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George Berkeley, the Irish philosopher of English ancestry, and Anglican bishop of Cloyne, was born at Kilkenny, Ireland. He entered Trinity College, Dublin in 1700 and became a fellow in 1707. In 1709 he published his first important book, *An Essay towards a New Theory of Vision*. This was well received, and a second edition appeared in the same year. The following year *A Treatise concerning the Principles of Human Knowledge*, Part 1, was published. This is the work in which Berkeley first published his immaterialist philosophy, and although it made him known to some of the foremost writers of the day, its conclusions were not taken very seriously by them. In 1713 Berkeley went to London and there published the *Three Dialogues between Hylas and Philonous*, a more popular statement of the doctrines of the *Principles*. While in London, Berkeley became acquainted with Joseph Addison, Jonathan Swift, Alexander Pope, and Richard Steele and contributed articles to Steele's *Guardian*, attacking the theories of the freethinkers. He traveled on the Continent in 1713–1714 (when he probably met and conversed with Nicolas Malebranche) and again from 1716 to 1720. During this tour he lost the manuscript of the second part of the *Principles*, which he never rewrote. Toward the end of the tour, he wrote a short essay, in Latin, titled *De Motu*, published in London in 1721, criticizing Isaac Newton's philosophy of nature and Gottfried Wilhelm Leibniz's theory of force. In 1724 Berkeley was made dean of Derry.

About this time, Berkeley began to prepare a project for establishing a college in Bermuda, at which not only the sons of American colonists but also Indians and Negroes were to receive a thorough education and be trained for the Christian ministry. Having obtained promises of subscriptions from many prominent people, Berkeley promoted a bill, which was passed by Parliament, providing for considerable financial help from the government. In 1728, before the money was forthcoming, Berkeley, who had just married, left for Rhode Island, where he intended to establish farms for supplying food for the college. He settled in Newport, but the grant never came; and in 1731, when it was clear that the government was diverting the money for other purposes, Berkeley had to return home. While in Newport, however, Berkeley had met and corresponded with the Samuel Johnson who later became the first president of King's College, New York (now Columbia University). Johnson was one of the few philosophers of the time to give close attention to Berkeley's philosophical views, and the correspondence between him and Berkeley is of considerable philosophical interest. While he was in Newport, Berkeley also wrote *Alciphron*, a series of dialogues in part developed from the articles he had written for the *Guardian*, directed against the "minute philosophers," or freethinkers. This was published in 1732.

Berkeley was in London from 1732 to 1734 and there wrote *The Analyst* (1734), a criticism of Newton's doctrine of fluxions and addressed to "an infidel mathematician." This and *A Defence of Free-Thinking in Mathematics* (1735) aimed at showing that the mathematicians so admired by freethinkers worked with concepts that could not withstand close scrutiny, so that the confidence given to them by "the philomathematical infidels of these times" was unjustified. It is not surprising that Berkeley was made bishop of Cloyne, Ireland, in 1734.

Berkeley carried out his episcopal duties with vigor and humanity. His diocese was in a remote and poor part of the country, and the problems he encountered there led him to reflect on economic problems. The result was *The Querist* (1735–1737), in which he made proposals for dealing with the prevailing idleness and poverty by means of public works and education. He also concerned himself with the health of the people and became convinced of the medicinal value of tar water. In 1744 he published *A Chain of Philosophical Reflexions and Inquiries concerning the Virtues of Tar-Water, and divers other Subjects connected together and arising from one another*. When the second edition appeared in the same year, the title *Siris*, by which the book is now known, was added. Much of the book is concerned with the merits of tar water, but Berkeley passed from this subject to the causes of physical phenomena, which, he held, cannot be discovered in the phenomena themselves but must be sought for in the Divine activity. This is in line with his earlier views, but some readers, on the basis of his admiring references to Plato and the Neoplatonists, have considered that by this time he had considerably modified his original system. The *Siris* was Berkeley's last philosophical work. He died suddenly in Oxford nine years later.

An account of Berkeley's life and writings would be inadequate without some reference to his *Philosophical Commentaries*. A. C. Fraser discovered a series of notes by Berkeley on all the main topics of Berkeley's philosophy and published them in 1871 in his edition of Berkeley's works, under the title of *Commonplace Book of Occasional Metaphysical Thoughts*. It was later noticed that these notes had been bound together in the wrong order, and it has now been shown that they were written by Berkeley, probably in 1707–1708, while he was thinking out his *New Theory of Vision* and *Principles*. This work makes it clear that Berkeley was already convinced of the truth of immaterialism before he published the *New Theory of Vision*, in which that view is not mentioned. The *Philosophical Commentaries* throw valuable light upon Berkeley's sources, bugbears, prejudices, and arguments.

Main Themes of Berkeley's Philosophy

Since the word *idealism* came into use in the eighteenth century, Berkeley has been known as a leading exponent of idealism, and even as its founder. He himself referred to his main view as "the immaterialist hypothesis," meaning by this that he denied the very possibility of inert, mindless, material substance. This description has some advantage over idealism in that it brings out Berkeley's radical opposition to materialism; whereas the opposite of idealism is realism, and there are grounds for doubting whether Berkeley intended to deny the realist contention that in perception people become directly aware of objects that persist unchanged when they cease to be perceived. Berkeley's fundamental view was that for something to exist it must either be perceived or else be the active being that does the perceiving. Things that are perceived he called "sensible things" or "sensible qualities," or, in the terminology he had borrowed from John Locke, "ideas." Sensible things or ideas, he held, cannot exist except as the passive objects of minds or spirits, active beings that perceive and will. As he put it in the *Philosophical Commentaries*, "Existence is *percipi* or *percipere*," and he added "or *velle* i.e. *agere* "—existence is to be perceived or to perceive or to will, that is, to be active. Thus there can be nothing except active spirits on the one hand and passive sensible things on the other, and the latter cannot exist except as perceived by the former. This is Berkeley's idealism or immaterialism.

