

## CHAPTER TWELVE

### THE HISTORY OF EPISTEMOLOGY: CONTEMPORARY PHILOSOPHY

#### 12.1 Introductory Discourse

Contemporary Philosophy began in the late 19th and early 20th centuries. Much of what sets it off from modern Philosophy is its explicit criticism of the modern tradition and sometimes its apparent indifference to it. There are two basic strains of Contemporary Philosophy: Continental Philosophy, which is the Philosophical style of western European Philosophers, and analytic Philosophy (also called Anglo-American Philosophy), which includes the work of many European Philosophers who immigrated to Britain, the United States, and Australia shortly before World War II.

#### 12.2 Analytic Epistemology

Analytic Philosophy, the prevailing form of philosophy in the Anglo-American world since the beginning of the 20th century, has its origins in symbolic logic (or formal logic) on the one hand and in British empiricism on the other. Some of its most important contributions have been made in areas other than epistemology, though its epistemological contributions also have been of the first order. Its main characteristics have been the avoidance of system building and a commitment to detailed, piecemeal analyses of specific issues. Within that tradition there have been two main approaches: a formal style deriving from logic and an informal style emphasizing ordinary language. Ludwig Wittgenstein (1889–1951) can be situated in both groups—his early work, including the *Tractatus Logico-Philosophicus* (1921), belonging to the former tradition and his later work, including the posthumously published *Philosophical Investigations* (1953) and *On Certainty* (1969), to the latter.

Perhaps the most distinctive feature of analytic Philosophy is its emphasis on the role that language plays in the creation and resolution of philosophical problems. Those problems, it is said, arise through misunderstandings of the forms and uses of everyday language. Wittgenstein said in that connection, “Philosophy is a battle against the bewitchment of the intelligence by means of language.”<sup>229</sup> The adoption at the beginning of the 20th century of the idea that Philosophical problems are in some important sense linguistic (or conceptual), a hallmark of the analytic approach, has been called the “linguistic turn.”

#### 12.3 Commonsense Philosophy, Logical Positivism, and Naturalized Epistemology

Three of the most-notable schools of thought in analytic philosophy are commonsense philosophy, logical positivism, and naturalized epistemology. Commonsense philosophy is the

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<sup>229</sup> Cf. J. Omoregbe, *Epistemology: A Systematic and Historical Study* (Lagos: Joja Press, 2005,), 19-20.

name given to the epistemological views of Moore, who attempted to defend what he called the “commonsense” view of the world against both skepticism and idealism. That view, according to Moore, comprises a number of propositions—such as the propositions that Earth exists, that it is very old, and that other persons now exist on it—that virtually everybody knows with certainty to be true. Any Philosophical theory that runs counter to the commonsense view, therefore, can be rejected out of hand as mistaken and skepticism and idealism fail under this category. Thus, Wittgenstein rejected skepticism and idealism, though for very different reasons. For him, those positions are based on simplistic misunderstandings of epistemic concepts, misunderstandings that arise from a failure to recognize the rich variety of ways in which Epistemic terms (including words such as *belief*, *knowledge*, *certainty*, *justification*, and *doubt*) are used in everyday situations. In *On Certainty*, Wittgenstein contrasted the concepts of certainty and knowledge, arguing that certainty is not a “surer” form of knowledge but the necessary backdrop against which the “language games” of knowing, doubting, and inquiring take place. As that which “stands fast for all of us,” certitude is ultimately a kind of action: “Action lies at the bottom of the language game.”<sup>230</sup>

The doctrines associated with logical positivism (also called logical empiricism) was developed originally in the 1920s and 1930s by a group of Philosophers and Scientists known as the Vienna Circle. Logical positivism became one of the dominant schools of philosophy in England with the publication of *Language, Truth, and Logic* by A.J. Ayer (1910–89). Among the most influential theses put forward by the logical positivists was the claim that in order for a proposition with empirical content—i.e., one that purports to say something about the world—to be meaningful, or cognitively significant, it must be possible, at least in principle, to verify the proposition through experience.<sup>231</sup> Because many of the utterances of traditional philosophy (especially metaphysical utterances, such as “God exists”) are not empirically verifiable even in principle, they are, according to the logical positivists, literally nonsense. In their view, the only legitimate function of Philosophy is conceptual analysis—i.e., the logical clarification of concepts, especially those associated with natural science (e.g., probability and causality).

