Reappointment Package
Russell Marcus, Hamilton College
January 2012

Course Materials for *Philosophy 203: Modern Philosophy*

This file contains most of the materials I have prepared for Modern, including class notes, reading guides, and all assignments. The bulk of the file, following p 258, contains slides I have prepared and used in class. Most of the readings for the course are found in Ariew and Watkins' *Modern Philosophy: An Anthology of Primary Sources*, though I do use some supplementary readings, including portions of Leibniz's *Theodicy* and sections from Berkeley's *Principles* omitted by Ariew and Watkins, which I have not included. More importantly, we use, as the basis for both a cooperative lesson early in the term and the first paper, my *Themes in the Objections and Replies*, which I provide elsewhere. I discuss this lesson in my article, "A Cooperative-Learning Lesson Using the *Objections and Replies*," a copy of which is included in my research materials.

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Note: Class slides follow the final exam.

Philosophy 203: History of Modern Western Philosophy
Spring 2011
Tuesdays, Thursdays: 9am - 10:15am
Benedict 105

Hamilton College
Russell Marcus
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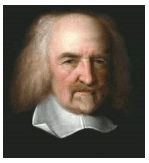

Syllabus

Course Description and Overview:

The modern era in western philosophy spans the sixteenth through the eighteenth centuries. Spurred mainly by advances in science, but also by criticisms of Church dogma, philosophers attempted to accommodate new learning with a broad view of human abilities, and to construct systematic understandings of the world. This course mainly surveys, chronologically, the work of eight philosophers of the modern era: Descartes, Hobbes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant. Among the recurring topics to be discussed are the nature of mind, free will, space and time, the self, and scientific reasoning. In combination with Philosophy 201: History of Ancient Western Philosophy, this course will provide students a broad background in the history of western philosophy, preparing you for both advanced work in the history of philosophy and contemporary study of a wide range of topics including epistemology, philosophy of science, philosophy of mind, and metaphysics.

Texts

Required:

Roger Ariew and Eric Watkins. *Modern Philosophy: An Anthology of Primary Sources*, 2nd edition. Hackett, 2009.

Various supplementary handouts, available in class and on the course website.

Recommended:

Norman Melchert. *The Great Conversation, Volume II: Descartes through Derrida and Quine*. Oxford, 2007.

Jeffrey Tlumak. *Classical Modern Philosophy: A Contemporary Introduction*. Routledge, 2006.

Other recommended sources are listed in the Course Bibliography.

On-Line Resources

The course website is:

http://www.thatmarcusfamily.org/philosophy/Course_Websites/Modern_S11/Course_Home.html

The course website includes an html syllabus and schedule, class notes, other readings and handouts, and links to websites specifically selected for this course. I will use the Blackboard site *only* to post grades.

Assignments and Grading:

Your responsibilities this course include the following, with their contributions to your grade calculation in parentheses:

Attendance and participation
Readings
Presentation (10%)
Two papers (20%, 25%)
Midterm and Final Exams (20%, 25%)

Attendance: While there is no direct reward or penalty for attendance, I expect students to come to class prepared to discuss the assigned reading.

Readings: As this course is a broad survey, there is a lot of assigned reading. I have divided the readings into three categories: primary, secondary, and tertiary readings.

You are responsible for completing all primary readings, which cover all the central topics in the course. Exams will be based on the primary readings.

The secondary readings, consisting mainly of further primary sources, will be useful in illuminating the primary readings. I will sometimes refer to the secondary readings in class. You are responsible for the secondary readings assigned for your presentation topic, and you should try to complete as many of the secondary readings as possible.

The tertiary readings are mainly from the secondary sources (Melchert and Tlumak), and are optional.

To assist you with the readings, and to help prepare you for the midterm and final examinations, I will post reading guides, lists of questions, for all of the primary readings.

Presentation: Each student is required to participate in one in-class presentation, lasting approximately ten to fifteen minutes. Most presentations will be done in pairs, though there will be opportunities for solo presentations as well. I will distribute more specific guidelines, as well as a sign-up sheet, in class. I welcome, indeed encourage, you to use your presentation topic as the theme for your second paper.

Papers: Each student will write two short papers. The first paper, 4-6 pages on any theme from the *Objections and Replies* to Descartes's *Meditations,* is due on Tuesday, February 8. The second paper, 5-8 pages on any topic in the material from Spinoza, Leibniz, Locke, Berkeley, or Hume, is due on Tuesday, April 26. I will distribute more details about the each paper in class.

Exams: The midterm exam will be given in class on Thursday, March 10. The final exam will be given at the appointed exam time: Tuesday, May 10, 7pm-10pm. Both exams will be based on questions from the Reading Guides, though the final exam may also include a short essay topic.

The Hamilton College Honor Code will be strictly enforced

Office Hours

My office hours for the Spring 2011, term are 10:30am - noon, Monday through Friday. My office is in room 201 of 210 College Hill Road, which is at the northwest corner of CHR and Griffin Road.

Schedule:

Note: The readings listed in each row are to be completed *before* class.

Part I: Descartes

Class	Date	Topic	Primary Readings	Secondary Readings	Tertiary Readings
1	January 18	Early Modern Philosophy and the Scientific Revolution		David Rosenthal, "Philosophy and Its History" (Handout)	Melchert, Chapter 12
2	January 20	Sense Experience, Method, and Doubt	D*iscourse on Method*, Parts 1 and 2 (AW 25-33) *Meditations on First Philosophy*, through Meditation One (AW 35-42)	Montaigne, *Apology*, §7 (AW 4-13)	Melchert 319-327 Tlumak 1-22
3	January 25	The Cogito and Certainty	Meditations Two and Three (AW 43-54)	Bacon, from *New Organon* (AW 16-20) Galileo, from *The Assayer* (AW 21-24)	Melchert 327-332 Tlumak 22-38
4	January 27	The Cartesian World	Meditations Four through Six (AW 54-68) *Discourse*, Part 5 (AW 33-34)	Readings on the Ontological Argument (handout) Spinoza, from *Descartes's Principles of Philosophy* (AW 93-98)	Melchert 332-336 Tlumak 38-68
5	February 1	Descartes and His Critics	Descartes, "Arguments... Arranged in Geometrical Fashion" (AW 72-75)	Leibniz, Letters (AW 99-105)	Melchert 356-359

Part II: Hobbes and Spinoza

Class	Date	Topic	Primary Readings	Secondary readings	Tertiary Readings
6	February 3	Materialism	Hobbes, from *Leviathan* (AW 114-136)		Melchert, 361-371
7	February 8 **Paper 1 is due**	Monism, Parallelism	Spinoza, *Ethics*, Part I (AW 144-164)	Letters to Oldenburg and to Meyer (AW 137-143)	Melchert 438 Tlumak 77-88 Singer, "The Spinoza of Market Street"
8	February 10	Knowledge and Freedom	Spinoza, *Ethics*, Parts II and V (AW 164-195)		Tlumak 88-95; 100-102

Part III: Leibniz

Class	Date	Topic	Primary Readings	Secondary Readings	Tertiary Readings
9	February 15	Monads, Truth	*The Monadology* (AW 275-283)	Malebranche, from *The Search After Truth* (AW 200-223)	Tlumak 133-141

