Philosophy 203
History of Modern Western Philosophy

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Class 19 - Berkeley III
Against Abstract Ideas
Mathematics and Science
Skepticism and Atheism
Berkeley's World

Locke on Abstract Ideas

- According to Locke, our ideas of primary qualities, like extension, correspond to real properties of real, material objects.
  - Those ideas do not correspond to particular sensations.
  - We experience an extended chair, but not the extension itself.
- In order to form the idea of extension in general, or even the extension of a particular chair, we have to strip away the other qualities in our minds to form a new and abstract idea.
  - We create general terms to stand for the abstract ideas in our minds.
  - 'Body' stands for an abstract idea of body, which corresponds, somehow, to actual material bodies.
- Since we can not form an abstract idea of body, Berkeley argues, there is no reason to claim that there are any bodies.
  - The term 'bodies' stands for no idea at all.

Berkeley on Abstract Ideas

If we thoroughly examine this tenet [materialism] it will, perhaps, be found at bottom to depend on the doctrine of *abstract ideas*. For can there be a nicer strain of abstraction than to distinguish the existence of sensible objects from their being perceived, so as to conceive them existing unperceived? Light and colors, heat and cold, extension and figures - in a word, the things we see and feel -what are they but so many sensations, notions, ideas, or impressions on the sense? And is it possible to separate, even in thought, any of these from perception? For my part, I might as easily divide a thing from itself. I may, indeed, divide in my thoughts, or conceive apart from each other, those things which, perhaps I never perceived by sense so divided. Thus, I imagine the trunk of a human body without the limbs, or conceive the smell of a rose without thinking on the rose itself. So far, I will not deny, I can abstract, if that may properly be called *abstraction* which extends only to the conceiving separately such objects as it is possible may really exist or be actually perceived asunder. But my conceiving or imagining power does not extend beyond the possibility of real existence or perception. Hence, as it is impossible for me to see or feel anything without an actual sensation of that thing, so is it impossible for me to conceive in my thoughts any sensible thing or object distinct from the sensation or perception of it. In truth, the object and the sensation are the same thing and cannot therefore be abstracted from each other (*Principles* §5, AW 447b-445a).

Two Kinds of Abstraction

- A1: Considering one property of an object independently of others.
  - We can consider the blackness of a chair, apart from its size, or shape, or texture.
  - We can think of the taste of an apple apart from its crunchiness, or color.
  - We just focus on one of the sensations that is bundled together with the others.
- A1 is unobjectionable.
  - Our ordinary ideas of objects are actually collections of particular sensations.
  - "A certain color, taste, smell, figure and consistency having been observed to go together, are accounted one distinct thing, signified by the name *apple*. Other collections of ideas constitute a stone, a tree, a book, and the like sensible things - which as they are pleasing or disagreeable excite the passions of love, hatred, joy, grief, and so forth" (*Principles* §1, AW 447a).
  - A1 is really not a process of abstraction at all, and will not lead to beliefs in a material world.
- A2: Forming an abstract, general idea.
  - Locke claims that we can form ideas of redness, and color, by abstracting from our visual idea of the apple.

Against A2

A2: Forming an abstract, general idea.

- Berkeley insists that we have no ability A2.
  - "If any man has the faculty of framing in his mind such an idea of a triangle as is here described, it is in vain to pretend to dispute him out of it, nor would I go about it. All I desire is that the reader would fully and certainly inform himself whether he has such an idea or not. And this, methinks, can be no hard task for anyone to perform. What is more easy than for anyone to look a little into his own thoughts, and there try whether he has, or can attain to have, an idea that shall correspond with the description that is... given [by Locke] of the general idea of a triangle, which is *neither oblique nor rectangle, equilateral, equicrural nor scalenon, but all and none of these at once*?" (*Principles* Introduction §13).
- No idea, no picture in our minds, could have all of these properties at once.
  - An idea of chair would have to apply to all chairs.
  - Some chairs are black, others are blue, or green.
  - An idea which corresponds to all of these is impossible.
  - No image will do as the idea of man, for it would have to be an image of a short man and a tall man, of a hairy man, and of a bald man.

Two misuses of A2

- "When we attempt to abstract extension and motion from all other qualities, and consider them by themselves, we presently lose sight of them, and run into great extravagances. All which depend on a twofold abstraction; first, it is supposed that extension, for example, may be abstracted from all other sensible qualities; and secondly, that the entity of extension may be abstracted from its being perceived" (*Principles* §99).
- M1: Abstracting extension from other properties of an object.
- M2: Abstracting the extension of an object from our perception of it.
- Sometimes, Berkeley phrases M2 as:
  - M2*: Abstracting *existence* from perception.
- Berkeley runs M1 and M2 together, but they seem distinct.
  - They each involve thinking that the so-called primary qualities are real properties of external, physical objects.
  - M1 is the creation of a new idea on the basis of existing ideas.
  - M2 is the acceptance of a material world independent of any perceivers.

