Philosophy 203: History of Modern Western Philosophy Hamilton College
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Class 19 - April 6
Berkeley's *Principles*, §100 - §156 (handout)

I. The Doctrine of Abstract Ideas

According to Locke, our ideas of primary qualities, like extension, correspond to real properties of real, material objects.
But those ideas do not correspond to particular sensations.
We experience an extended chair, say, 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.
For Locke, ideas of primary qualities all arise from abstraction, as do mathematical ideas.
We create general terms to stand for the abstract ideas in our minds.
Our term 'body' stands for an abstract idea of body, which corresponds to actual material bodies.
The same process of reasoning applies to terms for individual bodies, like 'apple', and to other general terms, like 'physical object', 'the physical world', and 'the universe'.
Since we can not form an abstract idea of body, there is no reason to claim that there are any bodies.
The term 'bodies' stands for no idea at all.

There are two kinds of processes which might be called abstraction, and which Berkeley thinks lead to belief in material objects.
If we can abstract in either way, then we can have ideas of material objects.
And if we have ideas of material objects, then they correspond to matter; there is a physical world.
But Berkeley denies that we can have these abstract, general 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).

The first kind of abstraction, which is also described in §7 of the Introduction, involves focusing on one part of an idea.
For example, we can consider the blackness of a chair, apart from its size, or shape, or texture.
Or, we can think of the taste of an apple apart from its crunchiness, or color.
We can just focus on one of the sensations that is bundled together with the others.

A1: Considering one property of an object independently of others.

A1 is unobjectionable.
As for Locke, our ordinary ideas of objects are actually collections of particular sensations.
Berkeley considers an apple.

> 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).

The particular sensations (e.g. the feel of the apple, its taste, and odor) are all things we know about.
But all we have is this passing show, our experiences of the particulars.
Thus, A1 is really not a process of abstraction at all.
It is just the recognition of the separate ideas of sensation, and their independence.
A1 will not lead to beliefs in a material world.

The second kind of abstraction, which Berkeley also describes in §8 of the Introduction, involves creating, in reflection, a positive idea.
For example, Locke claims that we can form ideas of redness, and color, by abstracting from our visual idea of the apple.

A2: Forming an abstract, general idea.

Berkeley insists that we have no ability A2.
Consider an abstract idea that corresponds to the general term 'triangle'.
Locke claimed that such an idea stands for all triangles, whether scalene, isosceles, or equilateral.
Berkeley denies that any such idea is possible.

> 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).

This claim is the core of Berkeley's argument against abstract ideas.
No idea, no picture in our minds, could have all of these properties at once.
We can not have an idea of chair, because it 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.

There are two particular kinds of 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).

Both of the alleged capacities Berkeley mentions here are misuses of A2.

> 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.
The first is the creation of a new idea on the basis of existing ideas.
The second is the acceptance of a material world independent of any perceivers.
M1 and M2 are similar in that they each involve thinking that the so-called primary qualities are real properties of external, physical objects.

Berkeley's claim against both M1 and M2 rests on his denial that we can form a general idea.

> *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)

In the dialogue, Hylas proposes that mathematicians use abstract ideas.
Similarly, Berkeley, in the *Principles*, considers whether scientists use abstract ideas.
In both cases, 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).

We can use general terms, if we wish, Berkeley says.
But we should not be misled into thinking that they correspond to some thing.
Since we can not abstract, we can not have ideas of material objects.
Only particulars, single discrete sensations, 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.
But 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.
If 'chair' actually referred to a thing, it would have to refer to red chairs and blue chairs and tall chairs and short chairs.
We can give a name to commonalities among particular sensations, but this is just a name.

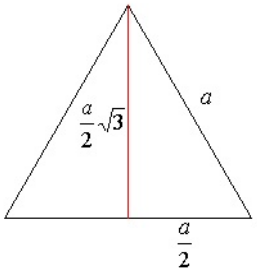
> In such things we ought to *think with the learned, and speak with the vulgar* (*Principles* §51).

Berkeley is a nominalist about everything except particular experiences.
We have no positive idea of man, or triangle, or matter, as all are abstractions.

