descartes' *Meditations* we may conclude that the characteristic of subjectivism (**d**) is due to the *method* (systematic doubt) which Descartes chose to solve the traditional (Aristotelian) problem of the first principles.¹⁴ This is the central problem of the *Meditations*. Of course the problem of the external world (**f**) also occurs in the text, but it did not yet have the fundamental role it would acquire later (see §§ 8 and 9, below). For Descartes, it is only an instrument to reach his metaphysical first principles of self-consciousness and God. In short, both characteristic **d** and characteristic **f** have the subordinate function of enabling Descartes to solve the problem of the first principles, a problem which originates in Aristotle's conception of science.¹⁵ If Descartes was a foundationalist, he was primarily an Aristotelian foundationalist.

§ 7. How is Cartesian Doubt Possible?

The summary of the *Meditations* in the previous section will not suffice as a genealogy of the modern conception of epistemology, which centres

¹⁴ This genealogy of Cartesian subjectivism differs not only from Rorty's but also from Heidegger's reconstruction (in, for instance, *Die Frage nach dem Ding*, B, § 5). I agree with Heidegger that the ego became the underlying substance in Descartes because Descartes wanted to lay an absolutely certain foundation of the sciences. But whereas Heidegger thinks that the necessity of such a foundation is typically "modern" because it would be implied by the typically "mathematical" nature of the modern view of the world, I trace the Cartesian Quest for Certainty back to Aristotle's philosophy of science, which Heidegger does not discuss.

¹⁵ In my historical reconstruction I am passing over the religious motivation for Descartes' notion of a separable soul (characteristic **d**).

around the problem of the external world. A second stage is needed. And this second stage is concerned with a second fundamental question: *how was Cartesian doubt concerning the existence of the external world possible?* Before answering this question, I shall attempt to show why it has to be posed at all.

Descartes stresses that his doubt is not a practical doubt, which would be possible in daily life. Doubt concerning the existence of the material world is hyperbolic and metaphysical. A motivation for it is not needed, except the purely theoretical motivation that we want to find an indubitable principle. But there seems to be a minimal requirement for admitting this doubt in a philosophical argument: the requirement that it is a conceptual possibility.

Linguistic philosophers have argued that this requirement is not satisfied in the case of Cartesian doubt. It is part of the concept of doubting that doubt is a local phenomenon. We can meaningfully doubt something only if we do not at the same time doubt everything. This holds also for lying. To lie is essentially a parasitic activity, as Kant and Wittgenstein realized. Lying presupposes the general practice of speaking the truth. Only because this practice exists (and language could not exist without it), are we able to act as if we are speaking the truth whereas in fact we do not. Concepts of parasitic activities do not permit the inference from 'it is sometimes possible to do F' to 'it is always possible to do F'. Lying is necessarily local. It cannot be global. To think that everyone could always lie betrays a misunderstanding of the concept of lying.

The same holds, so it is argued, for the concept of a hallucination. To have a hallucination means to be in a state which is an exception to the rule. We seem to perceive whereas in fact we do not. The idea of a global hallucination is incoherent, not because we could never dispel a global or total hallucination, as verificationism argued, but because 'to hallucinate' *means* that one is in a state which deceptively resembles other states *which are the normal states*. If *per impossibile*, we were always hallucinating and never perceiving, we could simply not possess the concept of a hallucination. In other words, if a global hallucination were indeed possible, we would not be able to conceive of its possibility. Because Cartesian doubt regarding the material world is nothing but entertaining the possibility of a global hallucination, Cartesian doubt is conceptually incoherent and logically impossible.

There are two misguided reactions to this argument (assuming its validity). The first is to drop the requirement of conceptual possibility in the case of Cartesian doubt. Surely, one might say, it is conceptually impossible to doubt elementary truths of mathematics, such as the truth that $2 + 3 = 5$. Of course Descartes knew this. If he nevertheless entertains the possibility that God or a demon deceives us every time we make such simple calculations, he clearly does not consider

conceptual possibility as a requirement for his doubt. And this fits in very well with Descartes' view that God created the so-called eternal truths. If God created the laws of logic and mathematics, it seems that He could have implanted laws in the human mind which do not correspond to the real laws He in fact created. Consequently, we might consider the *metaphysical* possibility of the falsity of our laws of logic and mathematics, even though we are not able to conceive it as a *logical* or *conceptual* possibility.¹⁶

This objection, if meaningful, is correct in the case of Cartesian doubt concerning mathematics. Here, doubt is conceptually incoherent even in Descartes' own eyes. The argument of the third, fourth and fifth Meditations purports to show that the logical impossibility of this doubt implies a metaphysical impossibility: because God in fact created the eternal truths, and because he is essentially veracious, he implanted these very same eternal truths in our minds. Therefore, what is conceptually impossible for us is also conceptually impossible in itself. Once the possibility of doubting simple mathematical truths is shown to be incoherent, it is eliminated from the Cartesian argument.

But this is different for the possibility of doubting the existence of the external world. Although the existence of the external world is demonstrated in the sixth Meditation, the *logical or conceptual possibility* of doubting its existence remains a crucial premise in Descartes' argument for the substantiality of the soul. This is why Descartes must have thought that this doubt is logically possible, whereas doubting the truths of mathematics is not. To conclude: if linguistic philosophy is correct in claiming that a global hallucination is conceptually impossible, this is a valid criticism of Descartes' hyperbolic doubt concerning the existence of the material world.

I now come to the second misguided reaction. It consists in interpreting Descartes' mistake about the conceptual possibility of a global hallucination as a corroboration of Wittgenstein's view of traditional philosophy, according to which the traditional doctrines originate from misconceptions about logical grammar and from misleading pictures embedded in language. This reaction in fact would be an answer to my second question, the question as to how Cartesian doubt concerning the existence of the external world was possible. But I think that it is an unsatisfactory answer. Confusions about logical grammar may have played a role, but, at least in this case, it is improbable that Descartes misinterpreted the logical grammar of the concept of a hallucination without having deeper philosophical motives for misinterpreting it. Let me, therefore, reformulate my second question as

¹⁶ In other words, if God's omnipotence implies that He created the eternal truths, instead of being subject to them, metaphysical possibility will not be a sub-domain of logical possibility as we conceive it.

follows: *What induced Descartes to overlook the conceptual impossibility of doubting the existence of the external world?* This question leads to the true genealogy of characteristics **d**, **e** and **f** of section 1 above.

The answer is that the ontological shift which was part of the scientific revolution of the seventeenth century seemed to imply the representative theory of perception (**e**), and that global doubt concerning the existence of the external world (**f**) is a consequence of this theory. Furthermore, because according to the representative theory we know the mind directly, that is, without the interference of distorting representations, we know mind better than matter (**d**). Although this story is familiar, I shall spell it out in somewhat more detail, in order to trace the deepest presuppositions of modern epistemology.

The scientific revolution of the seventeenth century is not only characterized by the invention of new empirical theories or the development of superior methods. It was also a metaphysical or ontological revolution. Progressive scientists rejected Aristotelian metaphysics. The success of mechanics as a science of terrestrial and heavenly motions suggested the bold speculation of the new corpuscular ontology, and this ontology, in its turn, was a source of inspiration for mechanical models in many domains of science, such as optics and the theory of heat. Would it not be possible to generalize mechanics into the truly universal science of nature of which the Ancients had dreamt? But to do so required the hypothesis that all non-mechanical phenomena of nature, such as heat, colours or magnetism, are in fact mechanical. They had to be explained as effects of the mechanical behaviour of imperceptibly small particles (corpuscles).

This ontological revolution engendered a revolution in the philosophy of perception. According to Aristotle and common sense, we usually perceive the world as it is. As Aristotle has it, in perception and induction the mind absorbs the forms or essences of perceived things and their properties. Perception is an essential identity between perceiver and perceived. Within this Aristotelian framework there is no room for a global doubt concerning perception. However, the corpuscular ontology seems to imply a cleft between perceptual appearance and physical reality. Philosophers of the seventeenth century, and their twentieth-century heirs such as Russell and Wilfrid Sellars, argue as follows.¹⁷ For reasons of simplicity, and in order to avoid circular explanations, the non-mechanical 'secondary' qualities, which are to be explained by postulating corpuscular mechanisms, must be denied to the corpuscles.