criticism of contemporary science

The above account of Berkeley's writings emphasizes their apologetic intent, an intent that can be seen in the subtitles of his major writings—that of the *Principles* is typical: *Wherein the chief causes of error and difficulty in the sciences, with the grounds of scepticism, atheism and irreligion, are inquired into*. It will be seen that "the chief causes of difficulty in the sciences" are also prominent. Berkeley considered that in the mathematics and natural sciences of his day insufficient attention was given to what experience reveals to us. Apart from Newton, the mathematicians were, he wrote in the *Philosophical Commentaries*, "mere triflers, mere Nihilarians." For example, they conceived of lines as infinitely divisible, but this is not only absurd, it could be maintained only by men who "despised sense." Thus Berkeley regarded himself as protesting against the excesses of uncontrolled rationalism. Hence he put forward a most antirationalistic view of geometry, although he never developed its implications very far. Similarly he thought that the natural philosophers deluded themselves with words when they tried to explain the physical world in terms of attractions, forces, and powers. Natural science, as he understood it, was descriptive rather than explanatory and was concerned with correlations rather than with causes. He thus sketched out a view of science that was revived and developed by nineteenth-century and twentieth-century positivists.

sensible qualities are the signs of god's purpose

Berkeley's positivism, however, was confined to his account of natural science. The order of phenomena, he held, was willed by God for the good of created spirits. In deciphering the conjunctions and sequences of our sense experience we are learning what God has decreed. Thus sensible qualities are the language in which God speaks to us. In the third and fourth editions (1732) of the *New Theory of Vision* Berkeley said that the objects of sight are a divine visual language by which God teaches us what things are good for us and what things are harmful to us. In the *Alciphron*, published that same year, he argued that "the great Mover and Author of Nature constantly explaineth Himself to the eyes of men by the sensible intervention of arbitrary signs, which have no similitude or connexion with the things signified." We learn that certain visual ideas are signs of certain tactual ones, certain smells signs of certain colors, and so on. There is no necessity about this, any more than things necessarily have the names that convention assigns to them. Just as some sensible qualities are signs of others, so sensible qualities as a whole are signs of the purposes of God who "daily speaks to our senses in a manifest and clear dialect."

Thus, taken as a whole, Berkeley's philosophy is a form of immaterialism combined with an extreme antirationalist theory of science. The regularities between phenomena are regarded as evidence for, and as signs of, God's purposes. Just as a man's words reveal his thoughts and intentions by means of the conventional signs of language, so the sensible order reveals God's will in phenomena that could have been ordered quite differently if he had so decided.

The New Theory of Vision

Although Berkeley did not mention his immaterialism in *An Essay towards a New Theory of Vision*, this work throws important light upon his quarrel with the mathematicians and his rejection of the rationalist point of view. It contains, too, an interesting statement of what Berkeley then thought about geometry. Furthermore, the *Essay* helps us to see, from what Berkeley said about the objects of vision, how he came to the view that sensible qualities cannot exist "without the mind." Among the main contentions of the book is the claim that distance or "outness" is not immediately perceived by sight; it is "suggested" in part by the sensations we get in moving our eyes but mainly by association with the ideas of touch. According to Berkeley, we see the distance (and size) of things only in the sense in which we see a man's shame and anger. We see his face, and the expression on it suggests to us how he is feeling. In themselves, shame and anger are invisible. Similarly, we see shapes and colors, which are signs of what we would touch if we were to stretch out our hands, but distance itself is no more seen than anger is. In expounding this view, Berkeley developed the thesis that the objects of sight and touch are utterly disparate, so that no feature of the one can have more than a contingent connection with any feature of the other.

descartes's theory of the perception of distance

Consideration should first be given to Berkeley's criticisms of an important geometrical account of how distance is perceived and assessed, the account given by René Descartes in his *Dioptrics* (1637). In this work Descartes referred to six "qualities we

perceive in the objects of sight," namely, light, color, shape, distance, magnitude, and situation. Descartes argued that one of the ways in which men ascertain the distance of objects is by means of the angles formed by straight lines running from each of their eyes and converging at the object seen. He illustrated this by reference to a blind man with a stick (the length of which he does not know) held in each hand. When he brings the points of the sticks together at the object, he forms a triangle with one hand at each end of the base, and if he knows how far apart his hands are, and what angles the sticks make with his body, he can, "by a kind of geometry innate in all men" know how far away the object is. The same geometry would apply, Descartes argued, if the observer's eyes are regarded as ends of the base of a triangle, and straight lines from them are regarded as converging at the object. The more obtuse the base angles formed by the lines running from this base and converging at the object, the farther away the object must be; the more acute these angles, the nearer the object must be. Berkeley put the matter somewhat differently from Descartes, pointing out that according to the latter's view the more acute the angle formed at the object by the lines converging from the eyes, the farther away it must be; the more obtuse this angle, the nearer the object must be. It is important to notice that this "must" is the "must" of mathematical necessity. From what Descartes said, it is necessarily the case that the more acute this angle is, the farther away the object is; the more obtuse the angle, the nearer the object. "Nearer" and "farther" logically depend upon the obtuseness or acuteness of the angle. In criticizing this view, therefore, Berkeley was criticizing the view that distance is known a priori by the principles of an innate geometry according to which we know that the distance of the object must vary in accordance with the angle made at the object by straight lines converging there from the eyes of the observer.

berkeley's criticism of descartes

Against Descartes's view Berkeley brought a complex argument that for purposes of exposition, is here broken up into three parts. The first is that people who know nothing of the geometry of the matter can nevertheless notice the relative distance of things from them. This is not very convincing, for Descartes obviously thought that the geometry he regarded as "innate in all men" might be employed by them without their having reflected on it. The second argument used by Berkeley is that the lines and angles referred to by Descartes "have no real existence in nature, being only an hypothesis framed by the mathematicians." This argument is of interest in showing how Berkeley thought that mathematicians were inclined to deal in fictitious entities, but it is unlikely that Descartes was deceived by them in this way.