Class	Date	Topic	Primary Readings	Secondary Readings	Tertiary Readings
10	February 17	The Complete-World View of Substance, Harmony	*Discourse on Metaphysics* §1-§25 (AW 224-240)	Letters to Arnauld (AW 248-264)	Melchert 440
11	February 22	Theodicy, Necessity, and Freedom	*Discourse on Metaphysics* §25-§37 (AW 240-247) from *Theodicy* 405-417 (handout)	"Primary Truths" (AW 265-268) "A New System of Nature" (AW 269-274)	Tlumak 133-138; 159-163
12	February 24	Space and Time	Newton, Selections (AW 284-293) Letters to Clarke (AW 294-303)		Tlumak 164-171

Part IV: Locke

Class	Date	Topic	Primary Readings	Secondary Readings	Tertiary Readings
13	March 1	Against Innate Ideas, For the Primary/ Secondary Distinction	*Essay* Book I, Chapters I-II (AW 316-322); Book IV, Chapters I-II (AW 386-392) Book II, Chapters I-IX (AW 322-339)	Boyle, "Of the Excellency..." AW (308-315)	Melchert 372-381 Tlumak 106-110
14	March 3	Identity and the Self	*Essay*, Book II, Chapter XXVII (AW 367-377)	*Essay*, Book II, Chapters IX-XXIII (AW 337-367)	Tlumak 110-122
15	March 8	Abstract Ideas	*Essay*, Book III (AW 377-386)	Leibniz, Preface to the *New Essays* (AW 422-433) *Essay* Book IV, Chapters X-XVI (AW 405-421)	Tlumak 122-128

March 10: Midterm Exam

Part V: Berkeley

Class	Date	Topic	Primary Readings	Secondary Readings	Tertiary Readings
17	March 29	Three Arguments for Idealism	*Principles*, §1-33 (AW 447-453) *Three Dialogues*, Dialogue 1 (AW 454-474)		Melchert 385-395
18	March 31	Against Abstract Ideas	*Principles*, Preface (AW 438-446) *Principles* §86-100 (handout) *Three Dialogues*, Dialogue 2 (AW 474-484)	*Principles* §34-84 (handout)	Tlumak, Chapter 5
19	April 5	Mathematics, Science, Skepticism and Atheism	from *On Motion* (AW 504-508) *Principles*, §100-156 (handout)	*Three Dialogues*, Dialogue 3 (AW 484-503)	

Part VI: Hume

Class	Date	Topic	Primary Readings	Secondary Readings	Tertiary Readings
20	April 7	Impressions, Ideas, Facts, Relations	*An Enquiry Concerning Human Understanding*, I-IV (AW 533-548)	Bayle, "Pyrrho" (AW 512-516)	Melchert 397-409 Tlumak, 193-199
21	April 12	Causation and Induction	*An Enquiry Concerning Human Understanding*, V-VII (AW 548-564)		Tlumak, 199-205
22	April 14	The Self and Common Sense	from *A Treatise of Human Nature* Book I, Part 4, Section 6 (AW 525-532)	Reid, Selections (AW 641-653)	Melchert 409-415; 423-425
23	April 19	Free Will, Skepticism	*An Enquiry Concerning Human Understanding*, VIII-IX, XII (AW 564-576, 593-600)	*An Enquiry Concerning Human Understanding*, X-XI (AW 576-593)	Tlumak, 208-221

Part VII: Kant

Class	Date	Topic	Primary Readings	Secondary Readings
24	April 21	The Synthetic *A Priori*	*Critique of Pure Reason*, Prefaces and Introduction (AW 717-729)	Melchert 426-447 Tlumak, 244-254; 291-300
25	April 26 **Paper 2 is due**	Transcendental Aesthetic	*Critique of Pure Reason* (AW 729-737)	Tlumak, 254-257; 300-303
26	April 28	Transcendental Deduction	*Critique of Pure Reason* (AW 737-756)	Tlumak, 258-268; 303-312
27	May 3	The Refutation of Idealism, First Antinomy	*Critique of Pure Reason* (AW 781-783, 792-794)	Tlumak, 268-277; 312-320
28	May 5	The Ontological Argument	*Critique of Pure Reason* (AW 819-823)	Melchert 447-450 Tlumak, 285-291; 320-330

Final Exam: Tuesday, May 10, 7pm-10pm

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Presentation Assignment

During this semester, you will participate in one presentation to the class, lasting approximately ten to fifteen minutes. Presentations will mainly be done in pairs, though there are some opportunities for solo presentations.

Your presentation should demonstrate your attempts to grapple with some portion of the primary reading for class. You should also consider any assigned secondary readings. The tertiary readings will probably be useful. A presentation should summarize central theses, focus on arguments, and raise questions for discussion. In contrast to a standard, rhetorical philosophy paper, your presentations may be mainly exegetical. Connect the various assertions in your presentations; avoid mere lists. I welcome some critical examination of the readings, though the criticism need not be fully developed.

Here are some general questions you might raise and try to answer in your presentation:

What is the big picture? What questions is the author attempting to answer?
What is the central claim you are examining?
Is the central claim epistemological, metaphysical, or methodological?
How does that claim differ from related claims we have already studied?
What is the philosopher's argument for the central claim?
With what premises would philosophers whose work we have already studied disagree? Why?
Is the central claim you are examining true?

Shared presentations should show significant evidence of shared work and understanding. To assist me with the assignment of a grade, after the presentation, each presenter should send me a confidential email containing brief details concerning how the preparatory work was distributed. I understand that the person who speaks the most during the presentation may not be the person most responsible for the work. I hope that your work, and your grades, will ordinarily be distributed equally.

Your presentation may be as ambitious as you wish, as long as it is reasonably within the time guidelines. You might generate discussion by presenting a controversial position. You might ask interesting questions. You may read a short paper. You may do a PowerPoint presentation. You may be creative about how to interact with the class. You may act out a dialogue of your own design. You could have us break into groups for a short debate,
If you want to do something more inventive, like I would be happy to help you think out the plan.

Most classes during which there are presentations will contain two or three presentations.

Resources:

Please feel free to meet with me before your presentations. I will try to have notes for each class available in time for you to use them in your preparation.

Many students find the Oral Communications Center, located in KJ 222, helpful. They have a wealth of resources readily available, and are eager to help. The staff at the lab can assist you both with the content of your presentation, and with determining how best to present your material. When you have prepared a draft of your presentation, they can record you while you practice giving the presentation. You can watch the recording with a tutor, or by yourself. You can sign up for an appointment with a tutor on the door of the lab, or you can email them at: oralcomm@hamilton.edu. Their website offers valuable resources: http://www.hamilton.edu/OralCommunication

Sign-ups

We will sign up for presentations, by email, after the second day of class. You may request presentations as pairs, or as individuals. Because there are far more students than presentation slots, some people may be assigned a partner. Please send me at least three desired slots, in order of preference. The dates and topics are listed below, with the number of presentation slots on each given day in parentheses.