II. Empiricism and Mathematics

Berkeley claims that the root of Locke's materialistic error is his doctrine of abstract ideas.
The importance of that doctrine is easiest to see in Locke's account of mathematics.
Let's take a moment to see how the problem of accounting for mathematical knowledge leads Locke to his doctrine of abstraction.

Mathematics appears to be among the most certain of disciplines.
The certainty of mathematics entails that mathematical theorems are true.
For example, 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.
It is natural to take a proof of this theorem as sufficient for its truth.
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.

The rationalists all accounted for the certainty of mathematics on the basis of innate ideas.
We know the truths of mathematics because those theorems are built in to the structures of our minds.
Even if all of mathematics is not innate, the fundamental axioms may be taken as innate, along with our abilities to derive the more complicated theorems from those axioms.
Our substantial capacity for pure thought accounts for our knowledge of mathematical theorems, and gives us insight into the nature of mathematics.

The rationalists's account of our knowledge of the physical world may have seemed implausible, since it impugned the role that the senses played.
Leibniz's opposition to transeunt causation, for example, and his denial of the reality of bodies, entailed that our knowledge of physical laws is neither acquired from experience nor robust.
But the rationalists supplied plausible accounts of our knowledge of mathematics which relied on pure reason.
Locke rejected pure reason, and produced a more intuitively satisfying sensory account of our knowledge of the physical world.
But Locke's account of mathematics, which relied on the doctrine of abstraction, was less plausible.
For Locke, mathematics is certain, but does not concern real things.
He denied the claim that the truthmakers of mathematical theorems are mathematical objects.
Instead, Locke says that mathematical theorems are about our ideas and their relations.
Thus, Locke defends the certainty of mathematics, but he makes mathematical objects individual, personal, and psychological rather than universal.
Strictly speaking, everyone's mathematical theorems are about their own mathematical ideas.

Here's another way to put the problem for Locke.
Recall that Descartes parsed our ideas into three types: A. Innate; B. Acquired; or C. Produced by me.
Locke rejects anything of type A.
Mathematical theorems can not be of type B, for the same reasons that Descartes gave.
Locke agrees that we do not see triangles.
So, our knowledge of mathematics must be of type C, produced by me.
In particular, it is produced by abstraction.
We sense particulars, like doughnuts and frisbees.
Then, we generalize, forming an abstract idea, like that of a circle.

III. Berkeley, Mathematics, and the *Minimum Sensibilia*

You might think that Berkeley could also take mathematical terms to refer to our mental states.
He could understand mathematical terms as he does terms like 'apple', as referring to a collection of particular experiences.
In contrast, instead of trying to provide an empiricist account of mathematics, 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).

Thus Berkeley sees mathematics as useful, but mathematical terms as empty names, just like 'physical object', 'redness', and 'table'.
In both kinds of cases, standard beliefs are infected with the doctrine of abstract ideas.
In mathematics, the problems of abstraction are multiplied.
To take an important example, Berkeley thinks infinite divisibility is paradoxical.

> 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).

This example is important because 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.
To do so, essentially, we divide a finite segment into infinitely many infinitesimally small segments, and then add them up.
Thus, the calculus is committed to infinite divisibility.
But from Berkeley's idealism, and his claims about the essence things as of objects of our perception, it is a short step to claiming that there is a smallest perceivable extension.
Berkeley calls this extension the *minimum sensibilia*; see his *Essay Toward a New Theory of Vision*.
To get a feel for its size, 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).

We think that we can divide an inch into ten thousand parts, because we can use it to represent a much larger segment, as on a map, which does represent the longer length.
But to think that we can divide a finite segment into arbitrarily many segments violates the constraints of the *minimum sensibilia*.

Infinite divisibility was an important element of the new science, because of its use of the calculus.
If Berkeley is correct about infinite divisibility, the calculus, and all its benefits for empirical science, is based on a fundamental error.

IV. Berkeley on Science

The process of abstraction that Berkeley rejects serves not only to support our beliefs in mathematical claims, but also our knowledge of the laws of motion.
If we were convinced that these laws were universally valid, then we might infer that they are true.
If we think that we have knowledge of the true laws of motion, and believe that our knowledge was justified by appeal to a process of abstraction, then we could argue for the legitimacy of that process.
Thus, it is important for Berkeley to block such an inference by denying that general laws of motion are veridical.