No General Ideas

- *Philonous*: It is a universally received maxim that *everything which exists is particular*. How then can motion in general, or extension in general, exist in any corporeal substance?
- *Hylas*: I will take time to solve your difficulty.
- *Philonous*: But I think the point may be speedily decided. Without doubt you can tell whether you are able to frame this or that idea. Now I am content to put our dispute on this issue. If you can frame in your thoughts a distinct abstract idea of motion or extension, divested of all those sensible modes, as swift and slow, great and small, round and square, and the like, which are acknowledged to exist only in the mind, I will then yield the point you contend for. But if you cannot, it will be unreasonable on your side to insist any longer upon what you have no notion of.
- *Hylas*: To confess ingenuously, I cannot (First Dialogue, AW 467a-b)

Using Particular Ideas to Stand for Other Ideas

- We have need of terms, like 'triangle', which stand as universals, so that they refer to various different objects.
- Berkeley claims that we can use particular terms generally, without forming abstract ideas.
- "A word becomes general by being made the sign, not of an abstract general idea, but of several particular ideas, any one of which it indifferently suggests to the mind. For example, when it is said *the change of motion is proportional to the impressed force*, or that *whatever has extension is divisible*, these propositions are to be understood of motion and extension in general, and nevertheless it will not follow that they suggest to my thoughts an idea of motion without a body moved, or any determinate direction and velocity, or that I must conceive an abstract general idea of extension, which is neither line, surface, nor solid, neither great nor small, black, white, nor red, nor of any other determinate color. It is only implied that whatever particular motion I consider, whether it is swift or slow, perpendicular, horizontal, or oblique, or in whatever object, the axiom concerning it holds equally true" (*Principles* Introduction §11, AW 442a).

Berkeley's Nominalism

- We can use general terms, if we wish.
  - We should not be misled into thinking that they correspond to some thing.
  - Only particulars, *single discrete sensations*, and their perceivers exist.
- Berkeley thus extends Locke's nominalism to all general properties, and even to terms which collect several sensations into an object.
  - We have a bundle of sensations which form an experience which we call a red chair, say, or apple.
  - We use the term 'apple' to refer to a collection of sensory ideas.
  - It does not correspond to any abstract idea of apple, or of red, or of sweet.
  - The names 'apple' and 'chair' and 'red' are just convenient labels, and should not indicate any existence of the apple or chair or color beyond my current experience of it.
- We can give a name to commonalities among particular sensations, but this is just a name.
  - "In such things we ought to *think with the learned, and speak with the vulgar*" (*Principles* §51).

Mathematical Truth and Truth-Makers

- Mathematics appears to be among the most certain of disciplines.
- The certainty of mathematics entails that mathematical theorems are true.
- Consider the claim that the height of an equilateral triangle is the length of one of its sides multiplied by the square root of three, and divided by two.
- True statements require truth makers.
  - For ‘snow is white’ to be true, there must be snow, and it must be white.
  - For our mathematical theorem to be true, we need its truth makers: a triangle, numbers like three, and functions like ‘the positive square root of x’.
- Thus, the certainty of mathematical theorems standardly entails the existence of mathematical objects.

Rationalism, Empiricism, Science and Mathematics

- The rationalists accounted for the certainty of mathematics on the basis of innate ideas.
  - Their account of our knowledge of the physical world may have seemed implausible, since it impugned the role of the senses.
  - See Leibniz on transeunt causation, for example.
  - But the rationalists supplied plausible accounts of our knowledge of mathematics.
- Locke rejected pure reason, and produced a more intuitively satisfying sensory account of our knowledge of the physical world.
- Locke's account of mathematics, which relied on abstraction, was less plausible.
  - Mathematics is certain, but does not concern real things.
  - Mathematical theorems are about our ideas and their relations.
- Locke defends the certainty of mathematics, but he makes mathematical objects individual, personal, and psychological rather than universal.

Locke's Psychologistic Mathematics

- Recall that Descartes parsed our ideas into three types
  A. Innate
  B. Acquired
  C. Produced by me.
- Locke rejects innate ideas.
- Mathematical theorems can not be acquired, for the same reasons that Descartes gave.
  - They have their own true and immutable natures.
- Our knowledge of mathematics must be produced by me.
  - We sense particulars, like doughnuts and frisbees.
  - Then, we generalize, forming an abstract idea, like that of a circle, and give it a general name.