In his 1950 essay “*Two Dogmas of Empiricism*,” Quine launched an attack upon the traditional distinction between analytic statements, which were said to be true by virtue of the meanings of the terms they contain, and synthetic statements, which were supposed to be true or false by virtue of certain facts about the world.<sup>232</sup> He argued powerfully that the difference is one of degree rather than kind. In his later work, *Word and Object* (1960), Quine developed a doctrine known as naturalized Epistemology.<sup>233</sup> According to that view, epistemology has no normative function. That is, it does not tell people what they ought to believe, instead, its only legitimate role is to describe the way knowledge, especially scientific knowledge, is actually obtained. In

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<sup>230</sup> L. Wittgenstein, *On Certainty*, Denis Paul and G.E.M. Anscombe (trans.), (London: Basil Blackwell, 1969), 51.

<sup>231</sup> Cf. J. Omoregbe, *Epistemology*, 19.

<sup>232</sup> <https://www.britannica.com/topic/two-dogmas-of-empiricism/>

<sup>233</sup> W.V.O. Quine, *Word and Object*, 1960, <https://mitpress.mit.edu/books/word-and-objects/>

effect, its function is to describe how present science arrives at the beliefs accepted by the scientific community.

The Epistemological interests of analytic Philosophers in the first half of the 20th century were largely focused on the relationship between knowledge and perception. The major figures in that period were Russell, Moore, H.H. Price (1899–1984), C.D. Broad (1887–1971), Ayer, and H. Paul Grice (1913–88). Although their views differed considerably, they were all advocates of a general doctrine known as sense-data theory.

The technical term *sense-data* is sometimes explained by means of examples. If one is hallucinating and sees pink rats, one is having a certain visual sensation of rats of a certain colour, though there are no real rats present. The sensation is what is called a “sense-datum.” The image one sees with one’s eyes closed after looking fixedly at a bright light (an afterimage) is another example. Even in cases of normal vision. However, one can be said to be apprehending sense-data. For instance, when one looks at a round penny from a certain angle, the penny will seem to have an elliptical shape. In such a case, there is an elliptical sense-datum in one’s visual field, though the penny itself continues to be round. The last example was held by Broad, Price, and Moore to be particularly important, for it seems to make a strong case for holding that one always perceives sense-data, whether one’s perception is normal or abnormal.

In each of those examples, according to defenders of sense-data theory, there is something of which one is “directly” aware, meaning that one’s awareness of it is immediate and does not depend on any inference or judgment. A sense-datum is thus frequently defined as an object of direct perception. According to Broad, Price, and Ayer, sense-data differ from physical objects in that they always have the properties they appear to have; that is, they cannot appear to have properties they do not really have. The problem for the Philosopher who accepts sense-data is how, on the basis of such private sensations, one can be justified in believing that there are physical objects that exist independently of one’s perceptions. Russell in particular tried to show that knowledge of the external world could be logically constructed out of sense-data.<sup>234</sup>

Sense-data theory was criticized by proponents of the so-called theory of appearing, who claimed that the arguments for the existence of sense-data are invalid. From the very fact that a penny looks elliptical from a certain perspective, it does not follow that there must exist a separate entity, distinct from the penny itself, that has the property of being elliptical. To assume that it does is simply to misunderstand how common perceptual situations are described.