Berkeley's third and main argument was based upon a theory that he expressed in the words, "distance, of itself and immediately, cannot be seen." William Molyneux, from whose *Dioptrics* (1692) Berkeley borrowed this theory, had supported it by the argument that since distance is a line or length directed endwise from the object seen to the eye, it can reach the eye at only one point, which must necessarily remain the same however near or far away the object is. If this argument is accepted, then distance could not possibly be seen, and could only be judged or, as Berkeley believed, "suggested."

distance is suggested by what is seen

What, then, according to Berkeley, is seen? The answer is not altogether clear, but it would seem that he thought that the immediate object of vision is two-dimensional, containing relations of above and below and of one side and the other, with no necessary connection with a third dimension. Hence the relation between what is immediately seen on the one hand and the distance of objects on the other must be contingent and cannot be necessary. Distance, then, must be ascertained by means of something that has only a contingent relationship with what is seen. Berkeley mentioned the sensations we have when we adjust our eyes, the greater confusedness of objects as they come very close to the eyes, and the sensations of strain as we try to see what is very near. But he mainly relied on the associations between what a man has touched and what he now sees. For example, when a man now sees something faint and dim, he may, from past experience, expect that if he approaches and touches it he will find it bright and hard. When he sees something at a distance, he is really seeing certain shapes and colors, which suggest to him what tangible ideas he would have if he were near enough to touch it. Just as one does not hear a man's thoughts, which are suggested by the sounds he makes, so one does not directly see distance, which is suggested by what is seen.

sight and touch

Berkeley's view that distance is not immediately perceived by sight is rejected by some writers, for instance by H. H. Price, in his *Perception* (1932), on the ground that it is plainly contradicted by experience. We just do see visual depth, it is held, so that it is idle to deny this fact on the basis of an argument purporting to prove that we cannot. Again, some critics, such as T. K. Abbott in *Sight and Touch* (1864) have argued not only that we do get our idea of distance from sight, but also that touch is vague and uninformative by comparison with sight, and hence less effective in giving knowledge of the material world. This discussion need not be developed, however, since, although he said in the *Essay* that by touch we get knowledge of objects that exist "without the mind" (§55), Berkeley's real view was that no sensible thing could so exist. It cannot be denied that on occasion Berkeley's language was imprecise. A crucial example of this occurs in his discussion of the question of whether a man born blind would, on receiving his sight, see things at a distance from him. According to Berkeley, of course, he would not; but to such a man, the most distant objects "would all seem to be in his eye, or rather in his mind" and would appear "(as in truth they are) no other than a new set of thoughts or sensations, each whereof is as near to him as the perceptions of pain or pleasure, or the most inward passions of his soul" (*Essay*, §41). It will be noticed how readily Berkeley passed from "in his eye" to "in his mind," and how he assimilated such very different things as sensations and thoughts. Indeed it is hard not to conclude that he thought that whatever was not seen at a distance must appear to be in the mind. If this is true, then one of the

objects of the *Essay* was to show that the immediate objects of vision must be in the mind because they are not seen at a distance.

geometries of sight and of touch

As already seen, an extremely important thesis of the *Essay* is that the objects of sight and the objects of touch are radically different from one another. We see visible objects and we touch tangible objects, and it is absurd to suppose that we can touch what we see or see what we touch. According to Berkeley, it follows from this that tangible shape and visible shape have no necessary connection with one another. Geometers certainly supposed themselves to be concerned with shapes in abstraction from their being seen or touched, but Berkeley did not allow that this is possible. A purely visual geometry would necessarily be confined to two dimensions, so that the three-dimensional geometry that we have must be fundamentally a geometry of touch. He reinforced this strangely pragmatic view with the observation that a sighted but disembodied being that could not touch or manipulate things would be unable to understand even plane geometry, since without a body it would not understand the handling of rulers and compasses and the drawing of lines and the placing of shapes against one another.

Arguments for Immaterialism

The arguments now to be considered are set out in the *Principles* and in the *Three Dialogues*. They are largely concerned with what Berkeley called "ideas," "ideas or sensations," "sensible things," or "sensible qualities." The very use of the word *idea* itself and, even more, its use in apposition with *sensation* had the purpose of indicating something that does not exist apart from the perception of it. Pains and itches are typical sensations, and no one supposes that they could exist apart from a being that experiences them. Rocks do not suffer, and water does not itch. When, therefore, sensible things such as colors, sounds, tangible shapes, tastes, and smells are called ideas, they are assimilated with sensations and hence relate to the perceiving beings that have them. It is now necessary, therefore, to examine the arguments with which Berkeley justified this.

seventeenth-century materialism

Berkeley's arguments for immaterialism can be understood only if we first consider the sort of view it was intended to refute. When Berkeley was forming his views, the natural sciences had been so far advanced by the work of such men as Galileo Galilei, Andreas Vesalius, William Harvey, Robert Boyle, and Newton as to have given rise to a scientific view of the world. Such a view had been elaborated, in its philosophical aspects, by Locke in his *Essay concerning Human Understanding* (1690). Space and time were, so to say, the containers within which material things were situated. The movements and relations of material things could be explored by experiments and characterized in mathematical formulae.