> Those who treat of mechanics employ certain abstract and general words, and imagine in bodies force, action, attraction, solicitation, etc., which are exceedingly useful for theories, enunciations, and computations concerning motion, although in actual truth and in bodies actually existing, they are sought in vain, as much as are those things imagined by mathematical abstraction (*On Motion*, §39, AW 506b).

Berkeley construes laws of nature as the regularities, or set rules, which guide our perceptions.

> We learn [laws of nature] by experience, which teaches us that such and such ideas are attended with such and such other ideas in the ordinary course of things (*Principles* §30, AW 453a).

These rules are useful, but they do not reveal the fundamental causal structure of the universe.
The only true causal ascriptions apply to God.
Thus, Berkeley separates two different aspects of scientific practice, which we have so far run together: laws of nature and laws of efficient causation.
Scientists seek to describe uniformities in nature.
When we find uniformities, we call them laws.
But, not all uniformities are laws.
If we discovered that every person in the room were an eldest child in a family of five, we would not think that we had discovered a law about people in the room.
A law has a predictive aspect, but we would not predict, on the basis of this uniformity, that the next person to enter the room is the eldest child in a family of five.
In contrast, we would predict that the next person to enter the room has a heart, and a brain, since those features of human beings are lawlike.
Ordinarily, we take the difference between lawlike and non-lawlike uniformities to be the presence of causal connections underlying those uniformities.
Berkeley denies that an understanding of the uniformities in nature leads to ascribing causal powers to any objects other than God.
Indeed, he calls gravity an occult phenomenon.

> Reason proves that there is some cause or principle of these phenomena, and this is generally called *gravity*. Since, however, the cause of the fall of heavy bodies is dark and unknown, gravity in that sense cannot be called a sensible quality; consequently, it is an occult quality. But we can scarcely conceive - and indeed not even scarcely - what an occult quality is, and how any quality can act or effect anything. It would be better then, if men would attend only to the sensible effects, putting the occult quality out of view. Abstract words - however useful they are in discussion - should be discarded in meditation, and the mind should be fixed on particular and concrete things, that is, on the things themselves (*On Motion*, §4, AW 504b-505a).

Thus Berkeley separates laws of nature, on the one hand, from laws of efficient causation, on the other.
We can know the laws, insofar as we understand them to be uniformities in our perceptions.
But we can not know the causal connections, since they are not the object of any perceptions at all.
Berkeley's analysis sets the stage for Hume, who will argue that laws of nature are completely beyond the reach of the empiricist.

Taking the laws of nature to be mere regularities in our perceptions, and ascribing causation only to God, allows Berkeley to avoid committing to the universality of laws.
Nature is in many ways uniform, and this uniformity allows us to predict and control nature.
But, Berkeley wants to leave room for miracles, exceptions to the laws of nature.
He argues that both uniformity in nature and blemishes in nature support God's existence.

> If we attentively consider the constant regularity, order, and concatenation of natural things, the surprising magnificence, beauty, and perfection of the larger, and the exquisite contrivance of the smaller parts of creation, together with the exact harmony and correspondence of the whole, but above all the never-enough-admired laws of pain and pleasure, and the instincts or natural inclinations, appetites, and passions of animals; I say if we consider all these things, and at the same time attend to the meaning and import of the attributes One, Eternal, Infinitely Wise, Good, and Perfect, we shall clearly perceive that they belong to the aforesaid spirit, *who works all in all*, and *by whom all things consist* (*Principles*, §146).

> We should further consider that the very blemishes and defects of nature are not without their use, in that they make an agreeable sort of variety, and augment the beauty of the rest of the creation, as shades in a picture serve to set off the brighter and more enlightened parts... It is plain that the splendid profusion of natural things should not be interpreted weakness or prodigality in the agent who produces them, but rather be looked on as an argument of the riches of His power (*Principles*, §152).

The claim that both uniformity and irregularity each testify to the goodness of God is troubling.
If an hypothesis is supported by any evidence whatsoever, it seems like an empty hypothesis.