¹⁷ Cf. Descartes, *Regulae XII*; *Le Monde*, ch. V; *La Dioptrique*, first discourse, and W. Sellars, "Philosophy and the Scientific Image of Man", in *Science, Perception, and Reality* (London: Routledge & Kegan Paul, 1963), pp. 26–27 and 34–35; B. Russell, *An Inquiry into Meaning and Truth* (Harmondsworth: Penguin Books, 1962), pp. 13 and 221.

Paradoxically, this seems to imply that they have to be denied to perceptible macroscopic objects as well. For how can such a macroscopic object, for instance, be really coloured, if it is nothing but an aggregate or configuration of colourless particles? If we can specify the corpuscles of which the object consists completely in terms of primary qualities (i.e. in the terms of theoretical physics), and if the same holds for the structure in virtue of which these particles constitute the object, all real qualities of macroscopic objects must be primary qualities. In other words, material objects and events are very different from what we perceive them to be. Physics conflicts with the manifest image of common sense and with Aristotelian philosophy.

Let me call this result the *incompatibility thesis*. According to the incompatibility thesis, science is *incompatible* with our common-sense view of the world and of ourselves. I shall argue that the incompatibility thesis is at the root of the problem of the external world (f) and, as a consequence, at the root of the modern notion of epistemology which centres around this problem. Interestingly, the incompatibility thesis is still with us. When Rorty, for instance, argues in chapter 2 of *Philosophy and the Mirror of Nature* that the Antipodean image of man is scientifically complete, although it leaves out pain and other elements of the manifest image, he is under the spell of the incompatibility thesis.¹⁸ But if the deepest presupposition of modern epistemology is still with us, the postmodern rejection of epistemology is less radical than it claims to be.¹⁹

¹⁸ Cf. also PhMN, p. 354, where Rorty says: "Physicalism is probably right in saying that we shall someday be able, 'in principle', to predict every movement of a person's body (including those of his larynx and his writing hand) by reference to microstructures within his body". But Rorty thinks that physicalism nevertheless leaves room for moral responsibility, because prediction and scientific explanation are something entirely different from *understanding*: "we can predict what noises will come from someone's mouth without knowing what they mean" (p. 355, cf. p. 387). In other words, physics and common sense are incompatible within the domain of explanation. In order to reconcile them, the domain of explanation has to be severed radically from the domain of justification and understanding. I said that Rorty in PhMN tries to solve the Kantian problem of the relation between physics and human dignity. We now see that his solution is also "Kantian" in a wide sense: he solves the problem of incompatibility by relegating physics and morality/human dignity to radically different (pragmatic) domains (cf. Kant's phenomenal and noumenal worlds).

¹⁹ Even Heidegger's rejection of the Cartesian epistemological tradition is informed by the incompatibility thesis. Heidegger argues in *Sein und Zeit* (especially § 43 a) that the problem of the external world is a pseudo-problem, which was produced by extending the scientific or objectifying mode of understanding to our own existence and its relation to the world. Heidegger claims that our existence, as we understand it authentically in daily life, cannot be grasped by science (in the broad sense of the German 'Wissenschaften'), so that it should be explored by another, and more fundamental discipline, a philosophical "Fundamentalontologie". The scientific view of ourselves would contradict the authentic common-sense view. In *Die Frage nach dem Ding* (Tübingen: Max Niemeyer, 1975, p. 8),

If one accepts the incompatibility thesis, one will have to prefer either the scientific image or the manifest image as the true picture of reality. The first option may be called *naturalism*. Naturalism is a further crucial presupposition of modern epistemology. But philosophers such as Heidegger in *Sein und Zeit* and Merleau-Ponty in *La Phénoménologie de la Perception*, who implicitly endorsed the incompatibility thesis but rejected modern epistemology, had to prefer the manifest image. They are anti-naturalists. According to them, the common-sense world is the real world, whereas physics is a secondary kind of knowledge possessing a derived and impoverished type of truth, parasitic on the manifest image.

All great seventeenth-century philosophers were naturalists in my sense. According to the founding fathers of modern epistemology, physics would have shown that material things *as they really are* lack secondary qualities. This naturalist conviction causes an ontological embarrassment concerning secondary qualities: what are secondary qualities *as we perceive them*, if they do not reside in material things? The modern philosophers resolved this embarrassment by assimilating the phenomenal secondary qualities to sensations such as pain. The phenomenal secondary qualities are affections of the perceiving organism, as Galileo said, or better, if this organism is also conceived of as part of the material world, affections of consciousness. The manifest image, once expelled from the physical world, is stored in the mind. If it is, *the mind must be radically different from matter* (cf. **d**), and it must contain much more than mathematical knowledge.²⁰

We should conclude that Descartes' repackaging of pains and colours with mathematical intuitions in the mind was not due to "a badly argued hunch", as Rorty suggests. It was necessitated by the ontology of corpuscular naturalism. Nor did Descartes think that sensations are indubitable in the same sense as elementary mathematical knowledge is indubitable (cf. pp. 56–57). In fact, he supposed them to be *more* "indubitable" than mathematical knowledge, because in the third stage of methodological doubt mathematics is called into question whereas our having the sensations we seem to have is not. If so, one will be tempted to ask why Descartes attributed this strong indubitability to sensations, and indeed this is the kind of question Rorty is trying to

Heidegger says that his philosophical questioning aims at preparing a fundamental decision concerning the following issue: is science (*Wissenschaft*) the standard of knowledge (*Wissen*), or is there a kind of knowledge (*ein Wissen*), in which the ground and limits of science are determined? Heidegger clearly thinks that there are such limits. Disregarding them will lead to the pseudo-problems of traditional epistemology.

²⁰ Rorty hints at this explanation of why Descartes "dumped . . . pain and all the remainder of our immediate experience . . . into the soul substance" in note 27 to p. 57 (quote from A. G. A. Balz).

answer in vain. However, I do not think that Descartes himself was really interested in such a question. What Descartes wanted to show, as against Aristotelian philosophy and common sense, was that sense perception does not give access to physical reality as it really is, so that in doing physics we have to rely upon intellectual principles and to decode the data of perception in the light of these principles. What would be a better way to show this than by demonstrating that even if our having the perceptions we happen to have would be indubitable, *we could nevertheless call into doubt the existence of the physical world?* In the third stage of methodological doubt, it is the *possibility of doubting* the existence of the physical world which wears the trousers, and not the *impossibility of doubting* our sensations. Let me come back, therefore, to the question I wanted to answer in the present section: how to explain that according to Descartes it is conceptually possible to doubt the existence of the material world, whereas according to common sense such a doubt is nonsensical? On this point, my answer does not differ very much from Rorty's.

The idea that perceptual phenomena in the world, such as colours, warm/cold, smells, and sounds, are really sensations in our immaterial mind, may be called the *principle of immanence*. Via the principle of immanence, the corpuscular ontology leads to a dualistic theory of perception. Corpuscular stimulation of the sense organs and corpuscular processes inside our body would finally cause or "occasion" sensations in the mind. According to the principle of immanence, these sensations are the real immediate or primary data of perception, the sensory core, or, even better, the "given" (cf. c).²¹ For surely we see colours, for instance, directly or immediately. They are the specific data of vision. If phenomenal colours are really in the mind, the primary data of external perception must be internal or mental. But because in our ordinary perceptual consciousness we are not aware of sensations, and *a fortiori* not aware of sensations *as* being in the mind, a mental mechanism has to be postulated which "projects" or "interprets" the sense data and which thus accounts for the fact that in daily life we consider colours as properties of external things. Perception, then, as far as the mind is concerned, consists of a mental mechanism which constructs an image or representation of the world out of the impressions in the mind (e, representationalism). Because this image incorporates secondary qualities, it is *essentially misleading as to the real nature of material objects*. The metaphysical foundation of science carries out the task of correcting common sense and of decoding natural perception on the

²¹ Cf. for the notion of a sensory core: Gary C. Hatfield and William Epstein, "The Sensory Core and the Foundations of Early Modern Perceptual Theory" *Isis* 70 (1979): 363–384. Hatfield and Epstein argue that the principle of immanence cannot be explained by the development of optics up to Kepler and Descartes. But they only hint at the explanation sketched in this paper.

basis of its insight into the true nature of reality. It selects those representations which *really* mirror nature.