Explanation in terms of particles in motion

The features of the world, thus revealed as fundamental, were those of place, shape, size, movement, weight, and the like; and it was in terms of these that heat and cold and color and sound found their explanation. Heat was thought to be due to the rapid movement of atomic particles, color to the transmission of particles or to the spreading of waves, and sound to the movement of the air between the emitting object and the ear. Whereas solid, shaped, moving objects, and the air and space within which they existed, were regarded as basic features of nature, the colors we see, the heat we feel, and the sounds we hear were held to be the effects that substances possessing only the basic characteristics produced in creatures with sense organs. If all creatures with sense organs and consciousness were removed from the world, there would no longer be any experienced sounds, but only pulsations in the air; particles would increase or decrease their speed of movement, but no one would feel hot or cold; light would be radiated, but there would be no colors as we know them. In such a world colors and sounds, heat and cold, would exist, as Boyle put it, in his *Origins of Forms and Qualities* (Oxford, 1666), only "dispositively," that is, those primary things would be there that would have given rise to the secondary ones if creatures with the requisite sense organs and minds had been there too.

Primary and secondary qualities

In this way a distinction was made between the primary qualities of things, which are essential and absolute, and their secondary qualities, which are those among the primary ones that give or would give rise to heard sounds, seen colors, and felt heat. It was an important element of this view that nothing could be perceived unless it acted upon the sense organs of the percipient and produced in his mind an idea. What was immediately perceived was not the external object but an idea representative of it. Locke had made people familiar with this theory, and had maintained that whereas the ideas we have of heat and cold and of color and sound correspond to nothing like themselves in the external world; for all that exists in the external world are solid bodies at rest or in movement, the ideas we have of the solid, shaped, moving bodies, that is, our ideas of primary qualities are like their sources or archetypes outside us. According to the view, then, that Berkeley was considering, material objects are perceived mediately or indirectly by means of ideas, some of which, the ideas of primary qualities, are like their originals; others, the ideas of secondary qualities, are relative to percipients and are unlike anything that exists in the external world.

materialism leads to skepticism

Berkeley had two objections to the view that material objects are perceived mediately by means of ideas. One is that since it is held that we never perceive material things directly, but only through the medium of ideas, then we can never know whether any of our ideas are like the qualities of material substances since we can never compare our ideas with them; for to do so we should require direct or immediate acquaintance with them (*Principles*, §18). Indeed, if we accept Locke's position, then the very existence of material substances is in doubt, and we are constantly under the threat of skepticism (*Principles*, §86). Thus Berkeley argued that Locke's theory was in fact, although not by intention, skeptical, and that it could be remedied only by the elimination of material substances that could never be directly apprehended.

distinction between primary and secondary qualities untenable

Berkeley's second objection is that there can be no distinction between ideas of primary qualities and ideas of secondary qualities such as to make secondary qualities relative to the mind in a way in which primary qualities are not. In the *Three Dialogues* Berkeley elaborated the arguments, already used by Locke, to show that the ideas we have of secondary qualities are relative to the percipient and are what they are by reason of his condition and constitution. Things have no color in the dark; the same water can feel hot or cold to different hands, one of which has been in cold water and the other in hot; heat and cold are inseparably bound up with pain and pleasure, which can only exist in perceiving beings; and so on. But Berkeley then went on to argue that just as heat, for example, is inseparably bound up with pleasure and pain, and can therefore, no more than they can, exist "without the mind," so extension is bound up with color, speed of movement with a standard of estimation, solidity with touch, and size and shape with position and point of view (*Principles*, §§10–15). Thus Berkeley's argument is that nothing can have the primary qualities without having the secondary qualities, so that if the latter cannot exist "without the mind," the former cannot so exist either.

all sensible qualities must be either perceived or perceptible

The preceding argument, however, is only a hypothetical one to the effect that if secondary qualities cannot exist "without the mind," primary qualities are in like case. What must now be considered are the reasons for holding that secondary qualities and, indeed, all sensible qualities can exist only in the mind so that their being is to be perceived. Berkeley, as already indicated, stated and elaborated well-known arguments to show that heat and cold, tastes, sounds, and the rest are relative to the percipient. Perhaps the most persuasive of these are those that purport to establish an indissoluble connection between heat, taste, and smell on the one hand, and pain or pleasure or displeasure on the other. Since no one denies that pain and pleasure can exist only if felt, then this applies to heat so intense as to be painful and to lesser degrees of heat as well. But in the *Principles*, his systematic treatise on the subject, Berkeley did not make use of these arguments, but said that "an intuitive knowledge may be obtained of this, by any one that shall attend to what is meant by the term *exist* when applied to sensible things" (§3). His view here is that "sensible things" are by their very nature perceived or perceivable. He supported this by asserting that to say there was an odor is to say that it was smelled, to say that there was a sound is to say that it was heard, to say that there was a color or shape is to say that it was seen or touched. According to Berkeley, unsmelled odors, sounds unheard, colors unseen, and shapes unseen or untouched are absurdities or impossibilities; brown leaves could not rustle on a withered tree in a world where life was extinct and God was dead. The very notion is absurd or impossible. Can more light be shed on the matter than is provided by the assertion that we have "intuitive knowledge" of it?