The theory of appearing was in turn rejected by many philosophers, who held that it failed to provide an adequate account of the epistemological status of illusions and other visual anomalies. The aim of those thinkers was to give a coherent account of how knowledge is possible given the

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<sup>234</sup> B. Russell, *Our Knowledge of the External World*, (1914), <https://www.routledge.com>.

existence of sense-data and the possibility of perceptual error. The two main types of theories they developed are realism and phenomenism.

#### **12.4 Realist Epistemology**

Realism is both an Epistemological and a Metaphysical doctrine. In its Epistemological aspect, Realism claims that at least some of the objects apprehended through perception are “public” rather than “private.” In its Metaphysical aspect, realism holds that at least some objects of perception exist independently of the mind. It is especially the second of those principles that distinguishes Realists from Phenomenalists.

Realists believe that an intuitive, commonsense distinction can be made between two classes of entities perceived by human beings. One class, typically called “mental,” consists of things like headaches, thoughts, pains, and desires. The other class, typically called “physical,” consists of things such as tables, rocks, planets, human beings, animals and certain physical phenomena such as rainbows, lightning, and shadows. According to Realist Epistemology, mental entities are private in the sense that each of them is apprehensible by one person only. Although more than one person can have a headache or feel pain, for example, no two people can have the very same headache or feel the very same pain. In contrast, physical objects are public: more than one person can see or touch the same chair.

Realists also believe that whereas physical objects are mind-independent, mental objects are not. To say that an object is mind-independent is just to say that its existence does not depend on its being perceived or experienced by anyone. Thus, whether or not a particular table is being seen or touched by someone has no effect upon its existence. Even if no one is perceiving it, it still exists (other things being equal). But this is not true of the mental. According to Realists, if no one is having a headache, then it does not make sense to say that a headache exists. A headache is thus mind-dependent in a way in which tables, rocks, and shadows are not.

Traditional Realist theories of knowledge thus begin by assuming the public-private distinction, and most realists also assume that one does not have to prove the existence of mental phenomena. Each person is directly aware of such things, and there is no special “problem” about their existence. However, that is not true of physical phenomena. As the existence of visual aberrations, illusions, and other anomalies shows, one cannot be sure that in any perceptual situation one is apprehending physical objects. All that people can be sure of is that they are aware of something, an appearance of some sort—say, of a bent stick in water and whether that appearance corresponds to anything actually existing in the external world is an open question.

In his work *Foundations of Empirical Knowledge*, Ayer called the difficulty “the egocentric predicament.”<sup>235</sup> When a person looks at what he thinks is a physical object, such as a chair, what he is directly apprehending is a sense-datum, a certain visual appearance, such an appearance seems to be private to that person; it seems to be something mental and not publicly accessible. What, then, justifies the individual’s belief in the existence of supposedly external objects—that is, physical entities that are public and exist independently of the mind? This however led the Realists to develop two main responses to the challenge: direct (or “naive”) realism and representative realism, also called the “causal theory.”

In contrast to traditional realism, direct realism holds that physical objects themselves are perceived “directly.” That is, what one immediately perceives is the physical object itself (or a part of it). Thus, there is no problem about inferring the existence of such objects from the contents of one’s perception. Some direct realists, such as Moore and his followers, continued to accept the existence of sense-data. Unlike traditional realists, they held that, rather than mental entities, sense-data might be physical parts of the surface of the perceived object itself. Other direct realists, rejected sense-data theory altogether, claiming that the surfaces of physical objects are normally directly observed. Thompson Clarke (1928–2012) went beyond Moore in arguing that normally the entire physical object, rather than only its surface, is perceived directly.<sup>236</sup>

All such views have trouble explaining perceptual problems or anomalies. Indeed, it was because of such difficulties that Moore, in his last published paper, “Visual Sense-Data” (1957), abandoned direct realism. He held that because the elliptical sense-datum one perceives when one looks at a round coin cannot be identical with the coin’s circular surface, for one cannot be seeing the coin directly.<sup>237</sup> Hence, one cannot have direct knowledge of physical objects.