But ironically, this theory of perception, supposedly implied by the corpuscular philosophy, generates a radical skepticism concerning its very premise (f, the problem of the external world). If what is really "present to the mind" in perception is a series of sensations or mental impressions, how will we be able to know by perception whether the material world we believe ourselves to perceive exists at all? Could not an all-powerful God, who mysteriously connected body and mind, create only minds containing sense-impressions without a material reality which causes these sensations?²² And would this not be indistinguishable for us from the world He in fact created? Via the representative theory of perception (e), the corpuscular philosophy leads to Cartesian doubt concerning its own credibility (f). We may conclude that global doubt concerning the external world in itself is not merely a conceptual possibility once one has accepted the corpuscular ontology and its concomitant theory of perception. It seems to follow directly from these doctrines.²³

Let me now sum up the first stages of my genealogy of modern epistemology in reverse order. The corpuscular ontology leads to the incompatibility thesis. This thesis, together with naturalism, implies the subjectivity of secondary qualities and the principle of immanence (the Cartesian version of c, as far as sense perception is concerned). The principle of immanence gives rise to the representative theory of

²² John W. Yolton has repeatedly argued that *ideas* in Descartes and Locke are not special objects located in an inner arena, which constitute a "veil" hiding the real material world. The technical term 'idea' would refer rather to mental acts. In other words, he defends the Arnauld-interpretation of the term 'idea'. On the basis of this interpretation Yolton argues that "there are many strands in the writers on perception from Descartes to Reid that indicate they were attempting to articulate a form of direct realism" (cf. his paper in *Reading Rorty*, op. cit., pp. 58–59), so that the New Way of Ideas does not (necessarily?) lead to veil-of-ideas skepticism. For, of course, a mental act of perception might take material reality in itself as its object. But Yolton's conclusion does not follow, because he neglects the background of the corpuscular philosophy. Even if our having the "idea" of red meant nothing but our perceiving a red object, the corpuscular philosopher would say that his phenomenal red cannot be a real property of a material object, so that the act of perception has a *non-existing object*, which conceals the real object. This was in fact the conviction of Brentano, who heavily relied on Locke. Even if 'idea' refers to mental acts, the corpuscular philosophy will lead to some kind of representative theory of perception, a theory according to which the intentional object of perceptual acts is different from the real material object. Consequently, Yolton's interpretation of the term 'idea' does not alter very much in the traditional account of the genesis of the problem of the external world. For Brentano, see my paper on "The Concept of Intentionality: Husserl's Development from the Brentano period to the *Logical Investigations*", *Philosophy Research Archives* XII (1987): 293–328.

²³ This means that the hypothesis of a deceiving God or demon, which Descartes borrowed from later Medieval theology, is not at all essential to external world skepticism, as the example of Hume shows.

perception (characteristic **e**, representationalism) which, in its turn, explains the possibility of doubting the existence of the external world (characteristic **f**). And because the world is known via representations only, whereas we are directly conscious of the contents of our mind, mind is better known than matter (characteristic **d**, subjectivism).

However, as I said in § 6, the problem of the external world was not central to the Cartesian revolution. Descartes did not infer from this problem that epistemology, conceived as a discipline centering around external world skepticism, is the foundation of the sciences and of culture (characteristic **g**). In Descartes' hands, skepticism concerning the external world was merely an intellectual tool to prove the primacy of mind, Descartes' first principle, and to destroy the naive confidence in the data of sense perception typical of Aristotelian physics and common sense. Central to the Cartesian revolution was the problem of the first principles, a problem inherent in the Aristotelian philosophy of science. This is also true for Kant, as I shall argue. And Locke did not take external-world skepticism seriously either.

We now see that the genealogy of the modern conception of first philosophy as epistemology is not yet completed. A third stage is needed, to answer a third question: *how to explain that external-world skepticism, which was merely of instrumental value to the Cartesian project, became central to philosophy?* And how to explain that first philosophy became epistemology, whereas it always had been metaphysics? In short, what is the genealogy of characteristic **g**?

§ 8. Rationalism, Empiricism, and the Rise of Modern Epistemology

Rorty holds that foundationalism is the consequence of modern empiricism: "With Lockean empiricism, foundationalist epistemology emerged as the paradigm of philosophy" (p. 59). We have seen that Rorty is wrong on this point: foundationalism is as old as Aristotle. And yet there is some truth in the idea that the rise of empiricism in the seventeenth century was at the root of foundationalism, albeit a foundationalism of an entirely new kind: the modern notion that it is epistemology and not metaphysics which is the foundation of the sciences. In order to trace the relevant historical developments, we have to distinguish kinds of foundationalism, classical and modern, just as we had to distinguish kinds of epistemology.

Let me call the variety of foundationalism which is inherent in Aristotle's theory of science *classical foundationalism*. Classical foundationalism implies the problem of the first principles: how is it possible to know with certainty general and necessarily true first principles? This foundational problem is an epistemological problem, the classical epistemological problem. Classical foundationalism leads to a tripartite architecture of human knowledge. Sciences such as physics are based on

first principles, physical and metaphysical. But these first principles have to be justified, in their turn, by a solution to the epistemological problem of the first principles. Regarding the first principles of empirical sciences such as physics. Aristotle solved this problem by his theory of intuitive induction.

Classical foundationalism differs from what I shall call *modern foundationalism* (characteristics **f** and **g**). Whereas according to classical foundationalism, the foundation of the sciences or first philosophy consists of metaphysics, modern foundationalism substitutes epistemology for metaphysics as first philosophy. According to modern foundationalism, first philosophy has the task of solving the problem of the external world and of refuting veil-of-ideas skepticism.

The main questions of this section may now be specified as follows: *why did modern foundationalism edge out classical foundationalism?* And *what is the interplay of these two kinds of foundationalism in the history of modern philosophy?*

Descartes inherited classical foundationalism from Aristotle, with its concomitant distinction between sciences such as physics and first philosophy or metaphysics, although he rejected the content of Aristotelian physics and metaphysics (§ 6, above). Accordingly, we find the tripartite structure of knowledge in Descartes. Physics is founded on metaphysical first principles, such as Descartes' version of the corpuscular ontology. Because it is impossible to have certain knowledge of the corpuscular ontology on the basis of experience, Descartes had to invent a new, non-empirical solution to the classical epistemological problem of the first principles of physics. This new solution consists in adopting the rationalist criterion of truth (all clear and distinct propositions are true) and in validating this criterion by means of the *cogito*, a proof of God's existence, and a demonstration of His veracity.

While Descartes inherited classical foundationalism, he also modified the Aristotelian philosophy of science. According to Aristotle, each natural kind has an essence and each essence yields a first principle of natural science, so that the number of first principles is large. Descartes, however, substituted explanation by mechanical models for explanation by essences (see the *Regulae*, *L'Homme*, and *Le Monde*), and reduced all essences in nature to one: the essence of matter as extension. As a consequence, there are only a few first principles of Cartesian physics. Descartes realized that it would be impossible to deduce empirical phenomena and their specific explanations from these few principles. Moreover, like his medieval predecessors Grosseteste and Roger Bacon, he saw that one and the same empirical phenomenon may be deduced from more than one set of premises, i.e. that a phenomenon may be explained by various hypotheses (*Discours*, 6ème partie). This is why Descartes had to admit that the main body of physics consists of mechanical hypotheses which might be empirically falsified. As a

consequence, the first principles of physics assume a role different from the one they had in Aristotle's conception. They function as boundary conditions which specify the kind of hypotheses allowed in physics, rather than as first premises for the deduction of particular physical explanations.

In Descartes' philosophy of science, experience has at least three tasks: it teaches us the diversity of material things God created, the things physics has to explain. Secondly, it has the heuristic function of suggesting mechanical models which might account for these empirical phenomena. And thirdly we need experience for crucial experiments, which allow us to eliminate one or more competing hypotheses (*Discours*, 6ème partie). The only difference between Cartesian rationalism and modern empiricism concerns the status of the first principles of physics, i.e. of the corpuscular ontology. Whereas Descartes thought that his geometrical version of the corpuscular ontology was rationally certain, because it consisted of divinely guaranteed innate ideas, Locke rejected innate ideas and conceived of the corpuscular philosophy as a hypothesis to be corroborated by experience.