It must be remembered, in the first place, that Berkeley was contrasting the sounds we hear, for example, with the movements in the air, which men of science sometimes call sounds. Sounds in the latter sense, he said, "may possibly be *seen* or *felt*, but never *heard* " (*Three Dialogues*, 1). From this it may be seen that Berkeley looked upon sensible qualities as each the object of its own mode of perception, so that sounds are heard but not seen or touched, colors seen but not heard, heat felt but not seen, and so on. Hence colors require a viewer, sounds a hearer, and heat someone who feels it; and this is one reason why the being of sensible things is held to be their being perceived. The various modalities of sense are distinguished from one another by the mode of perception peculiar to each one, and in making these distinctions it is implied that perception is essential to them all. It is well known, of course, that Berkeley's critics accuse him of failing to distinguish between the object perceived and the perceiving of it. The perceiving of it, they say, can only be an act of a percipient without whom it could not exist, but the perceived object, whether it be a sound or a color or a shape, is distinct from the perceiving and could conceivably exist apart from it.

Whatever may be thought of this argument, it should not be used against Berkeley as if he had not thought of it. In fact he put it into the mouth of Hylas in the first of the *Three Dialogues* and rejected it on the ground that in perception we are passive and so are not exerting an act or activity of any kind. It should also be noticed that when Berkeley discussed sensation in detail he stated that sensible things or sensible qualities are perceived *immediately*, that is, without suggestion, association, or inference. We say that we hear vehicles and that we hear sounds. According to Berkeley, we hear sounds immediately, but vehicles, if they are out of sight, are suggested by or inferred from what we do hear, and so are heard only mediately or by means of the sounds immediately heard. Thus the sound we hear immediately is neither suggested nor inferred, but is heard just as it is. For this to be so, it must be before the mind; for if it were not before the mind, it would have to be inferred or suggested. Thus sensible qualities, as immediately perceived, must be objects of perception; their being is to be perceived.

Inconceivability of a sensible object existing unperceived

A very famous argument is now to be considered: It is inconceivable that anything should exist apart from, or independent of, mind. This argument was put forward by Berkeley in similar terms both in the *Principles* (§§22, 23) and in the *Three Dialogues* (1) and takes the form of a challenge to the reader to conceive of something—e.g., a book or a tree—existing absolutely unperceived. Berkeley argued that the attempt is impossible of fulfillment, since in order to conceive of a tree existing unperceived we who conceive of it, by the very fact of doing so, bring it into relation to our conception and hence to ourselves. As Hylas admits, in recognizing the failure of his attempt, "It is a pleasant mistake enough. As I was thinking of a tree in a solitary place, where no one was present to see it, me-thought that was to conceive a tree as existing unperceived or unthought of, not considering that I myself conceived it all the while." This is an argument that was later accepted as fundamental by idealists of such different persuasions as Johann Gottlieb Fichte and Francis Herbert Bradley, who held that it shows that mind or experience is essential to the universe.

Sensible objects are complex ideas

Berkeley's example of a tree makes it necessary to consider how trees and other things in nature are related to ideas, sensible qualities, sounds, colors, shapes, and so on. According to Berkeley, such things as trees, books, and mountains are groups of ideas or sensible qualities and are hence as much within the mind as the latter are. Indeed, in his view, books, trees, and mountains are ideas, though complex ones. He admitted (*Principles*, §38) that this use of the word *idea* for what is ordinarily called a *thing* is somewhat odd, but held that, the facts being as they are, *idea* is better than *thing*. A tree is a group of ideas touched, seen, and smelled; a cherry, a group of ideas touched, seen, smelled, and tasted. The sensible qualities or ideas, without which we should have no conception of a tree or cherry, do not belong to some unseen, untouched, untasted substance or substratum, for the very conception of such a "something I know not what" (as Locke had called it) is incoherent, and rests upon the false view that we can conceive something in complete abstraction from ideas of sense.

Sensible objects, as ideas, are perceived directly

Berkeley therefore concluded that it is his theory that conforms with common sense, not that of the materialists or the dualists. For according to Berkeley we perceive trees and cherries directly by seeing, touching, and tasting them, just as the plain man thinks we do, whereas his opponents regard them as perpetually hidden from us by a screen of intermediaries that may be always deceiving us. Berkeley considered that by this view he had refuted skepticism of the senses, for, according to his theory, the objects of the senses are the things in the world: the trees, houses, and mountains we live among. But trees, houses, and mountains, as compounded of sensible qualities or ideas, cannot exist "without the mind."

sensible objects not copies of material archetypes

Berkeley's arguments showing that all sensible qualities or ideas exist only as perceived and that, therefore, things in nature, being groups of such ideas, cannot exist "without the mind" have now been expounded. It is now necessary to complete this account of Berkeley's arguments for immaterialism with his argument to show that not only must sensible qualities or ideas exist in the mind, but also that nothing like them can exist outside it. For anyone reluctant to accept immaterialism is likely to fall back on the view that our ideas, although in our minds, are copies of material archetypes. Berkeley's objection to this in the *Principles* (§8) is that "an idea can be like nothing but an idea," which he illustrated by saying that a color or shape can only be like another color or shape. In the *Three Dialogues* (1) he expanded the argument in two ways. Ideas, he said, are regarded by some as the perceived representatives of imperceptible originals, but "Can a real thing in itself *invisible* be like a color; or a real thing which is not *audible*, be like a *sound?* " His other reason for holding that ideas cannot be like any supposed external originals is that ideas are "perpetually fleeting and variable," and "continually changing upon every alteration in the distance, medium or instruments of sensation," while their supposed originals are thought to remain fixed and constant throughout all changes in the percipient's organs and position. But something that is fleeting and relative cannot be like what is stable and absolute, any more than what is incapable of being perceived can be like what is essentially perceptible.