Additionally, the theory of representative realism is in essence an old view; its best-known exponent in modern philosophy was Locke. It is also sometimes called “the scientific theory” because it seems to be supported by findings in optics and physics. Like most forms of realism, representative realism holds that the direct objects of perception are sense-data (or their equivalents). What it adds is a scientifically grounded causal account of the origin of sense-data in the stimulation of sense organs and the operation of the central nervous system. Thus, the theory would explain visual sense-data as follows. Light is reflected from an opaque surface, traverses an intervening space, and, if certain standard conditions are met, strikes the retina, where it activates a series of nerve cells, including the rods and cones, the bipolar cells, and the ganglion cells of the optic nerve, eventually resulting in an event in the brain consisting of the experience of a visual sense-datum, that is, “seeing.”<sup>238</sup>

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<sup>235</sup> A.J. Ayer, *The Foundations of Empirical Knowledge*, (1940), <https://philpapers.org>.

<sup>236</sup> <https://www.britannica.com/biography/thompson-clarke/>

<sup>237</sup> G.E. Moore, “Visual Sense-Data,” (1958), <https://www.britannica.com/topic/visual-sense-data/>

<sup>238</sup> <https://www.britannica.com/science/light/>

Given an appropriate normal causal connection between the original external object and the sense-datum, representative realists assert that the sense-datum will accurately represent the object as it really is. Visual illusion is explained in various ways but usually as the result of some anomaly in the causal chain that gives rise to distortions and other types of aberrant visual phenomena.

Representative realism is thus a theory of indirect perception, because it holds that human observers are directly aware of sense-data and only indirectly aware of the physical objects that cause those data in the brain. The difficulty with representative realism is that since people cannot compare the sense-datum that is directly perceived with the original object, they can never be sure that the former gives an accurate representation of the latter, and, therefore, they cannot know whether the real world corresponds to their perceptions. They are still confined within the circle of appearance after all. It thus seems that neither version of realism satisfactorily solves the problem with which it began.

## **12.5 Continental/Phenomenological Epistemology**

In Epistemology, Continental Philosophers during the first quarter of the 20th century were preoccupied with the problem of overcoming the apparent gap between the knower and the known.

In light of the difficulties faced by realist theories of perception, some philosophers, so-called phenomenologists, proposed a completely different way of analyzing the relationship between perception and knowledge. In particular, they rejected the distinction between independently existing physical objects and mind-dependent sense-data. They claimed that the very notion of independent existence is nonsense—because human beings have no evidence for it—or what is meant by “independent existence” must be understood in such a way as not to go beyond the sort of perceptual evidence human beings do or could have for the existence of such things.<sup>239</sup> In effect, phenomenologists challenged the cogency of the intuitive ideas that the ordinary person supposedly has about independent existence.

All variants of phenomenology are strongly “verificationist.” That is, they wish to maintain their claims that the purported external world must be capable of verification, or confirmation. Their commitment entails that no such claim can assert the existence of, or otherwise make reference to, anything that is beyond the realm of possible perceptual experience.

Therefore, phenomenologists have tried to analyze in wholly perceptual terms what it means to say that a particular object—say, a tomato—exists.<sup>240</sup> Any such analysis, they claim, must begin by

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<sup>239</sup> <https://www.britannica.com/topic/phenomenology/>

<sup>240</sup> *Ibid.*

deciding what sort of an object a tomato is. In their view, a tomato is first of all something that has certain perceptible properties, including a certain size, weight, colour, and shape. If one were to abstract the set of all such properties from the object, nothing would be left over—there would be no presumed Lockean “substratum” that supports those properties and that itself is unperceived. Hence, there is no evidence in favour of such an unperceivable feature, and no reference to it is needed in explaining what a tomato or any other so-called physical object is.