It is a complex historical question why modern empiricism edged out rationalism, and Rorty's answer to it is simplistic and improbable. There were unsurmountable difficulties in the Cartesian validation of the first principles, notably the problem of the circle.²⁴ There were also conceptual problems in the first principles of Cartesian physics themselves, problems which showed that these principles were not so clear and distinct as Descartes pretended.²⁵ But I think that the main

²⁴ Descartes' validation of his criterion of truth (insights which are clear and distinct are also true) by means of a proof of the existence of an infinite and veracious God is circular, because in this proof Descartes uses premises, such as his principle of causality, which cannot be accepted before the criterion is validated. In Arnauld's words, "we can be sure that God exists, only because we clearly and evidently perceive that he does; therefore prior to being certain that God exists, we should be certain that whatever we clearly and evidently perceive is true". The problem of the circle is an instance of what is often called a "Pyrrhonian crisis": one cannot prove a criterion of truth without circularity. I shall not go into the vast literature on the question as to whether Descartes succeeded to refute the objection of circularity.

²⁵ Let me mention four examples of such conceptual problems. First, if space (extension) and matter are identical, so that there cannot be empty space, and if matter has no real properties save extension, how can different pieces of matter be really distinct (in contradistinction to conceptually distinguished)? What constitutes the boundaries of discrete bodies? It cannot be any geometrical properties, for three-dimensional extension stretches uniformly to infinity. It cannot be any non-geometrical properties other than motion, for there are no such properties (or, if there are, they can be reduced to geometrical ones). Descartes concludes that parts of matter must be differentiated by their different motions (Cf. *Le Monde*, chapitre VI, AT XI, p. 34, l. 11–13). But this cannot be the case, because in order to be able to have different motions, parts of matter must be already discrete. It follows that real individuation of matter is impossible if matter and

blow against rationalism came from empirical science. The Cartesian conception of science implies that an empirical refutation of a physical theory may leave the first principles intact, for they admit of a variety of hypotheses to explain the same phenomenon. This is otherwise if a direct deductive consequence of the first principles is empirically falsified. The basic principle of Cartesian physics that matter is extension implies that the void is impossible. And Descartes also considered the thesis of the instantaneous propagation of light as a deductive implication of his first principles. However, Pascal claimed that the experiments with the barometer empirically demonstrated the existence of the void. And Rømer discovered the finite speed of light in 1676.

These and other empirical refutations also refute Descartes' doctrine that there are indubitable *a priori* principles of physics, as Pascal clearly saw. For a principle which is empirically falsifiable via its deductive consequences must itself be empirical. This is why Pascal turned empiricist. "Les expériences . . . sont les seuls principes de la physique", he wrote in the preface to the *Traité du vide*. At the end of the seventeenth century, many thought that what empiricism is the only viable philosophy of physics, authorized by the development of this science and by Newton's official adherence.

This modern empiricism is different from Aristotelian empiricism. Because of his belief in essences and in intuitive induction, Aristotle was able to couple empiricism to classical foundationalism, for this belief allowed him to solve the problem of the first principles. The modern empiricists, however, agreed with Descartes that Aristotelian essences should be replaced by the corpuscular philosophy. As a consequence, the conception of induction shifted: Aristotle's intuitive induction of

space are identical. This implies that motion is impossible, and that Cartesian physics leads back to Parmenides.

Secondly, one might ask what the shape of the smallest particles of Cartesian physics is. They cannot be spherical, because in that case we would have to suppose empty space. But if one starts from the axiom that empty space must be impossible, so that the smallest particles must be angular, it is difficult to understand how motion is possible. It will not do to answer that according to Descartes matter is infinitely divisible, so that there are no smallest particles. For the problem repeats itself on each level of "smallness" (Cf. *Principia philosophiae* II, art. 35).

Thirdly, Descartes presents his principle of inertia as a true statement. But how can we say that it is true (or false) that a moving body unaffected by external causes moves infinitely along a straight line, if all movement is relative, so that the choice of our frame of reference is arbitrary? This is the problem Newton wanted to solve by means of his doctrine of absolute space.

Finally, Descartes represents the universe as consisting of indefinitely many rotating "solar systems" without any empty space. But how can these rotating systems remain relatively stable if they touch each other? How to explain that order does not degenerate into chaos?

essences became Humean induction of general laws from particular instances. And because the empiricists rejected the Cartesian solution to the problem of the first principles, the problem of the first principles became insoluble: experiences of particular instances and induction as generalization simply do not yield certain general and necessarily true principles of physics.

As I have argued in § 6, veil-of-ideas skepticism is only indirectly connected with the classical problem of the first principles. For Locke, epistemology did not centre around this skeptical problem. The problem of the external world was no serious worry to him, because he saw no obstacles to a causal proof of the external world based on experience. But there is another kind of skepticism in Locke which is central to his epistemology indeed, a kind of skepticism which may be called first-principle skepticism. As an empiricist, Locke could not solve the classical problem of the first principles. Yet he stuck to the Aristotelian definition of knowledge as being certain and concerned with necessary truths. He thought, for instance, that if we were able really to know the corpuscular mechanisms or "real essences" underlying the appearances, this knowledge would be of a necessary kind. In other words, Locke was still under the spell of the Aristotelian conception of science, although his empiricism prevented him from solving the epistemological problem it implies, the problem of the first principles. Consequently Locke was inclined to become skeptical with regard to physical knowledge. Hume's analysis of causality and induction drove home Locke's variety of skepticism: if knowledge is defined as a necessary and certain insight into the workings of nature, modern empiricism implies that knowledge is impossible.

However, this philosophical conclusion seemed incompatible with the fact that scientists had acquired knowledge of a very powerful kind, notably Newtonian mechanics. Acknowledging this fact of Newtonian science, Kant therefore rejected empiricism. He restored Aristotelian foundationalism by claiming that physics is based on principles which are necessarily true, the so-called synthetic *a priori* propositions. As a result, Kant had to invent a new solution to the classical problem of the first principles. And indeed this problem is basic to his first *Critique*: how are synthetic *a priori* propositions possible? According to Kant, psychology cannot resolve the question. He therefore transcendentalized the classical epistemological problem of the first principles and solved it by his conception of pure intuition and by the Copernican revolution. In Kant we find again the tripartite architecture of knowledge implied by classical foundationalism. Physics is based on *a priori* principles, which Kant calls the *Metaphysische Anfangsgründe der Naturwissenschaft*. This metaphysics of nature is justified, in its turn, by transcendental philosophy. An analogous tripartite scheme informs Husserl's mature philosophy and Heidegger's *Sein und Zeit*.

If this reconstruction is historically adequate, we have to conclude that classical foundationalism, with the concomitant classical problem of the first principles, dominated modern philosophy until the beginning of the twentieth century. Its final downfall was caused by two important scientific revolutions of that time: relativity theory and quantum mechanics. These revolutions showed that Kant was wrong in assuming the existence of necessarily true principles of physics. But in order to avoid Lockean skepticism, the Aristotelian philosophy of science with its concomitant conception of metaphysics as first philosophy had to be radically abandoned. The concepts of science and knowledge were to be defined anew. Karl Popper and positivists such as Reichenbach realized this need, and argued that we have to conceive of science as essentially hypothetical. If scientific theories, including their axioms, are hypothetical, the problem of the first principles is a pseudo problem, because it derives from a mistaken philosophy of science. Epistemology as the discipline which has to solve this problem should equally be abandoned. But there is a successor problem, as Popper argued, the problem of defining a normative scientific methodology which maximizes scientific growth. Although this type of methodology or normative epistemology cannot develop if we do not closely study scientific practice, it cannot be left to the scientist or the sociologist of science.

These two conceptions of epistemology have to be carefully distinguished from epistemology as centred around veil-of-ideas skepticism. I argued that this latter kind of epistemology was not central to the Cartesian enterprise. Nor was the problem of the external world the basic problem of Kant's transcendental project. Yet, in the second half of the nineteenth century, epistemology in this modern sense tended to replace metaphysics as first philosophy. How is this to be explained? Why did veil-of-ideas skepticism become central to modern philosophy? And what was the relation between first-principle epistemology and external-world epistemology in the modern era?