February 3, Hobbes's Materialism (2)
February 8, Spinoza on Monism and Parallelism (2)
February 10, Spinoza on Knowledge and Freedom (1)
February 15, Leibniz on Monads and Truth (2)
February 17, Leibniz on the Complete-World View of Substance and Harmony (2)
February 22, Leibniz on Theodicy, Necessity, and Freedom (2)
February 24, Leibniz and Newton on Space and Time (1)
March 1, Locke, Against Innate Ideas and For the Primary/ Secondary Distinction (2)
March 3, Locke, Identity and the Self (2)
March 8, Locke on Abstract Ideas (1)
March 29, Berkeley, Three Arguments for Idealism (2)
March 31, Berkeley Against Abstract Ideas (2)
April 5, Berkeley on Mathematics and Science (1)
April 7, Hume on Impressions, Ideas, Facts, and Relations (2)
April 12, Hume on Causation and Induction (2)
April 14, Hume on the Self and Common Sense (2)
April 19, Hume on Free Will (1)

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First Paper Assignment

1. Your first paper is due on February 8, at 9am. It should be double spaced, approximately four to six pages (1000 to 1800 words) in a reasonable font, such as 11 point Times, with reasonable (e.g. one-inch) margins.

2. The topic of your first paper should be a theme in Descartes's *Meditations*, one that arises in the *Objections and Replies*. A sufficient collection of the objections and replies, organized thematically, are available in my *Themes in the Objections and Replies*, which is available on the course website. Your paper should consider an argument from Descartes's work, at least one objection to that argument, and Descartes's response to that objection.

3. Your paper must have a thesis in which you defend a specific argument, conclusion, or view. You may defend either Descartes's view or that of the objector you are discussing. Alternatively, you may defend a third view.

4. Avoid history and biography. Focus on the arguments.

5. Observe basic rules of grammar and spelling. Avoid jargon. Write simply, and clearly. Proofread your paper. Ask a good writer to read and comment on your paper.

6. Two important, idiosyncratic formatting guidelines:
   Do not right justify (i.e. fully justify) your paper.
   Paginate.

7. Any citation method which allows me easily to trace your sources is acceptable. References to pages in the Ariew and Watkins collection may be indicated, in line: "We owe a great debt to those who point out faults" (Pascal, AW 109). References to *Themes in the Objections and Replies* may also be indicated in line: "It is certain that ignorance is merely a defect, so we do not need any positive faculty in order to be ignorant" (Hobbes, TOR 45). Other sources require a list of references at the end of the paper, along with in-line citations. Internet sources must include a live URL. I must be able to trace the source.

8. Violations of academic integrity, like plagiarism, can and will lead to failing grades. Remember to acknowledge any assistance you have had on your paper, including assistance from the Writing Center. **The Hamilton College Honor Code will be enforced**.

Some General Guidelines For Writing A Philosophy Paper

1. Introduce your paper by briefly stating your thesis, the conclusion you will defend. Be specific. Your paper should be an extended argument supporting your thesis.

2. Argue for your thesis. Each element of your paper should relate directly to your specific thesis. When editing your paper, think about the role that each paragraph plays in support of your thesis. Think about the role that each sentence plays in each paragraph.

3. Provide plenty of road signs along the way. (E.g. "First I will argue..., then I will argue..."; "In the last section, I showed that...") Make sure that you and the reader know the narrative structure of your paper, and the role of each part.

4. Connect, rather than merely concatenate, the various assertions in your paper. Beware of beginning paragraphs or sentences with claims like, "Another argument is..." Show how each of the portions of your paper fit together.

5. Consider the best objections to any thesis you defend. Consider responses to those objections, and counter-responses. Avoid straw persons, arguments which no one really holds but which are easy to refute.

6. Avoid arguments from authority. Do not accept without question what any philosopher says. Argue your own point of view, but through the writings of the philosophers.

7. Conclude your essay by summarizing what you intended to say in the paper. You may indicate questions for further research. You may indicate the limits of your argument. (E.g. "My argument only shows that Descartes's argument is faulty, not that his conclusion is false.")

8. Write tight. Edit down.

Links to excellent advice for writing philosophy papers are available on the course website.

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Reading Guide #1
Rene Descartes, *Meditations on First Philosophy*, *Discourse on Method*, "Arguments... Arranged in Geometrical Fashion"

These questions are provided to assist you in your reading. I encourage you first to read the material through, then go back to answer the questions. You are not expected to hand in written answers. You are expected to have responses ready for class discussion. Page numbers refer to the Ariew and Watkins collection.

I have not listed questions for the "Arguments... Arranged in Geometrical Fashion," pages 72-75. It will be useful to consult that reading, especially the definitions, for more complete answers to some of these questions, especially concerning the Third-Meditation argument for the existence of God.

Meditations on First Philosophy, pages 35-68

Meditation I

1. What does Descartes want to raze to the ground? What is his goal?
2. How does Descartes proceed to reject his opinions?
3. "[I]t is a mark of prudence never to place our complete trust in those who have deceived us even once" (AW 41a). How is Descartes being deceived?
4. How does Descartes come to doubt all of what his senses tell him?
5. How are general things less doubtful than particulars?
6. Of what does Descartes think might be certain even if he is dreaming?
7. What makes Descartes doubt the truth of mathematics?
8. "But eventually I am forced to admit that there is nothing among the things I once believed to be true which it is not permissible to doubt - and not out of frivolity or lack of forethought, but for valid and considered reasons" (AW 42b). Explain what these three reasons are.
9. Distinguish doubt from denial. Is Descartes doubting or denying?

Meditation II

10. What is the first thing that Descartes claims he can not doubt? Why can't he doubt it?
11. What is a body? Does the cogito prove the existence of our bodies?
12. What is imagining? Why is it irrelevant to our knowledge of ourselves?
13. Describe the self, and its faculties, especially sensing.
14. How does Descartes argue that he perceives what the wax is through the mind alone?
15. What properties does the wax really have?
16. "Surely it is the same piece of wax that I see, touch, and imagine...But I need to realize that the perception of the wax is neither a seeing, nor a touching, nor an imagining" (AW 46a). Explain.
17. How does ordinary language mislead us about our knowledge of physical objects?
18. How does any knowledge of physical objects reinforce our knowledge of ourselves?

Meditation III

19. What general rule does Descartes accept as a criterion for knowledge? How does he arrive at this rule?
20. Why does Descartes turn to the question of whether God exists?
21. Why can't ideas, properly speaking, be false? What can be false?
22. What are the three sources of ideas? Characterize each, providing examples.