To talk about any existent object is to talk about a collection of perceivable features localized in a particular portion of space-time. Accordingly, to say that a tomato exists is to describe either a collection of properties that an observer is actually perceiving or a collection that such an observer would perceive under certain specified conditions. To say, for instance, that a tomato exists in the next room is to say that if one went into that room, one would see a familiar reddish shape, one would obtain a certain taste if one bit into it, and one would feel something soft and smooth if one touched it. Thus, to speak about the tomato’s existing unperceived in the next room does not entail that it is unperceivable. In principle, everything that exists is perceivable. Therefore, the notion of existing independently of perception has been misunderstood or mischaracterized by both philosophers and non-philosophers.<sup>241</sup> Once it is understood that objects are merely sets of properties and that such properties are in principle always perceivable, the notion that there is some sort of unbridgeable gap between people’s perceptions and the objects they perceive is seen to be just a mistake.

In the phenomenalist view, perceptual error is explained in terms of coherence and predictability.<sup>242</sup> To say with truth that one is perceiving a tomato means that one’s present set of perceptual experiences and an unspecified set of future experiences will “cohere” in certain ways. That is, if the object being looked at is a tomato, then one can expect that if one touches, tastes, and smells it, one will experience a recognizable grouping of sensations. If the object in the visual field is hallucinatory, then there will be a lack of coherence between what one touches, tastes, and smells. One might, for example, see a red shape but will not be able to touch or taste anything.

The theory is generalized to include what others would touch, see, and hear as well, so that what the realists call “public” will also be defined in terms of the coherence of perceptions. A so-called physical object is public if the perceptions of many persons cohere or agree; otherwise, it is not. That explains why a headache is not a public object. In similar fashion, a so-called physical object will be said to have an independent existence if expectations of future perceptual experiences are borne out. If tomorrow, or the day after, one has perceptual experiences similar to those one had today, then one can say that the object being perceived has an independent existence. The phenomenalist thus attempts, without positing the existence of

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<sup>241</sup> Ibid.

<sup>242</sup> Ibid.

anything that transcends possible experience, to account for all the facts that the realist wishes to explain.

Criticisms of phenomenism have tended to be technical. Generally speaking, realists have objected to it on the ground that it is counterintuitive to think of physical objects such as tomatoes as being sets of actual or possible perceptual experiences. Realists argue that one does have such experiences, or under certain circumstances would have them, because there is an object out there that exists independently and is their source. Phenomenalism, contention implies that if no perceivers existed, then the world would contain no objects, and that is surely inconsistent both with what ordinary persons believe and with the known scientific fact that all sorts of objects existed in the universe long before there were any perceivers. But supporters deny that phenomenism carries such an implication, and the debate about its merits remains unresolved.

### 12.5.1 Edmund Husserl

The German Philosopher Edmund Husserl (1859–1938) thought that the standard epistemological theories of his day lacked insight because they did not focus on the objects of knowledge as they are actually experienced by human beings. To emphasize that reorientation of thinking, he adopted the slogan, “To the things themselves.” Philosophers needed to recover a sense of what is given in experience itself, and that could be accomplished only through a careful description of experiential phenomena. Thus, Husserl called his Philosophy “Phenomenology,”<sup>243</sup> which was to begin as a purely descriptive science and only later to ascend to a theoretical, or “transcendental,” one.

According to Husserl, the philosophies of Descartes and Kant presupposed a gap between the aspiring knower and what is known, one that made claims to knowledge of the external world dubious and in need of justification. Those presuppositions violated Husserl’s belief that philosophy, as the most fundamental science, should be free of presuppositions. Thus, he held that it is illegitimate to assume that there is a problem about our knowledge of the external world prior to conducting a completely presuppositionless investigation of the matter.<sup>244</sup> The device that Husserl used to remove such presuppositions was the *epochē* (Greek: “withholding” or “suspension”), originally a principle of ancient Greek Skepticism but in Husserl’s philosophy a technique of “bracketing,” or removing from consideration, not only all traditional Philosophical theories but also all commonsensical beliefs so that pure phenomenological description can proceed.<sup>245</sup>

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<sup>243</sup> Cf. <https://www.britannica.com/topic/phenomenology/>

<sup>244</sup> Cited in J. Omeregbe, *Epistemology: A Systematic and Historical Study* (Lagos: Joja Press, 2005,), 52-54.