We saw that the corpuscular philosophy engendered veil-of-ideas skepticism via the incompatibility thesis, naturalism, the principle of immanence, and the representative theory of perception. As long as corpuscular philosophers remained rationalists, it was not difficult to solve this skeptical paradox, so that the paradox seemed to be of minor importance. Innate ideas allowed them to prove that there is a God, and God's veracity guaranteed an extra-perceptual access to material reality by means of divinely certified clear and distinct ideas. God's veracity also guaranteed that our confused perceptual representations are caused by an independently existing external reality. In spite of their representationalism, rationalist philosophers such as Spinoza or Leibniz did not need to bother about the problem of the external world. In their philosophical systems, it merely played the part of a walk-on.

But as soon as corpuscular philosophers turned empiricist, on the

grounds spelled out above, the skeptical problem of the existence of the external world tended to become a central problem. According to the empiricist, sense perception is the only source of knowledge about the material world. If the empiricist accepts the corpuscular theory of matter or another physical theory which seems to imply the subjectivity of secondary qualities, this must be because sense perception confirms it. However, such a theory of matter implies the representative theory of perception, and the representative theory implies that sense perception is unreliable. According to the empiricist, then, sense perception leads to physics, and physics, if true, shows that sense perception is to be doubted as a source of knowledge about the independently existing material world. Therefore, sense perception, if reliable, is unreliable. Therefore, it is unreliable. The conjunction of empiricism and the corpuscular philosophy explodes either empiricism or the corpuscular philosophy. This is why the problem of the external world became a central problem of empiricism. If one assumes the incompatibility thesis, naturalism, and the principle of immanence, it seems that one cannot be both an empiricist and a realist regarding the existence of mind-independent matter.

The first empiricist philosopher who realized this paradox was not Locke but Berkeley. If one defines modern epistemology as the epistemology which centres around the problem of the external world, Berkeley was the father of modern epistemology. Because Berkeley wanted to be an empiricist, he had to give up the corpuscular philosophy as a doctrine about an independently existing material world. Berkeley endorsed the principle of immanence. But he rejected the Cartesian and Lockean doctrine that ideas represent an independent material reality. If the world given in perception consists of ideas in the mind, empiricism should conclude that this is the only world there is. Physics and the corpuscular philosophy must be reinterpreted as theories about this mind-dependent world. In other words, empiricism leads to immaterialism.

But immaterialism, Berkeley held, leads to God. Because we feel that the perceptual ideas in our mind are not caused by our will, they must be caused by another will. And because the perceptual world is harmonious, this other will is God's will. Without God, immaterialism will degenerate into solipsism. So it seems that corpuscular philosophers, whether they be rationalists or empiricists, need God in order to solve the problem of the external world.

Empiricists such as Hume, who rejected God and yet wanted to be realists, had to pay the price of a *sacrificium intellectus*. Hume argued that, if the immediate data of perception are impressions in the mind, neither sense perception nor inductive argument on the basis of sense perception can show that there is a material reality outside and independent of the mind, a reality which causes the sensations. But

we instinctively believe with absolute certainty that there is such an independent material reality. Hume advised us to trust this instinctive belief in the material world and to disregard the impotent intellect, although he did not advise us to trust an instinctive belief in the existence of God and to disregard the intellect which cannot prove His existence. Whereas the problem of the external world was central to Berkeley's empiricism, Hume succeeded in making it marginal again, because he preferred the natural beliefs of common sense to the reasonings of philosophers. One will agree with Kant that this surrender of philosophical reason to natural instincts amounts to a "scandal of philosophy".

§ 9. Kant and the Nineteenth Century

Kant, I argued, was a classical foundationalist who wanted to find a new solution to the problem of the first principles. Nevertheless, the problem of the external world, although it was not basic to the first *Critique*, was crucial in a sense: without this latter problem Kant could not have solved the problem of the first principles. Accordingly, there is an interesting interaction between the two problems in Kant's theoretical philosophy.

In order to see this, we have to distinguish two meanings of Kant's fundamental question as to how synthetic *a priori* propositions are possible. In a first interpretation the question is: how are we able to *know* these principles independently of experience? How, for instance, are we able to obtain pure geometrical knowledge? Kant's answer to this *epistemological question* resembles that of Descartes: because these principles are somehow present in the knowing subject, and, in the case of mathematics, may become explicit in what Kant called "pure intuition". But as soon as this answer is given, a second interpretation of the question concerning the possibility of synthetic *a priori* propositions becomes urgent: how to guarantee that these "subjective" principles are true of the "objective" material world? Let me call this second question the *correspondence question*. Being a philosopher of the Enlightenment, Kant could no longer endorse Descartes' or Leibniz' theological answer to the question of correspondence (the *Präformationssystem*, as he calls this answer).

It is on this point that the representative theory of perception and the problem of the external world became relevant to Kant's transcendental project. According to the principle of immanence, what is originally given in perception is a multiplicity of sensations or impressions. Each theory of perception based on the principle of immanence has to solve two problems. A first problem is: how to explain that we perceive colours and other secondary qualities as properties of objects at a distance from our bodies, if in reality they are nothing but impressions

in the mind? In order to solve this problem, we saw, a mental mechanism of projection (Descartes' *jugements*) has to be postulated, which also accounts for perspective (Descartes' *géométrie naturelle*). And because impressions are many whereas perceived objects are one, this mechanism has to contain synthetic operations (compare the association mechanisms of the empiricists). In short, the account of this mental mechanism has to explain how the mind constructs the familiar world out of the subjective materials of sensations in the mind. Also, the workings of the mechanism have to be unconscious, or, if one accepts the Cartesian tenet that everything in consciousness is conscious, they have to be too quick to be noticed. This first problem may be called the *problem of constitution*.

Of course philosophers would never have accepted the principle of immanence if they had not endorsed the corpuscular philosophy first. According to the corpuscular philosopher, the familiar world is nothing but a misleading *representation* of the real material world, which lacks secondary qualities. As a consequence, the corpuscular philosopher has to solve a second problem: how to show that the familiar world really represents, albeit incorrectly, a material world which exists in itself? Because this problem reduces to the question of how to prove that our sensations are caused by an independent material world, I shall call this the *causal problem*. Descartes solved the causal problem by arguing that a veracious God would not implant an instinctive belief in us that an independent material world exists, if this belief were not true. Berkeley retorted that an infinitely powerful God does not need matter as an instrument to cause sensations in our minds, and that He does not deceive us either because in ordinary life we do not believe in a corpuscular world at all.

These distinctions between the epistemological question and the correspondence question, and between the problem of constitution and the causal problem, respectively, enable us to see that the two kinds of foundationalism, classical and modern, are much more closely related in Kant's transcendental philosophy than, for instance, in the Cartesian project. In the first *Critique*, the classical problem of the first principles became intertwined with the problem of the external world, *because Kant used the problem of constitution to answer his question of correspondence*. Kant argued that the mental mechanism which constructs the familiar (image of) the world (*Erscheinungswelt*) out of the multiplicity of sensations *incorporates the synthetic a priori principles of physics*. If so, these principles will be true of the phenomenal world, because the phenomenal world is constituted by them.

This solution to the problem of correspondence implies that physics is not about the independently existing world which causes our sensations, the world *an sich*. Kant's Copernican revolution, which says that the objects of science are constituted by transcendental consciousness,

forced him to side with Berkeley on this issue.²⁶ Kant tried to conceal his affinity to the unpopular bishop in the introduction to his *Refutation of Idealism*, pretending that, in contradistinction to Berkeley's dogmatic denial of an external world, he could prove its existence and solve the Cartesian problem. But in vain, because the world whose existence Kant proved is the mind-dependent phenomenal world which Berkeley never rejected, and not the material world *an sich*.

As to the causal problem of the external world, Kant did not want to deny that there is a world *an sich* which causes the sensations or impressions. For what could the term 'impression' mean if there were not such a world? On the other hand, he could not prove its existence either, so that the "scandal of philosophy" was not really removed. On the contrary, it seemed to be aggravated: Kant agreed with Hume that the principle of causality can be applied only *within* the phenomenal world. This is an implication of the Copernican revolution. If so, is it not a contradiction to admit of the possibility that there is a *Ding an sich* which causes the sensations?