23. "Nothing is more obvious than the judgment that this thing is sending its likeness rather than something else into me" (AW 49a). Explain.
24. Distinguish the "light of nature" from being "taught by nature".
25. Must ideas which do not depend on my will come from outside of me?
26. How does the example of the sun contravene the claim in Question 23?
27. Distinguish substances from modes or accidents. How do ideas of substances have more objective reality than those of modes?
28. On the basis of what evidence does Descartes claim that there is more reality in a cause than in its effect? What does this general principle allow Descartes to conclude?
29. What role does the claim that something can not come from nothing play in Descartes's Third-Meditation argument for the existence of God?
30. Why, according to Descartes, must we posit a cause of any idea with formal, as opposed to merely objective, reality?
31. Do we need to posit God to explain our ideas of finite substances? Distinguish Descartes's claim for minds and for bodies.
32. How does Descartes block the objection that my idea of God could be produced by augmenting my finite (imperfect) ideas, as opposed to by an existing God?
33. Is the claim that we do not fully comprehend infinite ideas an objection to Descartes's Third-Meditation argument for the existence of God?
34. How does Descartes reply to the supposition that he, and not an external God, is the source of his idea of God?
35. Distinguish creation from preservation. How does the distinction support Descartes's argument for the existence of God?
36. Why can the source of Descartes's idea of God not come from an intermediate being with more perfection than a person but less than God?
37. Can the source of my idea of God arise from merely combining ideas?
38. How does the idea of God arise in us?
39. How does Descartes argue that God can not deceive?

<u>Meditation IV</u>

40. What kinds of things are there? Which do we know most about? Which do we know least about?
41. How will Descartes gain knowledge of "the treasures of science"?
42. What potential problem does Descartes find in supposing God not to be a deceiver? How does he arrive at this problem?
43. How does Descartes define error? How does this help him avoid the problem in the previous question? What problem remains to be explained?
44. "For this reason alone, the entire class of causes which people customarily derive from a thing's 'end' I judge to be utterly useless in physics" (AW 55b). Explain. Who explains causes in terms of ends?
45. How does consideration of the whole universe help account for our ability to err?
46. How does the difference between the will and the intellect cause error? Describe each faculty and its function.
47. Why is the will, in Meditation IV, indifferent to whether the mind is identical to, or distinct from, the body?
48. Why does our ability to err not indicate an imperfection in God?
49. Could God have made us finite, yet not prone to error?
50. How does Descartes claim that he can avoid making errors?

Meditation V

51. What properties of "continuous quantity" does Descartes imagine (seem to perceive)?
52. "What I believe must be considered above all here is the fact that I find within me countless ideas of certain things that, even if perhaps they do not exist anywhere outside me, still cannot be said to be nothing" (AW 58b). Explain.
53. How does Descartes argue that the essence of a triangle is independent of his thoughts?
54. How does Descartes argue that we do not acquire our geometric ideas from our senses?
55. How does Descartes's argument for the truth of mathematics lead to an argument for the existence of God?
56. "Thus it is no less contradictory to think of God... lacking existence... than it is to think of a mountain without a valley" (AW 59b) Why not? Be specific.
57. How does Descartes respond to the criticism that we can attach existence to God without God existing?
58. On what does Descartes's certainty of everything besides the Cogito depend?
59. How is it possible to doubt a clear and distinct idea?
60. How does Descartes respond to the criticism that he could be making the same old mistake of thinking he has attained certainty when he has not?

Meditation VI

61. How does Descartes know that physical objects can exist?
62. What is the difference between the imagination and pure intellect? (Consider the difference between the triangle and the chiliagon.)
63. If there were bodies, how might the imagination work? (Consider the metaphors of turning toward the self and the body.)
64. What reasons did Descartes have for believing there were physical objects? Why does he say they did not seem to come from himself?
65. What made Descartes's body seem closer to him than other physical objects?
66. "For there is no affinity whatsoever...between this twitching in the stomach and the will to have something to eat..." (AW 63a). Explain.
67. What can we doubt about our own sensations of pain?
68. "[M]y ability clearly and distinctly to understand one thing without another suffices to make me certain that the one thing is different from the other..." (AW 64a). Explain. What does this mean about the relationship between the mind and the body?
69. From where might we get our ideas of sensible things (bodies)?
70. How does Descartes argue that God does not send us ideas of bodies directly?
71. What is Descartes's argument that physical objects exist?
72. Which properties does Descartes see clearly and distinctly belonging to physical objects? Which properties remain doubtful? Provide examples.
73. Describe the relationship between our selves and our bodies. (See also *Discourse* AW 34.)
74. How is the sensation of pain a confused mode of thinking?
75. "[F]rom the fact that I sense a wide variety of colors, sounds, odors, tastes, levels of heat, and grades of roughness, and the like, I rightly conclude that in the bodies from which these different perceptions of the sense proceed there are differences corresponding to the different perceptions..." (65a). Distinguish this claim from the resemblance hypothesis.
76. Why do we avoid things which produce painful sensations, and pursue those which produce pleasurable ones?
77. How does the example of the star support Descartes's argument that true knowledge of external things belongs to the mind alone, and not to the composite of mind and body? What does this argument say about the information we get from our senses?

78. Do the senses infallibly tell us what to pursue and what to avoid? Explain. How is this a problem for Descartes?
79. How does the divisibility of the body show it to be distinct from the mind?
80. How does the body provide misleading sensations to the mind?
81. How does Descartes argue that misleading sensations show no defect in God?
82. How does Descartes argue that we can distinguish dreams from waking experience? Why is this argument acceptable to Descartes in Meditation VI, when it would not have been acceptable in Meditation I?
83. Why are we likely to err, even if we know how to test experiences?

Discourse on Method, pages 25-34.

84. What is reasoning, or good sense?
85. How do sciences borrow their principles from philosophy?
86. Describe Descartes's first rule. What contentious epistemic theory is implicit in it?
87. Describe the remaining three rules.

...

88. What two characteristics distinguish persons from animals?
89. How does Descartes argue for the immortality of the soul?

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Class 1 - January 18
Introduction to the Early Modern Period

I. Modern Philosophy: Rationalism and Empiricism

The course on which we are embarking is called History of Modern Western Philosophy, but I'll call it Modern, as it is typically called.
The modern era in western philosophy spans the sixteenth through the eighteenth centuries, starting (roughly) with Descartes, and ending (roughly) with Kant.
Descartes is often credited with founding modern philosophy, though he had antecedents like Galileo and Boyle.
Descartes's work marks the move away from medieval philosophy and science, which had been dominated by Aristotle's work.
Spurred mainly by advances in science, but also by criticisms of Church dogma, Descartes and the philosophers who followed him attempted to accommodate the discoveries of the scientific revolution with a broad view of human abilities, and to construct systematic understandings of the world.
This course mainly surveys, chronologically, the work of eight philosophers of the modern era: Descartes, Hobbes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant.

This course is a standard survey of modern philosophy.
The standard survey has a standard narrative.
According to the standard narrative, there is a division among philosophers in the seventeenth and eighteenth centuries on whether we are born as blank slates.
The empiricists (Hobbes, Locke, Berkeley, and Hume) believe that all knowledge comes from experience.
The rationalists (Descartes, Spinoza, and Leibniz) believe that we are born with knowledge built into our minds.
The rationalists have a more robust account of the world around us, but rely on contentious assumptions about what we know.
The empiricists have a more intuitive starting point, but are unable to develop a sufficient account of science.
One problem with this characterization of the division is that some of the empiricists don't quite believe in the blank slate theory of the mind.
Also, the rationalists tend to believe that knowledge is based on sense experience.
Descartes thought of himself foremost as an empirical scientist, for example.