<sup>245</sup> *Ibid.*



The *epochē* was just one of a series of the so-called transcendental reductions that Husserl proposed in order to ensure that he was not presupposing anything. One of those reductions supposedly gave one access to “the transcendental ego,” or “pure consciousness.”<sup>246</sup> Although one might expect Phenomenology then to describe the experience or contents of this ego, Husserl instead aimed at “eidetic reduction”—that is, the discovery of the essences of various sorts of ideas, such as redness, surface, or relation.<sup>247</sup> All of those moves were part of Husserl’s project of discovering a perfect methodology for Philosophy, one that would ensure absolute certainty.

Husserl’s transcendental ego seemed very much like the Cartesian mind that thinks of a world but has neither direct access to nor certainty of it. Accordingly, Husserl attempted to overcome the apparent gap between the ego and the world—the very thing he had set out to destroy or to bypass in earlier works, because the transcendental ego seems to be the only genuinely existent consciousness, Husserl was also faced with the task of overcoming the problem of solipsism.

### 12.5.2 Martin Heidegger

Many of Husserl’s followers, including his most famous student, Martin Heidegger (1889–1976), recognized that something had gone radically wrong with the original direction of Phenomenology. According to Heidegger’s diagnosis, the root of the problem was Husserl’s assumption that there is an “Archimedean point” of human knowledge. For him, there is no such ego detached from the world and filled with ideas or representations. According to Heidegger in one of his writing *Being and Time* (1927), Heidegger returned to the original formulation of the phenomenological project as a return to the things themselves. Thus, in Heidegger’s approach, all transcendental reductions are abandoned. What he claimed to discover is that human beings are inherently world-bound.<sup>248</sup> The world does not need to be derived; it is presupposed by human experience. In their pre-reflective experience, humans inhabit a sociocultural environment in which the primordial kind of cognition is practical and communal, not theoretical or individual (“egoistic”).<sup>249</sup> Human beings interact with the things of their everyday world (*Lebenswelt*) as a workman interacts with his tools; they hardly ever approach the world as a Philosopher or Scientist would. The theoretical knowledge of a Philosopher is a derivative and specialized form of cognition, and the major mistake of Epistemology from Descartes to Kant to Husserl was to treat Philosophical knowledge as a paradigm of all knowledge.

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<sup>246</sup> Ibid.

<sup>247</sup> Ibid.

<sup>248</sup> M. Heidegger, *Being and Time*, Joan Stambaugh (trans.). (New York: Blackwell, 1996), 311.

<sup>249</sup> Ibid.

Notwithstanding Heidegger's insistence that a human being is something that inhabits a world, he marked out human reality as ontologically special. He called that reality *Dasein*—the being, apart from all others, which is “present” to the world.<sup>250</sup> Thus, as in Husserl's phenomenology, a cognitive being takes pride of place in Heidegger's Philosophy.

### 12.5.3 Maurice Merleau-Ponty and Jean-Paul Sartre.

In France the principal representative of Phenomenology in the mid twentieth century was Maurice Merleau-Ponty(1908-1961).<sup>251</sup> Merleau-Ponty rejected Husserl's bracketing of the world, arguing that human experience of the world is primary, a view he encapsulated in the phrase “the primacy of perception.”<sup>252</sup> He furthermore held that dualistic analyses of knowledge, best exemplified by traditional Cartesian mind-body dualism, are inadequate. In fact, in his view, no conceptualization of the world can be complete, because human cognitive experience requires a body and the body a position in space, human experience is necessarily perspectival and thus incomplete.<sup>253</sup> Although, humans experience a material being as a multidimensional object, part of the object always exceeds their cognitive grasp just because of their limited perspective.