summary

The following are Berkeley's central arguments in favor of immaterialism. They arose out of his exposure of the weaknesses and inconsistencies in the then current scientific view of the world, with its distinction between primary and secondary qualities and its theory of representative perception. According to Berkeley, since primary qualities cannot exist apart from secondary qualities, and since secondary qualities, and indeed all sensible qualities, cannot exist "without the mind," the independent material world of the then current scientific view was a conceptual absurdity. This was supported by the argument that our ideas cannot be likenesses of an external material world, since there is nothing conceivable they could be likenesses of except mind-dependent existences of their own type. The theory of representative perception was held to be essentially skeptical, and Berkeley claimed that his own theory, according to which we directly perceive ideas and groups of ideas that exist only as perceived, eliminates skepticism and accords with common sense.

Metaphysics and Theology

In section 3 of the *Principles*, where Berkeley stated that we have intuitive knowledge of the fact that for sensible qualities to exist they must be perceived, he also stated that when we say that the table is in the room that we have left we mean that if we

were to return there we could perceive it "or that some other spirit actually does perceive it." This shows that Berkeley was concerned with the problem of giving an account, within the terms of his immaterialism, of the continued existence of things that are not being perceived by any human being. It also shows that he considered two ways of dealing with this problem. One way was to extend the doctrine that the existence of sensible things is their being perceived into the doctrine that the existence of sensible things is their being perceptible. The other way was to argue that when sensible things are not being perceived by human beings they must be perceived by "some other spirit."

berkeley not a phenomenalist

The first way points in the direction of the modern theory of phenomenalism, the theory according to which, in John Stuart Mill's happily chosen words, material objects are "permanent possibilities of sensation." But might not anything, even material substances possessing only primary qualities, be perceptible, even if not actually being perceived? Some twentieth-century upholders of phenomenalism argued that the world was perceptible before there was any life or mind, in the sense that if there had been gods or human beings they would have perceived it. This could not be possible on Berkeley's theory, however, since, as we have seen, he held that only ideas or sensible things can be *like* ideas or sensible things, so that what is perceptible is limited by what is perceived.

perceptible objects perceived by god

The perceptible, therefore, is limited to the mind-dependent, and, for Berkeley, the very notion of something that might be perceived, but is not, is unacceptable. Thus it seems that Berkeley was forced to supplement his phenomenalist account of unperceived objects with the view that whatever is not being actually perceived by human beings, but is only perceptible by them, must be an object of perception by "some other spirit." He used this same expression in section 48 of the *Principles*, where he denied that "bodies are annihilated and created every moment, or exist not at all during the intervals between our perception of them." In the *Three Dialogues* (2) he argued that since sensible things do not depend on the thought of human beings and exist independently of them "*there must be some other mind wherein they exist*. " This other mind is God; and thus, according to Berkeley, the existence of sensible things when not being perceived by finite spirits is a proof of the existence of an infinite spirit who perceives them always. Indeed, Berkeley considered it a merit of immaterialism that it enables this brief and, as he thought, conclusive proof to be formulated.

our ideas come from god

In the *Principles* Berkeley put forward another proof of the existence of God, this time a proof based upon God as the cause of our ideas. As has been shown, Berkeley held that ideas are passive and that the only active beings are minds or spirits. Now some of our ideas, namely, ideas of imagination, we ourselves produce, but others, the ideas of sense, come to us without our willing them. "There is therefore some other will or spirit that produces them" (*Principles*, §29). That this is God may be concluded from the regular order in which these ideas come to us. The knowledge we have of God is analogous to the knowledge we have of other men. Since people are active spirits, we do not have ideas of them, but only of their expressions, words, and bodily movements. Through these we recognize them as possessors of minds and wills like those we know ourselves to have. Similarly, God reveals himself to us in the order of nature: "every thing we see, hear, feel, or in any wise perceive by sense, being a sign or effect of the Power of God."

active spirits and passive ideas

These, then, are the elements of Berkeley's metaphysics. There are active spirits on the one hand and passive ideas on the other. The latter could not exist apart from the former, but the ideas in the minds of human beings are caused in them by God and sustained by him when they are not perceiving them. Regularly recurring groups of ideas are called bodies, and the ideas that form them are arbitrarily connected together and might have been connected quite differently. Thus there is no natural necessity or internal reason about the laws of nature, but the regular sequences of ideas reveal to us a single infinite being who orders things for our benefit. Active spirits and passive ideas are of different natures. The mind is not blue because the idea of blue is in it, nor is the mind extended because it has an idea of extension. Ideas are neither parts nor properties of minds. Berkeley seems to have thought that the relationship is sui generis, for he said that sensible qualities are in the mind "only as they are perceived by it, that is, not by way of *mode* or *attribute, but only by way of idea* " (*Principles*, §49).

god's ideas and our ideas

As already seen, Berkeley held that God was both the cause of the ideas in the minds of embodied finite spirits and also the Mind in which these ideas continued to exist when embodied finite spirits were not perceiving them. Berkeley was thus faced with the problem of how the ideas in finite minds are related to the ideas in God's mind. If we recall Berkeley's claim that he was on the side of common sense against the skeptics, then we should expect the ideas that continue to exist in God's mind to be identical with those that had been in the minds of the embodied finite spirits who had formerly perceived them.