Another account of the division between rationalists and empiricists invokes different uses of God in philosophy.
The rationalists find a central role for God in their work, while the empiricists do not.
But this account is also misleading.
While Descartes and Leibniz rely on the goodness of God to support their views, Spinoza's views on God are subtle; many people consider him to be an atheist.
On the other side, Locke's *Essay* contains long sections on scriptural interpretation.
While Hobbes and Hume were strict materialists, denying the existence of God, Locke and Berkeley were not.
Indeed, Berkeley was an Anglican bishop.

Whatever the source of the distinction, according to the standard narrative, Kant's work, at the end of the

eighteenth century, sorts out the whole mess.
Kant does attempt to synthesize the disparate views of the previous two centuries.
His work marks the end of the modern era.

The nineteenth century in western philosophy is characterized mainly by attempts to interpret and extend Kant's work.
By the twentieth century, European philosophy had more or less fractured into two distinct disciplines.
French and German philosophy following Hegel, Nietzsche, and Kierkegaard, went toward existentialism, deconstructionism, and literary theory.
So-called continental philosophers tend to focus on broad questions, often political in nature.
In contrast, Anglo-American philosophy followed Gottlob Frege and Bertrand Russell into philosophical and conceptual analysis.
Analytic philosophers in the twentieth century pursued a linguistic turn, focusing at first on the nature and structure of language.
Analytic philosophy has branched out, especially into questions of the nature of mind and science.
In contemporary philosophy, both continental and analytic philosophers study the history of philosophy, despite their different approaches.
They also both study questions about value, though often in different ways.
(I should also note that the distinction between analytic and continental philosophy, while mainly accepted in practice, has been challenged.)

Whatever views one has regarding contemporary philosophy, all philosophers now study the history of philosophy through Kant.
This course will thus follow the standard structure of a modern course.
In combination with *Philosophy 201: History of Ancient Western Philosophy*, this course will provide you a broad background in the history of western philosophy, through the eighteenth century.
It will prepare you to study these central themes in more depth, in more contemporary work.
I will invoke the terms 'empiricist' and 'rationalist' along the way.
But we will not be held to the standard narrative.

II. Central Themes

The central themes of this course are metaphysics and epistemology.
Briefly, metaphysics is the study of what exists, and what those things are like.
Among the things that one might think exist are trees, tables, people, planets and stars, electrons, numbers, space-time points, and God.
Some properties of those things include redness, squareness, velocity, and being located outside of space and time.
Metaphysics is also the study of topics including causation, necessity, the relationship between mind and body, and free will and determinism.

Epistemology is the theory of knowledge, of how we know what we know.
Some philosophers believe that all our knowledge originates in sense experience.
Some people believe that we are born with certain innate capacities to learn.
Still others believe that we are born with substantial knowledge already in our minds.

Many of the philosophers of the modern era worked on far more than metaphysics and epistemology.
Descartes was an important physicist and mathematician.

Leibniz developed the calculus.
Hobbes and Locke are important political theorists.
Hume wrote a comprehensive and influential history of England that was a standard source for centuries.
Berkeley wrote a treatise on the health benefits of drinking tar water.
Also, there were lots of other philosophers of the modern era.
We don't have time to study everything our select philosophers wrote, or to study all the significant figures of the time.

I will focus on the metaphysics and epistemology of these eight important figures.

III. Why Study History?

There is a deep and difficult question about how the study of the history of philosophy prepares us for contemporary work.
In contemporary philosophy, we are engaged in a search for truth, for answers to specific questions, for solutions to particular problems.
In this way, we are like scientists.
But, scientists don't study the history of science in the way that philosophers study the history of philosophy.
When scientists read, say, Galileo's work, they do so as leisure, not as central to their own research.
The physicist's interest in Galileo is historical, rather than scientific.

The problem of why we study the history of philosophy only deepens if we believe that our intellectual lives are essentially constituted by our experiences, that the concerns of one generation are independent of those of earlier and subsequent generations.
That popular view, which one could call historicist, entails that our interests in the history of philosophy can only be historical, and not philosophical.
For the historicist, the philosopher's interest in the history of philosophy can only be like the physicist's interest in Galileo.
In studying the history of philosophy, though, philosophers appear to be more like those who work in the humanities, in which study of the history of a field is integral to the study of that field.
Musicians study the history of music, literature majors study the history of literature.
But, such disciplines don't centrally aim at the truth, in the way that science and philosophy do.
The goal of the study of art and literature is to understand a given work, to place it in its historical context, to grasp the culture out of which it is produced.

Philosophy seems to straddle the humanities and the sciences in a puzzling way.
It is not merely a cultural phenomenon like art or literature.
Instead, it aims at solving problems, like the sciences.
Yet, we study history like scholars in the humanities: Why?

David Rosenthal has written a thoughtful piece on just this question, which I have put on the course website.
Sections I and II of that article may be a bit obscure, criticizing Richard Rorty's claim that philosophy is not a problem-solving discipline but a cultural artifact.
The introduction and sections III and IV, especially pp 158-163, are accessible, and worth reading.

Rosenthal argues that our interest in the history of philosophy can not be explained by:

1. Its being a source of ideas for contemporary work;
2. Its being a compendium of errors to avoid;
3. The perspective we gain by seeing a wider diversity of viewpoints than we would in contemporary work;
4. The comprehensive systematicity of some great philosophers;
5. Its use as a source of opponents against whom we can contrast our own positions.
6. The understanding of our own questions we gain by examining past questions.

To put the problem in perspective, this term we are going to examine Berkeley's claim that there is no material world, Leibniz's claim that this is the best of all possible worlds, and Hume's claim that we have no knowledge of scientific laws.
Such claims, and others, will seem to most of us to be obviously false.
Yet, we are going to evaluate them not merely for their historical interest, but for their truth.
We are going to look at the arguments, and take them seriously.
This approach is likely to seem to you, at times, to be absurd.

> The problem remains of why the study of largely unacceptable theories should be considered crucial to a field whose main aim is to arrive at the truth about certain issues... If...the analogy with mathematics and the sciences is apt...it is doubtful whether the history of philosophy could significantly further philosophical progress (Rosenthal 160-1).

Rosenthal presents a solution to the problem, but I will mostly leave that to you to pursue, if you wish.
Briefly, his claim is that in order to understand historical work, we have to interpret it through our own beliefs about what is true.
Interpreting Berkeley and Leibniz and Hume requires honing our own views about the truth.
We read history because it forces us to be clear about our current beliefs.

One of our secondary sources, Normal Melchert's book, is called *The Great Conversation* because the history of philosophy is united.
All philosophers are contemporaries.
Philosophers, as opposed to fiction writers or musicians or even historians, are not divided by culture or class or era.
We are engaged, together, in a singular pursuit of the truth.

IV. The Syllabus

The Ariew and Watkins collection is required, as are many of the handouts available on the course website.
The two secondary sources, Melchert and Tlumak, are optional.
If you have taken the Ancient course, you might have the first Melchert volume, which is really just the first half of a larger, comprehensive work.
I have ordered the second half for those of you who wish to have the complete set.
We will only cover a few chapters of the second volume of Melchert in this course.
If you don't have it at all, I highly recommend it, independently of this course; the full work is both prettier and less expensive than the two half-volumes.
The Tlumak volume will be much more helpful, in much more detail, for this course.