V. Avoiding Skepticism and Atheism

Berkeley's central concerns are to combat the atheism and skepticism which he thinks arises from materialism, and the materialistic side of dualism.

> For, 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).

Berkeley argues that 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.

Berkeley also argues that 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.
This is just the empiricist's problem that I mentioned when we started.

> 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).

Skepticism and atheism are wrong, says Berkeley.
Thus, idealism is right.

VI. Persistence and Intersubjectivity

Locke and Descartes posit matter as the cause of our ideas.
This matter really has only the primary qualities as properties.
But on the materialist view, there is no yellow, no sweetness in external objects.
As applied to objects, terms for secondary qualities are mere names.

Berkeley interprets terms for secondary qualities as referring to our mental states.
The lemon is yellow, since I really have a yellow sensory experience.

> *Philonous*: That the colors are really in the tulip, which I see, is manifest. Neither can it be denied that this tulip may exist independent of your mind or mine; but that any immediate object of the senses, that is, any idea or combination of ideas, should exist in an unthinking substance or exterior to all minds, is in itself an evident contradiction (First Dialogue, AW 468b).

Berkeley's account solves the problem of error for our beliefs based on the senses, like Descartes's wax example and Locke's water experiment.
This is the problem that led both Descartes and Locke to reject the resemblance hypothesis for ideas of

secondary qualities.
For Berkeley, there is no problem, since all ideas are independent, and since we need not ascribe contradictory properties to an external object.
For the wax, I have a yellow idea, and then a clear idea; I have a hot idea and then a cold idea; I smell an aroma, and then fail to smell it.
For the water experiment, I have two separate, independent ideas.
Since we need not ascribe these conflicting ideas to an external object, we find no contradiction.
So, the problems of error that motivated Descartes and Locke are obviated.
But Berkeley has a new set of problems.

One of Berkeley's new problems is the problem of intersubjectivity.
How do we account for different people having similar experiences?
Similarly, how do we account for the fact that objects do not seem to go in and out of existence, that they persist?

Berkeley posits God to ensure both intersubjectivity and persistence.
On a metaphoric level, our experiences are like peering into the mind of God; but, "philosophers, however, should abstain from metaphors" (*On Motion*, §3, AW 504b).
The story about peering into the mind of God can not be taken literally, since the same problem about experiencing sensations and not their causes arises here.
Literally, an idea must subsist in some mind or other, if it is to persist.
Sensible things have to be perceived.
But it does not follow that they are frequently created and annihilated.

> For, though we hold indeed the objects of sense to be nothing else but ideas which cannot exist unperceived; yet we may not hence conclude they have no existence except only while they are perceived by us, since there may be some other spirit that perceives them though we do not. Wherever bodies are said to have no existence without the mind, I would not be understood to mean this or that particular mind, but all minds whatsoever. It does not therefore follow from the foregoing principles that bodies are annihilated and created every moment, or exist not at all during the intervals between our perception of them (*Principles*, §48).

Here's a helpful limerick:

> There was a young man who said, "God
> Must think it exceedingly odd
> When he finds that this tree
> Continues to be
> When there's no one about in the quad."
>
> "Dear sir, your confusion is odd.
> I am always about in the quad.
> And that's why this tree
> will continue to be
> Since observed by, yours faithfully, God."

In Berkeley's world, there are colors, sounds, and smells.
The apple is just how I experience it.
The mental world, while not a material world, is not a world of imagination.

> The ideas imprinted on the senses by the author of nature are called *real things*; and those excited in the imagination, being less regular, vivid, and constant, are more properly termed *ideas*, or *images of things* which they copy and represent (*Principles* §33, AW 453b).

The drawback for Berkeley is that we are left with only our mental states.
Berkeley's world is purely psychological.

The big question for Berkeley is whether we can transcend our mental states to refer to, or understand, a world external to us, even if it is not a physical world.
Berkeley could appeal, like Descartes, to the benevolence of God to ensure persistence and intersubjectivity, but such an appeal would amount to an abandonment of empiricism.
The solipsistic picture of Descartes returns.
Hume shows that the prospects are even worse for empiricism, even if we reject Berkeley's idealism.