The epistemological views of Jean-Paul Sartre (1905–80) are similar in some respects to those of Merleau-Ponty. Both Philosophers rejected Husserl's transcendental reductions and both thought of human reality as “being-in-the-world,” but Sartre's views have Cartesian elements that were anathema to Merleau-Ponty. Sartre distinguished between two basic kinds of being.<sup>254</sup> Being-in-itself (*en soi*) is the inert and determinate world of non-human existence. Over and against it is being-for-itself (*pour soi*), which is the pure consciousness that defines human reality.

Later Continental Philosophers attacked the entire Philosophical tradition from Descartes to the twentieth century for its explicit or implicit dualisms. Being/non-being, mind/body, knower/known, ego/world, being-in-itself/being-for-itself are all variations of a pattern of thinking that the Philosophers of the last third of the twentieth century tried to undermine. The Structuralist Michel Foucault (1926–84), for example, wrote extensive historical studies in an attempt to demonstrate that all concepts are historically conditioned and that many of the most important ones serve the political function of controlling people rather than any purely cognitive purpose.<sup>255</sup> Jacques Derrida (1930–2004) claimed that all dualisms are value-laden and

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<sup>250</sup> Ibid.

<sup>251</sup><https://www.britannica.com/biography/maurice-merleau-ponty/>

<sup>252</sup> M. Merleau-Ponty, *Phenomenology of Perception*, Donald Landes (trans.), (London: Routledge, 1965), 298.

<sup>253</sup> Ibid.

<sup>254</sup><https://www.britannica.com/biography/jean-paul-sartre/>

<sup>255</sup> Michael Foucault, (1969), *The Archaeology of Knowledge*, A.M. Sheridan Smith (trans.), London and New York: Routledge, 2002), 117-118.

indefensible.<sup>256</sup> His technique of deconstruction aimed to show that every Philosophical dichotomy is incoherent because whatever can be said about one term of the dichotomy can also be said of the other.

Dissatisfaction with the Cartesian Philosophical tradition can also be found in the thought of the American Pragmatist, John Dewey (1859–1952). He directly challenged the idea that knowledge is primarily theoretical.<sup>257</sup> Experience, he argued, consists of an interaction between living beings and their environment. Knowledge is not a fixed apprehension of something but a process of acting and being acted upon. Richard Rorty (1931–2007) did much to reconcile Continental and analytic Philosophy. He argued that Dewey, Heidegger, and Ludwig Wittgenstein were the three greatest philosophers of the 20th century specifically because of their attacks on the Epistemological tradition of modern Philosophy.<sup>258</sup>

## 12.6 Later Analytic Epistemology

Beginning in the last quarter of the twentieth century, important contributions to Epistemology were made by researchers in neuroscience, psychology, artificial intelligence, and computer science. Those investigations produced insights into the nature of vision, the formation of mental representations of the external world, and the storage and retrieval of information in memory, among many other processes.<sup>259</sup> In effect, the new approaches, revived theories of indirect perception that emphasized the subjective experience of the observer. Indeed, many such theories made use of concepts—such as “qualia” and “felt sensation”—that were essentially equivalent to the notion of sense-data.<sup>260</sup>

Some of the new approaches also seemed to lend support to skeptical conclusions of the sort that early sense-data theorists had attempted to overcome. The neurologist Richard Gregory (1923–2010), for example, argued in 1993 that:

No theory of direct perception, such as that proposed by Gibson, could be supported, given the indirectness imposed by the many physiological steps or stages of visual and other sensory perception...For these and other reasons we may safely abandon direct accounts of perception in favor

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<sup>256</sup> <https://www.britannica.com/biography/jaques-derrida/>

<sup>257</sup> <https://www.britannica.com/biography/john-dewey/>

<sup>258</sup> <https://www.britannica.com/biography/Richard-rorty/>

<sup>259</sup> F. Barone, *Logical Empiricism: Historical and Contemporary Perspectives* (Pittsburgh: University of Pittsburgh Press, 2003), 57.