V. Starting Descartes

Read ¶1 of Meditation One:

> Several years have now passed since I first realized how numerous were the false opinions that in my youth I had taken to be true, and thus how doubtful were all those that I had subsequently built upon them. And thus I realized that once in my life I had to raze everything to the ground and begin again from the original foundations, if I wanted to establish anything firm and lasting in the sciences (AW 40).

Descartes wants something "firm and lasting in the sciences."
We can interpret 'science' broadly, as covering all knowledge.
In this case, we can see his work as consistent with the philosopher's standard pursuit of truth.
We can also see some of his concerns about falsehoods learned in his youth as applying to a narrower, more sophisticated interpretation of 'science'.
This requires some historical background.

VI. The Scientific Revolution, the Protestant Reformation, and the Punk-Rock Descartes

Descartes is considered the founder of modern philosophy.
He was a mathematician (developing analytic geometry) and scientist, in addition to being a philosopher.
He is still a medieval, though, in many ways.
Descartes' worries about his false beliefs arise in large part from his medieval education, both in science and theology.

Consider five dogmas, or teachings, of the medieval world view:

D1. The heavens are constant.
D2. The Earth is at the center of the universe.
D3. Causes are (partially) explained teleologically, by purposes.
    E.g. Objects tend to fall to the Earth because of their natural tendency toward the center.
D4. The heavens contain starry perfect spheres (stars and planets) which revolve in perfect circles around the Earth.
D5. There are two kinds of natural motion.
    On earth motion is linear, in the heavens it is circular.

The first three of these dogmas come mainly from Aristotle (384-322 BC).
The fourth and fifth come from mainly Ptolemy (2nd century AD).
The Ptolemaic astronomer saw the sky as an object, rather than a void, like a roof on the Earth.

The new science of the sixteenth century had undermined all five of these dogmas.
In the late 15th century, a new star was discovered, which undermined D1.
Copernicus (1473-1543) hypothesized that earth is not stable, and that it undergoes retrograde motion, against D2.
Brahe (1536-1601) discovered that planets move in ellipses, against D2 and D4.
Kepler (1571-1630) urged heliocentrism, against D2.

Galileo (1564-1642) suffered under the Inquisition in 1633 for supporting Kepler's heliocentrism.
His discovery of Jupiter's moons meant that there was more than one center of motion, against D2.
His discovery of bumps on moon is evidence against D4.
Further, Galileo began to develop a theory of inertia on which rest is merely a limiting case of motion.
On the Aristotelian view, rest need not be explained, but motion does; rest is the consequence of an object's fulfilment of its telos, of its goal.
The inertial view of the new science was improved by Descartes and Newton, resulting in Newton's first law of motion: an object at rest will remain at rest, and an object in motion will remain in (linear) motion, unless acted upon by an unbalanced force.
According to the law of inertia, only acceleration needs an explanation.
So, there is one type of undisturbed motion, linear, for all bodies, against D5.
Two forces, gravitation and impetus, are unifying hypotheses which explain all deviations from ordinary linear motion, against D3.

More philosophically, Aristotle and the medievals believed that there were many different kinds of things.
At root, there are four basic elements: earth, air, fire, and water.
Additionally, all natural things have their own natures which make them distinct: flowers are different from trees, from frogs, from people.
Galileo, Boyle and Descartes built on an earlier atomism (of Democritus, say).
According to atomists, all matter is of the same kind.
All differences among objects can be explained by their differences in structure.

> If you find it strange that in explaining these elements I do not use the qualities called 'heat', 'cold', 'moisture' and 'dryness' - as the philosophers do - I shall say to you that these qualities themselves seem to me to need explanation. Indeed, unless I am mistaken, not only these four qualities but all the others as well, including even the forms of inanimate bodies, can be explained without the need to suppose anything in their matter other than the motion, size, shape, and arrangement of its parts (Descartes, *The World* CSM I.89).

On the new science, the Earth and its inhabitants lose our privileged place in the center of the world.

Adding to Descartes' belief that he had many false opinions were direct attacks on religion, and its role in medieval thought.
There had been a general weakening of Church authority in the two centuries preceding Descartes.
The Papal Schism (1378-1417) undermined the Church's claim to infallibility.
Henry VIII severed England's ties with Rome in 1530.
Charges of corruption by Martin Luther (1483-1546) spurred the Protestant Reformation.
Calvin (1509-1564) and the Protestant work ethic opposed the hierarchical structure of the Catholic Church in favor of a more direct relationship between God and man.

Philosophical skepticism became popular in the sixteenth century, in large part as a reaction to the undermining of Church authority.
The scientific revolution and Protestant Reformation together supported the rise of the individual against central authority, in the guise of humanism, natural reason, and scientific method.
Descartes's work is rooted in the individualism of the era, as a reaction to the authority of the Church.

The 17th Century is not so different from our own.
There was an increasing skepticism about religion and its explanatory role.
There was a rise of relativism, both metaphysical (i.e. the claim that there is no absolute truth) and moral.

There was optimism about science and technology.
Anachronistically, we can see Descartes as working with a punk-rock, DIY ethos: the individual has a direct relation to the truth.

Descartes responds to a more specific skeptical worry in his letter of dedication: the problem of Scriptural circularity.

> I have always thought that two issues - namely, God and the soul, are chief among those that ought to be demonstrated with the aid of philosophy rather than theology. For although it suffices for us believers to believe by faith that the human soul does not die with the body, and that God exists, certainly no unbelievers seem capable of being persuaded of any religion or even of almost any moral virtue, until these two are first proven to them by natural reason... Granted, it is altogether true that we must believe in God's existence because it is taught in the Holy Scriptures, and, conversely, that we must believe the Holy Scriptures because they have come from God. This is because, of course, since faith is a gift from God, the very same one who gives the grace that is necessary for believing the rest can also give the grace to believe that he exists. Nonetheless, this reasoning cannot be proposed to unbelievers because they would judge it to be circular (AW 35).

The letter of dedication to the *Meditations* is a difficult piece to interpret.
Descartes had cancelled publication of his broad treatise on the new science, *Le Monde*, in response to Galileo's condemnation by the Inquisition.
The letter of dedication is clearly an attempt to appease the Church.
Some take Descartes's claims of faith in the letter, like his claim that circularity is not a problem for believers, to be insincere.
Indeed, there are interpretations of Descartes's *Meditations* which impute insincerity to much of its content.
I will not pursue such interpretations, evaluating the arguments as they are written.

Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2011 Russell Marcus
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Class 2 - January 20
Meditation One

0. Illusions

I. Descartes's Worries

In our first class, I discussed some of the claims (the five dogmas) to which Descartes may have been referring in the First Meditation, when he claims that he accepted falsehoods in his youth.

D1. The heavens are constant.
D2. The Earth is at the center of the universe.
D3. Causes are (partially) explained teleologically, by purposes.
D4. The heavens contain starry perfect spheres (stars and planets) which revolve in perfect circles around the Earth.
D5. There are two kinds of motion: linear and circular.