Rorty reformulates this traditional criticism of Kant where he says that Kant could not justify the assumption of the Copernican revolution that sensuous manifoldness is "given" and unity is made (pp. 153–5). Rorty does not see, however, that this is a paradox which haunts each philosopher who accepts the principle of immanence and assumes that perception is based on having mental sensations. We saw that the principle of immanence follows from the corpuscular philosophy as soon as one accepts the incompatibility thesis and naturalism. The principle of immanence leads to a constitutive theory of perception, which, in its turn, implies the possibility of external world skepticism. This is already paradoxical, because the corpuscular philosophy indirectly undermines itself.

But the paradox is deepened in empiricism and idealism. As I argued, the rise of empiricism explains the fact that the problem of the external world emerged as a central problem of philosophy. How to be an empiricist if, as the representative theory of perception implies,

²⁶ Both Berkeley and Kant had to re-interpret corpuscular physics as a theory about a mind-dependent world of "phenomena". But they did so in different ways. Cf. Berkeley, *Principles of Human Knowledge* I, §§ 60–66; Daniel Garber, "Locke, Berkeley, and Corpuscular Scepticism", in Colin Turbayne, ed., *Berkeley, Critical and Interpretive Essays*, Manchester: Manchester UP, 1982; and Kant, *Kritik der reinen Vernunft*, A 383, for instance. According to Berkeley, physics needs the corpuscular hypothesis because the laws of nature presuppose it, and ontologically speaking corpuscles are ideas in God's mind, as all material objects are. Kant could not accept this "theological" solution for the problem as to how imperceptible corpuscles can be part of a mind-dependent phenomenal world. He therefore assumes that the phenomenal world itself has a "corpuscular" or even point-mass structure in some sense, because in the final transcendental account it is constructed out of "points" (Cf. KdrV, B 202–208).

perception is unreliable? Empiricists such as Berkeley and Husserl became idealists because they tried to reconcile the principle of immanence and the representative theory of perception with the common-sense conviction that the existence of the material world is indubitable. Therefore, they had to identify the real world with the manifest image of the world, which is assumed to be constituted by the soul or by the transcendental subject out of a multiplicity of sensations, and to reject the idea that the real world exists independently of consciousness and that it causes the sensations.²⁷ Kant became an idealist because transcendental idealism enabled him to solve the problem of the first principles. But now the following paradox arises. If idealism is based on the principle of immanence, and if the principle of immanence is an implication of the corpuscular philosophy, then idealism rejects the premise of the very argument of which it is the conclusion, i.e. the existence of a corpuscular reality independently of the mind. How, then, should the idealist philosopher justify the intermediate premise of his argument, to wit, the principle of immanence? How should he prove his assumption that a multiplicity of mental sensations is the input of the mental mechanism of constitution? He cannot justify this assumption, because it is an implication of the very doctrine he rejects. Idealists such as Berkeley and Husserl attempted to argue for the principle of immanence on the basis of a common-sense analysis of perception. But their arguments are entirely unconvincing.²⁸ And for Kant, this escape was blocked from the outset because, as Rorty observes, Kant had to deny that the quasi-psychological goings-on described in the "Deduction" have an introspective ground (p. 155).

Kant's problem of the *Ding an sich* and the Romantic reaction against the Newtonian view of the world led to German Idealism. When philosophers sobered up in the second half of the nineteenth century, they became empiricists again and rejected the possibility of metaphysics as first philosophy. Metaphysics, if allowed at all, was considered as *last* philosophy, an attempt to induce the ultimate nature of reality by synthesizing the results of the empirical sciences. We have seen why the problem of the external world (**f**) must be a central concern to

²⁷ This means that both Berkeley and Husserl had to assume another cause of our well-ordered series of sensations. They both resorted to a theological explanation. Cf. E. Husserl, *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie I* (1913), § 51, Anm., and § 58. Cf. also my paper on "Husserl's Place in History: The Problem of Transcendental Idealism" in B. Smith and D. Woodruff Smith, eds., *The Cambridge Companion to Husserl*, Cambridge: Cambridge UP, 1994 (forthcoming).

²⁸ See for a critique of this argumentative strategy: J. L. Austin, *Sense and Sensibilia* (Oxford: Oxford UP, 1962) and P. M. S. Hacker, *Appearance and Reality. A Philosophical Investigation into Perception and Perceptual Qualities* (Oxford: Blackwell, 1987). Both authors hold that it is *nonsensical* to say that red, for instance, is a subjective sensation.

empiricism. And because the existence of the external world, if it is problematic at all, is a presupposition of natural science, philosophers such as Eduard von Hartmann and Edmund Husserl attributed to epistemology the role of first philosophy. First philosophy in this sense had to be sharply distinguished from science. For it was given the task of elucidating and justifying or rejecting an assumption which science always presupposes without being able to investigate it by its empirical method: the assumption that science is concerned with a world which exists *an sich*, independently of human cognition. As a consequence, any naturalist epistemology would involve a vicious circle.²⁹ In short, characteristic *g* became dominant in the second half of the nineteenth century only. It found its clearest expression in Husserl's transcendental philosophy.³⁰ And its rise was due to the rise of empiricism after Kant.

§ 10. Towards a Postmodern Conception of Metaphysics

According to Rorty, the seven characteristics of modernity (see § 1) are due to ocular metaphors and a badly argued hunch. If my genealogy of these characteristics is historically adequate, reason and rational argument play a much greater role in the history of philosophy than Rorty suggests. I agree with Rorty that philosophical problems may be the product of the adoption of assumptions built into the vocabulary in which the problem was stated (cf. p. xiii). But Rorty's claim that such an adoption must have been "unconscious" and that the vocabularies are "optional" because they sprang from "metaphors" is an exaggeration, due to ignorance of the real reasons which prompted philosophers to "adopt specific vocabularies".

It was not at all a-rational, for instance, that when Aristotle tried to construct a philosophy of science, he generalized from the paradigm of proto-Euclidean geometry, because geometry was the most sophisticated science of his time. We know by hindsight that this generalization caused many insoluble philosophical problems, such as the problem of the first principles. The invention of non-Euclidean geometries taught us that Aristotle's philosophy of science is not even adequate for mathematics. Philosophical theories may be refuted. But this does not make them "optional" in Rorty's sense. Furthermore, it was not a-rational either that seventeenth century science and philosophy adopted the corpuscular ontology. This ontology has proven to be a highly successful framework for theory construction and empirical research in physics. Nor was it a-rational that in the second half of the seventeenth

²⁹ Cf. E. Husserl, "Philosophie als strenge Wissenschaft", *Logos* I (1911), pp. 299–300. Reprinted in Edmund Husserl, *Gesammelte Werke*, Den Haag/Dordrecht: Nijhoff/Kluwer, 1950–, vol. XXV.

³⁰ Cf. my paper on Husserl's transcendental idealism to which I referred above.

century philosophers turned empiricist: they thought that the development of science necessitated this move.

This is not to say that a Wittgensteinian deconstruction of the philosophical past has no use at all. I would defend the idea, for instance, that the so-called Augustinian picture of language was one of the roots of Plato's doctrine of ideas. And perhaps the seventeenth-century thesis of the subjectivity of secondary qualities, which implied the problem of the external world, cannot be formulated without violating logical grammar.³¹ What I would object to is the *a priori* conviction that philosophical theories of the past *must* be due to linguistic confusion or misleading metaphors. The traditional notion of philosophy, Wittgenstein would probably agree, is a family resemblance concept. This means that any essentialist doctrine of the nature of traditional philosophy will be inadequate, even Wittgenstein's doctrine. It is simply an empirical question to what extent this doctrine is a useful guide to a critical history of philosophy.

If the modern philosophical tradition – at least the part of it which I have attempted to reconstruct – is more rational than Rorty claims, what good reasons do we have to abandon it and to turn postmodern? I shall first make some comments on modern epistemology and then go into the topic of metaphysics.