<sup>260</sup> *Ibid.*

of indirectly related and never certain...hypotheses of reality.<sup>261</sup>

Similarly, the work of Vilayanur Ramachandran, a neurologist, (born 1951), showed that the stimulation of certain areas of the brain in normal people produces sensations comparable to those felt in so-called “phantom limb” phenomena (the experience by an amputee of pains or other sensations that seem to be located in a missing limb). The conclusion that Ramachandran drew from his work is a modern variation of Descartes’s “evil genius” hypothesis: that we can never be certain that the sensations we experience accurately reflect an external reality.<sup>262</sup>

On the basis of such experimental findings, many Philosophers adopted forms of radical skepticism. Benson Mates (1919–2009), for example, declared:

Ultimately the only basis I can have for a claim to know that there exists something other than my own perceptions is the nature of those very perceptions, but they could be just as they are even if there did not exist anything else. Ergo, I have no basis for the knowledge-claim in question.<sup>263</sup>

Mates concluded, that human beings cannot make any justifiable assertions about anything other than their own sense experiences.

Philosophers have responded to such challenges in a variety of ways. Avrum Stroll (1921–2013), for example, argued that the views of skeptics such as Mates, as well those of many other modern proponents of indirect perception, rest on a conceptual mistake: the failure to distinguish between scientific and Philosophical accounts of the connection between sense experience and objects in the external world.<sup>264</sup> In the case of vision, the scientific account (or, as he called it, the “causal story”) describes the familiar sequence of events that occurs according to well-known optical and physical laws. Citing that account, proponents of indirect perception point out that every event in such a causal sequence results in some modification of the input it receives from the preceding event. Thus, the light energy that strikes the retina is converted to electrochemical energy by the rods and cones, among other nerve cells, and the electrical impulses transmitted along the nervous pathways leading to the brain are reorganized in important ways at every synapse.<sup>265</sup> From the fact that the input to every event in the sequence undergoes some modification, it follows that the end result of the process, the visual representation of the external object, must differ considerably from the elements of the original input, including the object

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<sup>261</sup> Ibid.

<sup>262</sup> Ibid.,58.

<sup>263</sup> <https://www.britannica.com/biography/benson-mates/>

<sup>264</sup> F. Barone,*Logical Empericism*, 63.

<sup>265</sup> Ibid.

itself. From that observation, theorists of indirect perception who are inclined toward skepticism conclude that one cannot be certain that the sensation one experiences in seeing a particular object represents the object as it really is.<sup>266</sup>

But the last inference is unwarranted, according to Stroll Avrum. What the argument shows is only that the visual representation of the object and the object itself are different (a fact that hardly needs pointing out). It does not show that one cannot be certain whether the representation is accurate.<sup>267</sup> Indeed, a strong argument can be made to show that human perceptual experiences cannot all be inaccurate, or “modified,” in this way, for if they were, then it would be impossible to compare any given perception with its object in order to determine whether the sensation represented the object accurately, but in that case it also would be impossible to verify the claim that all our perceptions are inaccurate. Hence, the claim that all our perceptions are inaccurate is scientifically un-testable. According to Stroll, that is a decisive objection against the skeptical position.

The implications of such developments in the cognitive sciences are clearly important for epistemology. The experimental evidence adduced for indirect perception has raised philosophical discussion of the nature of human perception to a new level. It is clear that a serious debate has begun, and at this point it is impossible to predict its outcome.

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<sup>266</sup> Ibid.

<sup>267</sup> Ibid, 64-65.