These claims were all undermined by the new science.
In another direction, I briefly mentioned some of the criticisms of Church authority from theological sources.
At the end of class, I mentioned Descartes's discussion of Scriptural circularity.
We noted that Descartes defended what seems clearly to be fallacious, circular reasoning.
I mentioned that I plan to take Descartes at his word, rather than interpret him as being insincere.
As we will see next week, Descartes's reasoning in the *Meditations* is often criticized for being circular.
I believe that the Letter of Dedication indicates that Descartes thinks that circular reasoning may not be as fallacious as it seems to us.
In contemporary philosophy, people sometimes distinguish between vicious and virtuous circles.
For example, we accept certain mathematical statements as axioms because they yield the theorems that we want.
But, we accept the theorems because they follow from the axioms.
The axioms and the theorems have to be accepted together, despite the circularity of deriving our beliefs in one from beliefs in the other.
I believe that Descartes understood that circular reasoning is not necessarily fallacious, and that the Letter of Dedication is a hint at his radical, new position.
I have a draft of a paper arguing for this conclusion, which I can send you if you are interested.
Let's move on to the First Meditation.

II. Knowledge and Descartes's Method

In the first paragraph of the *Meditations*, having alluded to the problem of accepting falsehoods, Descartes introduces us to his general method: to raze everything to the ground and begin again from the original foundation.
In the second paragraph, Descartes elaborates on that method, using principles for doubting to call swaths of beliefs into question.

The general method in the *Meditations*, then, is to use doubt in order to achieve knowledge.
More details of Descartes's method are presented in the *Discourse on Method*.
The *Discourse* was the introductory essay for the grand work, *Le Monde*, which Descartes suppressed after Galileo's 1633 trial for heresy by the Inquisition.
Descartes published the *Discourse* in 1637 as part of a smaller, less controversial collection of essays.
It was written in French, and intended for popular audiences, in contrast to the *Meditations* (1641), which were written in Latin and intended for the most scholarly readers.

In the *Discourse*, Descartes presents a casual discussion, including four methodological rules:

R1. Never to accept anything as true that I did not plainly know to be such;
R2. Divide each difficulty into as many parts as possible;
R3. Conduct my thoughts in an orderly fashion, commencing with the simplest and ascending to the most composite; and
R4. Everywhere to make complete enumerations (AW 31).

We will focus here on R1, the use of which depends on having a good characterization of knowledge.

As a first step to characterizing knowledge, let's compare knowledge-how and knowledge-that.
Many philosophers, over the last century or so following work by Gilbert Ryle, have distinguished knowledge-how from knowledge-that.
Knowledge-how is epitomized by riding a bicycle, or cooking an omelet.
Knowledge-that is exemplified by propositional knowledge, knowledge of facts: that 2 + 2 = 4, that Barack Obama is the president of the United States, that it is generally cold in Clinton in January.
Some philosophers argue that all knowledge how is really knowledge that.
We will not decide the question here.
Our focus will be, with Descartes, on propositional knowledge, or knowledge-that, which I will henceforth call just knowledge.

Knowledge is a lot like belief.
Both knowledge and belief appear to be relations between persons and propositions, or statements.
I believe that snow is white; I know that snow is white.
Both claims are relations between me and the claim that snow is white.
But, knowledge and belief are also importantly different.
Consider two people in the Middle Ages.
Person A says, "I know that the sun revolves around the earth."
Person B says, "I believe that the sun revolves around the earth."
Imagine that we visit these people in a time machine, and teach them about the heliocentric model of the solar system.
After they learn that the earth revolves around the sun, both A and B deny that the sun revolves around the earth.
But they have strikingly different attitudes toward their original claims.
Person A recants her original claim.
She never knew it, but only thought that she did.
Person B maintains her original claim.
She believed that the sun revolves around the earth, even though that belief was false.

We can summarize the difference between knowledge and belief by saying that knowledge is a success term.

If we know something, it must be true.
We can have false beliefs, but not false knowledge.

Knowledge is more than mere true belief, though.
Consider the belief that there are exactly 6,592,749,256,111 grains of sand on the beaches of the Earth.
Let's imagine that there are, in fact, exactly 6,592,749,256,111 grains of sand on the beaches of the Earth.
Still, no one could be truly said to know this fact.
We need some account, some justification of how we know.
Following Plato's work in *Theaetetus*, philosophers have taken knowledge to be justified true belief (JTB).
There are interesting difficulties with this characterization.
There are some rare cases of justified true beliefs that are not knowledge.
We will not consider these odd counterexamples here.

A further, and stronger, characterization of knowledge, one which is clearly present in Descartes's R1 and which is more controversial, involves the inability to doubt.

> The first [rule] was never to accept anything as true that I did not plainly know to be such; that is to say carefully avoid hasty judgment and prejudice; and to include nothing more in my judgments than what presented itself to my mind so clearly and so distinctly that I had no occasion to call it in doubt (AW31).

Descartes is claiming that if I know p, I can not doubt it.
This claim is essentially what is known as the KK thesis.

> KK. In order to know p, you must know that you know p.

There are good reasons to question the KK thesis, though.
Consider being asked what the capital of Illinois is.
Imagine that you think that the answer is Springfield.
You believe that you remember learning it in school.
You had a puzzle which showed all the state capitals.
But you are not sure that you remember correctly.
You believe that Springfield is the capital of Illinois, but you are willing to doubt it.

In fact, Springfield is the capital of Illinois.
Additionally, the reasons you thought so were good ones.
This seems to be a case in which you know that p, but you do not know that you know that p.
For now, though, I will put aside worries about the KK thesis.
This characterization, including the KK thesis, helps us to see Descartes's goal.
Descartes is seeking firm and lasting knowledge in the sciences by way of doubt.
He will doubt everything, and then only affirm those beliefs of which he is sure.

The *Meditations* was published along with six (and later seven) sets of objections from various philosophers and theologians, and Descartes's replies.
In the Seventh Replies, Descartes uses an analogy for his method.
Consider a basket of apples, some of which are rotten.
We can dump out the whole basket and put back only the good ones.

So, let's turn to the method of doubt, being careful to distinguish doubt from denial.
Doubt is a withholding of opinion.
Denial is an assertion.
'I doubt that p' means that I do not know whether p is true or false.
'I deny that p' claims that p is false.
Descartes, in the First Meditation, doubts his beliefs.

At the end of the First Meditation, and the beginning of the Second Meditation, Descartes does assert that he will deny all of the claims he formerly believed.
The point of denial here is just as support for the doubt, for truly doubting the claims which are most obviously true so that he does not accidentally fall into old habits.

Descartes provides three arguments for doubt.
If they are successful, they will make us doubt, but not deny, everything on the list.