At least four different notions of epistemology should be distinguished. Let me call them (1) first-principle epistemology, (2) normative epistemology, (3) external-world epistemology, and (4) naturalistic epistemology. (1) First-principle epistemology is the discipline which attempts to solve the problem of the first principles. It purports to justify certain and general metaphysical principles of scientific knowledge. That there should be such a discipline is an implication of the Aristotelian conception of science. However, critical analyses by philosophers such as Pyrrho, Hume, Peirce, Sellars, and Popper, and the development of empirical science have shown that the problem of the first principles is insoluble and that the philosophy of science on which it is based has to be abandoned. If one considers classical foundationalism and first-principle epistemology as the core of modern philosophy, this is a reason to go postmodern.

(2) The situation of normative epistemology is different. Normative epistemology is as old as Aristotle. However, classical foundationalism is but one normative theory in this field. If it is rejected, it may be

³¹ The Wittgensteinian view of philosophy seems to involve both the *genetic* claim that philosophical theories *sprang or spring from* conceptual confusion or misleading pictures in our language and the *analytic* claim that they *involve* conceptual confusion. I think that the analytic claim is often, but not necessarily, true, and that the genetic claim easily leads to a lazy and aprioristic reconstruction of the history of philosophy, which obfuscates the real reasons philosophers of the past had for proposing their theories.

replaced by another theory, for instance by some variety of falsificationism or by a more recent invention. To my mind, there are no good reasons to abandon normative epistemology. Rorty argues that it should be left to the community of scientists. This is sound advice if it means that philosophers without a thorough scientific training are not qualified for normative epistemology. But it remains true that there is a gradual distinction between doing empirical or theoretical research and reflecting on the question what are the best methodological rules for doing it. This second activity, if practised on a fairly abstract level, may be called "philosophical", because it has thus been called for a long time. Barnes and Bloor have attacked normative epistemology, claiming that epistemology should be left to the sociologist (cf. also Rorty, p. 385). Now the sociologist of science may describe the rules of procedure scientists in fact use, but it seems to me that he is not qualified to propose new and better rules, except for sociology itself. Normative epistemology incorporates logic. No logician considers himself as a sociologist and very few will have a training in empirical sociological research. Psychologism in logic was refuted by Husserl and Frege a long time ago. A meticulous analysis of Barnes' and Bloor's strong programme would show that sociologism in the philosophy of science is at least as confused as psychologism in logic. Consequently, there is no good reason for going postmodern as far as normative epistemology is concerned.

(3) The case of external-world epistemology is more complex. Philosophers as diverse as Brentano, Russell, Reichenbach, and Feyerabend have suggested that, although we cannot prove with certainty that there is an independent material world which causes our sensations, realism concerning the external world may be considered a very probable theory. The best theoretical explanation for the regularities in the series of sensations we happen to have would be the realist hypothesis. This move naturalizes external-world epistemology in the sense that the problem becomes a problem of empirical science. Thus Reichenbach argues in *Experience and Prediction* that the future course of experience might falsify realism, if experience becomes entirely chaotic. But as long as it does not, we should adopt hypothetical realism. Idealism results only if one unreasonably demands that the realist hypothesis should be demonstrated with certainty, which, of course, is impossible. But this condition has to be dropped, now we have abandoned the Aristotelian conception of science and its concomitant quest for certainty.

I do not think that this naturalist strategy concerning the problem of the external world is really convincing. One reason is that the "quest for certainty" in this case does not derive from classical foundationalism at all: it derives from common sense. In daily life, we deem it nonsensical to doubt the fact that the material world exists independently of our

perceptions. As both linguistic philosophers and phenomenologists such as Heidegger (*Sein und Zeit*, § 43 a) and Merleau-Ponty (Introduction to the *Phénoménologie de la perception*) have argued, this doubt is simply incoherent. Consequently, it is equally incoherent to conceive the idea that the material world exists independently of us as a hypothesis of the same kind as the explanatory hypotheses of science. In science, we invent hypotheses to explain phenomena such as the rainbow or the growth of a tree. But no scientist (with the exception of a few cognitive psychologists) would say that the existence of rainbows and trees is a hypothesis in its turn, which explains our subjective perceptual sensations. We may invent hypotheses to explain empirical data of which we are conscious. But in experience, we never encounter "immanent sensations" as data which ask for an explanation. One should admit that sensations are not the "given" which has to be explained, and that the concept of a sensation is a theoretical and hypothetical notion which was invented to solve the ontological embarrassment concerning secondary qualities in the seventeenth century. Accordingly, it seems to be a more promising strategy to deconstruct the problem of the external world, rather than to attempt to solve it. If my genealogy of the problem is correct, its deepest presupposition is the incompatibility thesis, that is, the conviction that the manifest and the scientific image are logically incompatible. The deconstructions of external-world epistemology by Heidegger and Merleau-Ponty still presuppose the incompatibility thesis, because they lead to an ontological devaluation of science. This implies that they are not sufficiently radical. What is needed is an investigation of the incompatibility thesis itself. In short, regarding external-world epistemology I would advise a radicalization of postmodernism.³²

(4) 'Naturalistic epistemology', finally, is an ambiguous expression.³³ To the extent that it is simply a common name for all empirical scientific research into the cognitive faculties of the animal kingdom, including man, it has neither more nor less relevance to philosophy than other branches of empirical science. If the term stands for the attempt to naturalize traditional philosophical problems, such as the problem of the external world or problems of normative epistemology, naturalist epistemology is confused and misguided most of the time.³⁴ This is not

³² Ryle attempted to undermine the incompatibility thesis in *Dilemmas* (Cambridge: Cambridge UP, 1954), chapter V, "The World of Science and the Everyday World".

³³ See also Susan Haack, *op. cit.*, p. 199, for the different meanings of 'naturalistic epistemology'.

³⁴ On this point I agree with Putnam, who says in "Why Reason Can't Be Naturalized": "What is wrong with evolutionary epistemology is not that the scientific facts are wrong but that they don't answer any of the philosophical questions". See *Synthese* 52 (1982), p. 6; also in Hilary Putnam, *Realism and Reason, Philos. Papers*, Vol. 3, Cambridge: CUP, 1983.

to say, of course, that cognitive psychology and biology may not lead to a deeper understanding of our natural capacities which are presupposed by normative epistemology and thus, indirectly, to a deeper understanding of normative epistemology itself. Sometimes, a research strategy in normative philosophy of science is called "naturalist" in a weaker sense. Naturalism then means that normative models in the philosophy of science should be compared with examples of actual and successful science. But here, the label of 'naturalism' is confusing only, because it is obvious that the philosopher of science should do this.

Whatever legitimate projects remain for epistemology, epistemology will never be first philosophy again. There are no material first principles or basic assumptions of science which epistemology should justify. I agree with Rorty that the place for such a foundational discipline simply does not exist, so that it cannot be occupied by a successor discipline either. But this does not imply that foundationalism in all senses is misconceived. Occasionally, the idea that human perception and many scientific measurements are *relatively* theory-independent and function as a court of appeal for scientific theories is called 'foundationalism'. In this weak sense, there is nothing wrong with foundationalism, and the arguments for a *radical* theory-ladenness of all observation are invalid.³⁵

Nor can metaphysics be first philosophy. What happens to the notion of metaphysics or ontology as soon as classical foundationalism has been rejected? The idea that there is a radical epistemic distinction between the axioms and the theorems of the theories in mathematics or physics has to be dropped. It is somewhat arbitrary which theses one singles out for the role of axioms in a deductive system in mathematics. And in natural science, theories confront experience not statement by statement, but, at least to some extent, as a whole. This holds also for the most general assumptions of science: they are not epistemically superior to science itself.³⁶

As a consequence, ontology loses its absolute character as a foundational discipline. According to one view, it has to be relativized. Each scientific or unscientific theory (including bodies of theories) has its ontology. We may articulate this ontology by putting the theory in the logical standard form of the first-order predicate calculus. Then what objects the theory takes there to be is shown by what is admitted as

³⁵ See for instance my critique of Paul Churchland's arguments in "The Absolute Network Theory of Language and Traditional Epistemology; On the Philosophical Foundations of Paul Churchland's Scientific Realism", *Inquiry* 33 (1990): 127-78.