However, he found that there were difficulties in this view. Humans perceive ideas of sense by means of sense organs, and their ideas vary in accordance with their position and condition, but God does not have sense organs. Furthermore, some

ideas—for example, those of heat and cold, and sensations of smell and taste—are inseparable from sensations of pain and pleasure, but God is impassible, that is, not subject to feeling or emotion; hence he cannot be supposed to perceive ideas of this nature. In the *Three Dialogues* (3), therefore, Berkeley concluded that "God knows or hath ideas; but his ideas are not conveyed to Him by sense, as ours are." From this it is natural to conclude that the ideas that God perceives are not identical with the ideas that embodied finite spirits perceive. Berkeley was obviously thinking along these lines when, in the same *Dialogue*, he said that the things that one perceives, "they or their archetypes," must, since one does not cause them, have an existence outside one's mind. Elsewhere in this *Dialogue* he distinguished between what is "ectypal or natural" and what is "archetypal and eternal." Thus Berkeley's arguments and the language he used combine to suggest that the ideas in God's mind are not the same ideas as those in the minds of embodied percipients.

This point was taken up by the Samuel Johnson referred to earlier, in his correspondence with Berkeley. Johnson suggested that Berkeley's view is that "the real original and permanent existence of things is archetypal, being ideas *in mente Divina*, and that our ideas are copies of them." Johnson was too polite to press the point, but it follows that what we directly perceive are copies or representatives of divine originals, so that Berkeley's claim to have reinstated the direct, unmediated perception of common sense, in place of the representative and skeptical theory of the philosophers and scientists, cannot be substantiated. In his reply, Berkeley hardly met this point when he stated that material substance is an impossibility because it is held to exist apart from mind, whereas the archetypes in the divine mind are obviously inseparable from God's knowledge of them.

Philosophy of Nature

Berkeley carried on a persistent battle against the tendency to suppose that mere abstractions are real things. In the *New Theory of Vision* he denied the possibility of "extension in abstract," saying "A line or surface which is neither black, nor white, nor blue, nor yellow, etc., nor long, nor short, nor rough, nor smooth, nor square, nor round, etc., is perfectly incomprehensible" (§123). In the introduction to the *Principles*, his most explicit discussion of the matter, he quoted Locke's account of the abstract idea of a triangle "which is neither oblique nor rectangle, neither equilateral, equicrural, nor scalenon, but all and none of these at once," and pointed out that any actual triangle must be one of these types and cannot possibly be "all and none" of them. What makes any idea general, he held, is not any abstract feature that may be alleged to belong to it, but rather its being used to represent all other ideas that are like it in the relevant respects. Thus if something that is true of a triangle of one of these types is not true of it because it is of that one type, then it is true of all triangles whatever. Nothing exists but what is particular, and particular ideas become general by being used as representatives of others like them. Generality, we might say, is a symbolic device, not a metaphysical status. Thus Berkeley's attack on abstractions is based on two principles: (1) that nothing exists but what is particular, and (2) that nothing can exist on its own except what can be sensed or imagined on its own. If we accept the first principle, then abstract objects and Platonic forms are rejected, and if we accept the second, then possibility is limited to the sensible or imaginable.

space, time, and motion

We have already seen how Berkeley applied the above two principles to the abstract conception of unperceived existence, and to the abstract conception of bodies with only the primary qualities. It must now be shown how he applied them to some of the other elements in the scientific worldview he was so intent on discrediting. Chief among these were the current conceptions of absolute space, absolute time, and absolute motion. According to Berkeley, all these are abstractions, not realities. It is impossible, he held, to form an idea of pure space apart from the bodies in it. We find that we are hindered from moving our bodies in some directions and can move them freely in others. Where there are hindrances to our movement there are other bodies to obstruct us, and where we can move unrestrictedly we say there is space. It follows that our idea of space is inseparable from our ideas of movement and of body (*Principles*, §116).

So too our conception of time is inseparable from the succession of ideas in our minds and from the "particular actions and ideas that diversify the day"; hence Newton's conception of absolute time flowing uniformly must be rejected (*Principles*, §§97, 98).

Newton had also upheld absolute motion, but this too, according to Berkeley, is a hypostatized abstraction. If there were only one body in existence there could be no idea of motion, for motion is the change of position of two bodies relative to one another. Thus sensible qualities, without which there could be no bodies, are essential to the very conception of movement. Furthermore, since sensible qualities are passive existences, and hence bodies are too, movement cannot have its source in body; and as we know what it is to move our own bodies, we know that the source of motion must be found in mind. Created spirits are responsible for only a small part of the movement in the world, and therefore God, the infinite spirit, must be its prime source. "And so natural philosophy either presupposes the knowledge of God or borrows it from some superior science" (*De Motu*, §34).

causation and explanation

The thesis that God is the ultimate source of motion is a special case of the principle that the only real causes are spirits. This principle has the general consequence, of course, that inanimate bodies cannot act causally upon one another. Berkeley concluded from this that what are called natural causes are really signs of what follows them. Fire does not cause heat, but is so

regularly followed by it that it is a reliable sign of it as long as "the Author of Nature always operates uniformly" (*Principles*, §107). Thus Berkeley held that natural laws describe but do not explain, for real explanations must be by reference to the aims and purposes of spirits, that is, in terms of final causes. For this reason, he maintained that mechanical explanations of movements in terms of attraction were misleading, unless it was recognized that they merely recorded the rates at which bodies in fact approach one another (*Principles*, §103). Similar arguments apply to gravity or to force when these are regarded as explanations of the movements of bodies (*De Motu*, §6). This is not to deny the importance of Newton's laws, for Newton did not regard gravity "as a true physical quality, but only as a mathematical hypothesis" (*De Motu*, §17). In general, explanations in terms of forces or attractions are mathematical hypotheses having no stable being in the nature of things but depending upon the definitions given to them (*De Motu*, §67). Their acceptability depends upon the extent to which they enable calculations to be made, resulting in conclusions that are borne out by what in fact occurs. According to Berkeley, forces and attractions are not found in nature but are useful constructions in the formulation of theories from which deductions can be made about what is found in nature, that is, sensible qualities or ideas (*De Motu*, §§34–41).