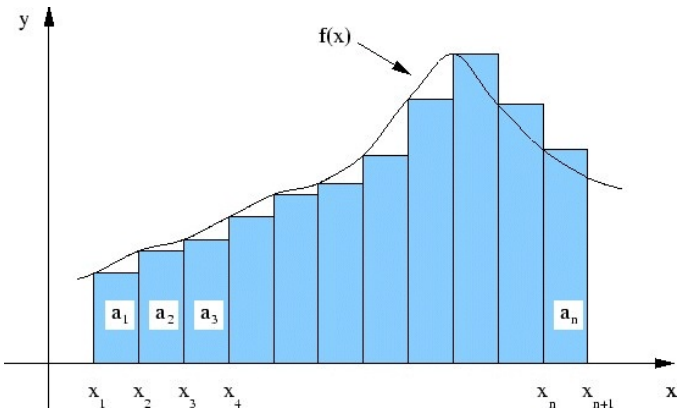
Berkeley, on Mathematics and Abstraction

- Berkeley denies that there is any mathematical knowledge.
  - He does not deny that mathematical proofs are valid.
  - He denies that they have any real content.
  - The posits of mathematical objects rely on the same process of abstraction which led us to the error of positing physical objects.
- "That the principles laid down by mathematicians are true, and their way of deduction from those principles clear and incontestible, we do not deny; but, we hold there may be certain erroneous maxims of greater extent than the object of mathematics, and for that reason not expressly mentioned, though tacitly supposed throughout the whole progress of that science; and that the ill effects of those secret unexamined errors are diffused through all the branches thereof. To be plain, we suspect the mathematicians are as well as other men concerned in the errors arising from the doctrine of abstract general ideas, and the existence of objects without the mind" (*Principles*, §118).

Berkeley, on Infinite Divisibility

The *infinite* divisibility of *finite* extension, though it is not expressly laid down either as an axiom or theorem in the elements of that science, yet is throughout the same everywhere supposed and thought to have so inseparable and essential a connexion with the principles and demonstrations in geometry, that mathematicians never admit it into doubt, or make the least question of it. And, as this notion is the source from whence do spring all those amusing geometrical paradoxes which have such a direct repugnancy to the plain common sense of mankind, and are admitted with so much reluctance into a mind not yet debauched by learning; so it is the principal occasion of all that nice and extreme subtilty which renders the study of *mathematics* so difficult and tedious. Hence, if we can make it appear that no finite extension contains innumerable parts, or is infinitely divisible, it follows that we shall at once clear the science of geometry from a great number of difficulties and contradictions which have ever been esteemed a reproach to human reason, and withal make the attainment thereof a business of much less time and pains than it hitherto has been (*Principles* §123).

Infinite Divisibility



- The calculus of Newton and Leibniz depended on extensions of infinitely small length.
  - The basic problem that the calculus solves is to calculate, precisely, the area under a curve.
  - We divide a finite segment into infinitely many infinitesimally small segments, and then add them up.
- Berkeley claims that there is a smallest perceivable extension.
  - The *minimum sensibilia*
  - Berkeley estimated that the size of a full moon is about thirty *minima sensibilia*.
  - The *minimum sensibilia* functions as an atom in Berkeley's metaphysics.
- Even large finite divisibility is illicit, according to Berkeley's account.
  - "There is no such thing as the ten-thousandth part of an *inch*; but there is of a *mile* or *diameter of the earth*, which may be signified by that inch" (*Principles* §127).
- Infinite divisibility was an important element of the new science, because of its use of the calculus.

Berkeley is a Hater

of Skeptics and Atheists

As we have shown the doctrine of matter or corporeal substance to have been the main pillar and support of *skepticism*, so likewise upon the same foundation have been raised all the impious schemes of *atheism* and irreligion. Nay, so great a difficulty has it been thought to conceive matter produced out of nothing, that the most celebrated among the ancient philosophers, even of those who maintained the being of a God, have thought matter to be uncreated and co-eternal with Him. How great a friend material substance has been to *atheists* in all ages were needless to relate. All their monstrous systems have so visible and necessary a dependence on it that, when this corner-stone is once removed, the whole fabric cannot choose but fall to the ground, insomuch that it is no longer worth while to bestow a particular consideration on the absurdities of every wretched sect of *atheists* (*Principles*, §92).

On Atheism and Skepticism

- Materialism posits a world which is independent of God.
  - If our sensations depend on a world of objects, we at best push God out of our explanations, and at worst dismiss God from our natural science.
  - Berkeley thus sees natural scientific explanations as evidence of atheism.
- Materialism entails that we do not experience the objects in themselves.
  - We can not get out of our minds into those objects, so we are forced into skepticism.
  - All the properties we experience are sensible, and so in us.
  - If we posit matter in addition, we can have no knowledge of it.
- "So long as men thought that real things subsisted without the mind, and that their knowledge was only so far forth *real* as it was conformable to *real things*, it follows they could not be certain they had any real knowledge at all. For how can it be known that the things which are perceived are conformable to those which are not perceived, or exist without the mind?" (*Principles* §86).