³⁶ At least, not in the radical sense assumed by Aristotle, Descartes, and Kant. In modifying a theory, however, quite often we will try to protect the most general and most deeply entrenched principles. We will apply a "principle of minimum mutilation" (Quine) and "protect the core of the research programme" (Lakatos).

values of the bound variables. Let me call the resulting ontologies Quinean ontologies. If we believe that science is nothing but the best way of acquiring knowledge, we will make our choice of ontology parasitic on scientific progress. To quote a champion of this view, "excellence of theory emerges as the fundamental measure of all ontology".³⁷

Excavating Quinean ontologies will not appear an exciting endeavour for a philosopher. But is it really true that ontology as a discipline shrinks into insignificance? Let us take the Quinean ontologies of the best theories in different disciplines, such as particle physics, astronomy, biology, psychology, economics, law, mathematics, and theology. We see at once that interesting problems emerge, problems *concerned with the relations between the respective Quinean ontologies*. Physics assumes an ontology of ever stranger particles. Economics purports to deal with rational actors who maximize pleasure and profit. Psychology will posit the existence of human beings whose irrational powers often outweigh reason. Whereas astronomy says that the present universe probably originated from a bang, traditional theology claims that an infinite God created the world. Are these ontologies mutually compatible or even commensurable? Rorty justly stresses that, as a matter of brute fact rather than of metaphysical necessity, there is no such thing as the "language of unified science", which will serve as a permanent neutral matrix for formulating all good explanatory hypotheses in all disciplines (pp. 348–349).³⁸

³⁷ Paul Churchland, *Scientific Realism and the Plasticity of Mind*, (Cambridge: Cambridge UP, 1979), p. 4. It is fruitful to consider ontologies as relative in the sense of theory-bound, so that one can discuss, say, the ontology of quantum electrodynamics, or the ontology of population genetics. But I do not accept Quine's ontological relativity in the sense of the *inscrutability of reference*. Quine's argument for the inscrutability of reference is based on very "thin" (empirically improbable) logical possibilities. Quine himself admits this, where he says that in translating 'gavagai' we should impose the maxim that "an enduring and relatively homogeneous object, moving as a whole against a contrasting background, is a likely reference for a short expression" such as 'gavagai' ("Ontological Relativity", in *Ontological Relativity and Other Essays*, New York: Columbia UP, 1969, p. 34). The "philosophical point" Quine is making where he stresses that this maxim is our own imposition (*ibid.*), is in fact a *logical* point: the maxim is highly plausible, but not logically necessary. However, thin logical possibilities typically belong to the framework of the quest for certainty. Only if one seeks absolute certainty are improbable logical possibilities philosophically relevant. Consequently, they should be dismissed as irrelevant by a philosopher such as Quine, who repudiates the quest for certainty. It is often difficult to reconcile Quine the logician with Quine the empiricist/pragmatist.

³⁸ According to the physicalist, we should restrict our ontology to the minimum which is sufficient for the expression of our *bona fide* theoretical beliefs, and this minimum, the physicalist assumes, is the ontology of (micro-) physics. But we find many *bona fide* theoretical beliefs in, say, law and economics, of which it is difficult to see how they could be reduced to physical theory. Cf., for instance, Jerry Fodor, "Special Sciences, or The Disunity of Science as a Working Hypothesis", *Synthese* 28 (1974), pp. 77–115.

This means that there is no easy way to answer traditional questions such as the following. Are the ontologies and theories of physics compatible with the assumption of ethics and law that adult human beings are generally free and responsible actors? What should we conclude if natural science seems to be in conflict with theology? Is the mental nothing but a manifestation of the physical, so that psychology somehow reduces to physics? And if mathematics assumes that sets exist, do they exist in the same sense in which the peculiar particles of recent physics or human beings exist? Does the relativism allegedly implied by cultural anthropology refute our notion that the rights of man are universal rights? Surely these questions are not abolished, or shown to be meaningless, by postmodern revolutions in philosophy such as Wittgenstein's, Heidegger's, or Rorty's.

Sometimes relations between Quinean ontologies will be clarified by empirical research. Very often, however, the problems are not ready or even suitable for such an arbitration. If so, I would suggest, they are the proper domain of philosophy as a successor discipline to traditional metaphysics. We might call research into these problems *postmodern metaphysics*, or also *meta-ontology*, because it is mainly concerned with relations between ontologies.

In modern philosophy, ontological problems used to be formulated in the material mode. But if one accepts the view that ontologies should be seen as relative to theories, one will often prefer to restate ontological problems in the formal mode, as problems concerned with the relations between theories and disciplines. And this is the way they are often stated indeed. The traditional problem of matter and consciousness, for instance, is formulated as a problem concerned with the relations between neuroscience and psychology. This means that postmodern metaphysics is inextricably bound up with the theory of science, especially with topics such as reduction of theories. Furthermore, there is no reason to prohibit theoretical speculation in metaphysics or meta-ontology. It is dogmatic to think, for instance, that all meta-ontological questions somehow *must* exhibit conceptual confusions, so that they should all be resolved by linguistic therapy *à la* Wittgenstein. Meta-ontological theory-construction might very well pave the way for empirical research. Nevertheless, Wittgensteinian therapy is an indispensable tool in doing meta-ontology. For when we transcend the familiar universes of discourse, and wonder, for instance, whether a "theory of everything" in physics will substantiate physicalism, and enable us, "in principle", to predict every movement of a person's body (including those of his larynx and his writing hand; cf. Rorty, p. 354), the risk that we are talking nonsense is great indeed.

What is the *raison d'être* of meta-ontology? Husserl once argued that philosophy should be a rigorous science, and not merely a *Weltanschauung*. I agree with Rorty that traditional philosophy never

succeeded in substantiating its claim to be scientific in some rigorous sense. As I said, meta-ontological speculation may pave the way for future empirical research. But the rationale of meta-ontology is not purely cognitive. In order to construct our lives in a complex world, some of us will feel the need of an intellectual *Übersicht*, not only of language, but of our culture. This need is the need for a *Weltanschauung*. And meta-ontology is the very attempt to design such a *Weltanschauung*, which is, however, as informed as possible, and less dogmatic than religions.

The conception of postmodern metaphysics as meta-ontology may be new. But in many cases, its content will be traditional, as my examples show. The relation between theology and physics, for instance, was an urgent issue in the seventeenth and eighteenth centuries, and for believers, the issue is urgent still. I argued that the possibility of veil-of-ideas skepticism originated from the incompatibility thesis, a thesis concerned with the relation between physics and the common-sense view of the world. The incompatibility thesis typically belongs to meta-ontology. Whether it is meaningful and true or not, such a specific thesis should not be the basis of a conception of philosophy, as was the case with epistemology as first philosophy. The question whether consciousness may be reduced to matter is also very old. But all these questions will have to be handled anew with each substantive step forward in the scientific disciplines involved.

We may conclude that even if the traditional *conception* of philosophy as a foundational discipline deserves its destruction, many of the traditional *problems* of philosophy remain with us. If Rorty had acknowledged this point, he could have spared himself the game of hide-and-seek typical of *Philosophy and the Mirror of Nature*. He could have argued for his philosophical doctrines such as eliminative materialism (Chapter 2), compatibilism as to the problem of freedom and determinism (pp. 354–355), pragmatism, holism, and internal realism, without arguing at the same time that he does not propose any philosophical doctrines at all. My conception of postmodern metaphysics covers much of traditional modern philosophy. It covers also what philosophers such as Quine, Churchland, Heidegger or Rorty are really doing, even if they themselves have a different conception of their subject.³⁹ The postmodernist revolution, to the extent that it is justified, is much less radical than it proclaims itself to be. Though the definition

³⁹Churchland, for instance, pretends to be a naturalist. One would expect, therefore, that the conception of language which is at the basis of his scientific realism would be informed by empirical linguistics, psycho-linguistics, etc. But this is not the case. Churchland's arguments in *Scientific Realism and the Plasticity of Mind* are mostly aprioristic. Cf. my critical paper referred to above. However, what Churchland is doing in *Scientific Realism* is covered very well by my conception of postmodern metaphysics.

of philosophy has shifted, its problems have remained, or should remain, very much the same.

*Faculty of Philosophy
Rijks Universiteit Leiden
P.O. Box 9515
2300 RA Leiden
Netherlands*