Philosophy of Mathematics

We have already seen that when he wrote the *New Theory of Vision*, Berkeley thought that geometry was primarily concerned with tangible extension, since visual extension does not have three dimensions, and visible shapes must be formed by hands that grasp and instruments that move. He later modified this view, an important feature of which has already been referred to in the account of Berkeley's discussion of Locke's account of the abstract idea of a triangle. A particular triangle, imagined or drawn, is regarded as representative of all other triangles, so that what is proved of it is proved of all others like it in the relevant respects. This, he pointed out later in the *Principles* (§126), applies particularly to size. If the length of the line is irrelevant to the proof, what is true of a line one inch long is true of a line one mile long. The line we use in our proof is a representative sign of all other lines. But it must have a finite number of parts, for if it is a visible line it must be divisible into visible parts, and these must be finite in length. A line one inch long cannot be divided into 10,000 parts because no such part could possibly be seen. But since a line one mile long can be divided into 10,000 parts, we imagine that the short line could be divided likewise. "After this manner the properties of the lines signified are (by a very usual figure) transferred to the sign, and thence through mistake thought to appertain to it considered in its own nature." Thus it was Berkeley's view that infinitesimals should be "pared off" from mathematics (*Principles*, §131). In the *Analyst* (1734), he brought these and other considerations to bear in refuting Newton's theory of fluxions. In this book Berkeley seemed to suggest that the object of geometry is "to measure finite assignable extension" (§50, Q.2).

Berkeley's account of arithmetic was even more revolutionary than his account of geometry. In geometry, he held, one particular shape is regarded as representative of all those like it, but in arithmetic we are concerned with purely arbitrary signs invented by men to help them in their operations of counting. Number, he said, is "entirely the creature of the mind" (*Principles*, §12). He argued, furthermore, that there are no units and no numbers in nature apart from the devices that men have invented to count and measure. The same length, for example, may be regarded as one yard, if it is measured in that unit, or three feet or thirty-six inches, if it is measured in those units. Arithmetic, he went on, is a language in which the names for the numbers from zero to nine play a part analogous to that of nouns in ordinary speech (*Principles*, §121). Berkeley did not develop this part of his theory. However, later in the eighteenth century, in various works, Étienne Bonnot de Condillac argued in detail for the thesis that mathematics is a language, and this view is, of course, widely held today.

Concluding Comments

Berkeley's immaterialism is a strange and unstable combination of theses that most other philosophers have thought do not belong together. Thus he upheld both extreme empiricism and idealism, both immaterialism and common sense, and both subjectivism (as it would seem) and epistemological realism (as it would also seem). Are these mere skillful polemical devices in the war against the freethinkers, or can they be regarded as elements in a distinctive and reasonably coherent metaphysics?

It is odd that Berkeley had so much to say about the relativity of each particular sense and so little to say about our perception of the physical world. He referred to perspectival distortions and the like in the course of defending his view that the existence of sensible qualities is their being perceived, but he did not seem to realize the difficulties they made for his view that perception is direct. Indeed, when, in the *Three Dialogues* (3) he mentioned the case of the oar that looks bent in the water when in fact it is straight, he said that we go wrong only if we mistakenly infer that it will look bent when out of the water. There is something seen to be straight, something else seen to be crooked, and something else again felt to be straight. We go wrong only when we expect that when we see something crooked we shall feel something crooked. But this implies that our perceptions of such things as oars, as distinct from our perceptions of colors and pressures, are not direct as common sense supposes. This reinforces the criticism we have already mentioned, that the ideas perceived by finite spirits with sense organs are different from, and representative of, the ideas in the mind of God. Berkeley was farther from common sense and closer to the views that he was criticizing than he was ready to admit.

It is obvious enough that Berkeley's immaterialism is not in accord with common sense. What place, then, must be given to his empiricism? He certainly rejected the Cartesian conception of a natural world that deceives the senses and is apprehended by the reason. He denied that mathematics reveals the ultimate necessities of things and anticipated to some extent the linguistic theory of mathematics. In arguing that causes are not to be found in nature, and in maintaining that the sciences of nature are

primarily concerned with predicting human experiences, he formulated views that Ernst Mach and his modern-day followers have advocated. Furthermore, although he did not himself adopt it, he briefly formulated the theory of the physical world known as phenomenalism, the theory that consistent empiricists have adopted in order to avoid postulating objects that transcend sense experience. But, in spite of all this, Berkeley was an idealist rather than an empiricist. He held that sensible qualities or ideas are not independent or substantial existences and that minds or spirits are. On this most important matter, he was in agreement with his great contemporary, Leibniz. Furthermore, Berkeley's antiabstractionism, as we may call it, was constantly leading him toward the conclusion that the universe is a concrete unity in which an infinite mind is manifesting itself. If we look at his writings as a continuing and developing critique of abstraction, then we shall see that the *Siris* is not an aberration or a recantation but, as Henri Bergson said in his lectures on Berkeley, 1908–1909, a natural continuation of Berkeley's earlier views (*Écrits et paroles*, 2, p. 309).

See also Touch.

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