III. Illusion

Among the most difficult beliefs to abandon are those which we grasp with our senses.
What we see, and even more so what we touch, we take as most real.
In the third paragraph of Meditation One, Descartes says that everything he has taken as most true has come either from the senses or through the senses.
Descartes, who crafted the Meditations most carefully, seems to be making a distinction between knowledge which comes directly from experience, like knowing that it is hot outside, and knowledge which requires reasoning in addition to sense experience.
Our knowledge of mathematics, for example, may need more than mere sense experience for its justification.
We never sense mathematical objects like circles or numbers.
Also, some sentences, like 'Bachelors are unmarried', do not seem to depend on sense experience.
We need only to know the meanings of the words to know that it is true; we need not see any bachelors.

Some philosophers, like Descartes, believe that some knowledge comes from our ability to reason, independently of the senses.
Knowledge based on reason is sometimes called *a priori* knowledge.
Logical and mathematical beliefs are often taken to be acquired *a priori*.
So are our beliefs about sentences like the one about the bachelors.

One question which has divided philosophers is whether all knowledge comes from experience.
In the third paragraph, Descartes provides an argument for doubt which immediately calls the view that knowledge depends exclusively on sense experience into question.
Consider optical, or other sensory, illusions, or hallucinations.
Such experiences undermine our sensory beliefs.
They are particularly effective in impugning beliefs about distant or ill-perceived objects, and perhaps very small ones.
The square building may look round from afar.
But our knowledge of close objects, like our own bodies, resists doubts about illusions.

Our senses sometimes deceive us.
But we have other sensory ways of discovering the truth.

For example, while we might see a mirage, we can also approach it, and discover that it is not real.
Illusion may allow us to doubt some specific properties of physical objects, but that's about all.
If we are to dump all the apples from the cart, we must have stronger doubts.

IV. Dreams

In the fourth and fifth paragraphs of the first Meditation, Descartes develops a stronger argument against the veracity of the senses.
If we are dreaming, all of our beliefs which rely on our senses are called into doubt.
We can dream of things that do not exist, or that things which do exist have different properties than they actually do.
Science fiction books and movies often depend on such premises.
Movies like *Inception* and *The Matrix* rely on similar worries about the reality of experience.

The dream argument elicits three distinct questions.

> A. Is there any way of distinguishing waking from dreaming experience?
> B. What beliefs does the possibility of our dreaming eliminate?
> C. Is there anything of which we can be sure, even if we are dreaming?

Regarding A, there is no obvious mark to distinguish waking from dreaming.
Anything we can do when we are awake, we can dream we are doing.
So, the answer to B will be long and detailed.
We can fantasize entirely novel objects, so we can not be sure that the objects in our dreams exist.
There need not even be any Earth, or any people.
We could be sentient machines, dreaming about people, in the way that we, supposing our ordinary views of the world, can dream of sentient machines.
Machines need designers and constructors, of course, but these need not be people.
We can even doubt that any objects exist, since we could be just disembodied minds.

We might be able to know that some state was a dream.
But we can not be sure that our current state, if it has no obvious dream-like qualities, is a waking state.
If we can not be sure that we are not dreaming, then we can not be sure of anything our senses tell us.

The answer to B leads to a way to approach C.
If we can not be sure that our sense experience is veridical, perhaps there is non-sensory knowledge that resists the dream doubt.
Even if we are dreaming, our beliefs in mathematical claims, like '2+2=4' or 'the tangent to a circle intersects the radius of that circle at right angles' may survive.
Descartes also claims that the universals from which objects are constructed, the properties of objects, remain, as well.
Properties are what he calls simple and universal.
For example, consider color, shape, quantity, place, time.
Even if no object has these properties, the properties remain, insofar as they are in our minds.
Descartes calls these the 'building blocks' of the empirical world.

> "It is from these components, as if from true colors, that all those images of things that are in our thought are fashioned, be they true or false" (AW42).

The idea is not that the objects are made of their properties, in the way that water is made of hydrogen and oxygen.
Rather, many of our ideas are made of particular instances of general images, and those general images can remain impervious to doubt even when we are doubting that they are properties of objects outside of us.

V. The Deceiver

The dream doubt did not eliminate the basic building blocks of our ideas like color, shape, and extension, or mathematics and logic, which deal with our ideas most generally.
Even if I am dreaming, colors exist, bachelors are unmarried, and 2+2=4.
So, we needed a stronger doubt to finish the job of providing reasons to doubt all of our beliefs.

For the third doubt, Descartes wonders about the status of his beliefs if there is a powerful deceiver who can place thoughts directly into our minds.
We need not worry about whether this deceiver is God, or a demigod, or a demon.
Neither need we assert the existence of a deceiver or a God.
All we need is to imagine the possibility of a deceiver, which is easy enough to do.

Compare the deceiver hypothesis to the *Matrix* or to an equivalent brain-in-a-vat hypothesis.
The latter hypothesis is to imagine that we have been kidnaped, our brain removed from our body.
Our bodies discarded, our brains have been hooked to computers which simulate the continuation of our lives.
According to the thought experiment, we don't notice the difference.
According to such examples, our thoughts really happen in brains.
But the brains are being fed misleading information.
There is a physical reality, but it is unlike the one we perceive.

In contrast, the deceiver hypothesis is consistent with the non-existence of the physical world.
We could be disembodied minds, whose thoughts are directly controlled by an independent source.
The certainty which convinces us not to doubt those claims that remain under the dream doubt could itself be implanted by a demon deceiver.
When we apply the deceiver hypothesis to our beliefs, we notice that just about all of them can be called into question.
Nothing, it seems, is certain.
In terms of the metaphor of the house of knowledge, Descartes has razed the house, and now needs to rebuild from new foundations.

VI. Summary

In the first Meditation, Descartes provides three arguments for doubt which call pretty much all of his beliefs into question.

1. Illusion
2. Dream
3. Deceiver

Each of the three doubts corresponds to a set of beliefs eliminable on the basis of that doubt.

Class I: Beliefs about the sensory nature of specific physical objects, or the existence of distant or ill-perceived objects.
Class II: Beliefs about the existence and nature of specific physical objects, and the physical world generally.
Class III: Beliefs about universals, like color, and shape, the building blocks of physical objects; and about space and time.
Beliefs about numbers, and geometrical entities.
Beliefs about logical and semantic truths.

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Class 3 - January 25
Meditations Two and Three

0. Blindsight Video

I. Seeking Firm Foundations

In the first Meditation, Descartes provides three arguments for doubt which call his beliefs into question: 1. Illusion; 2. Dream; 3. Deceiver.

Each of the three doubts corresponds to a set of beliefs eliminable on the basis of that doubt.

> Class I: Beliefs about the sensory nature of specific physical objects, or the existence of distant or ill-perceived objects
> Class II: Beliefs about the existence and nature of specific physical objects, and the physical world generally
> Class III: Beliefs about universals, like color, and shape, the building blocks of physical objects; and about space and time
> Beliefs about arithmetic and geometry
> Beliefs about logical and semantic truths

In order to rebuild his beliefs, Descartes seeks a single starting point.

> Archimedes sought but one firm and immutable point in order to move the entire earth from one place to another. Just so, great things are also to be hoped for if I succeed in finding just one thing, however slight, that is certain and unshaken (AW 43a-b).

II. The Cogito

One belief resists doubt.
Whenever I am thinking, even if I am doubting, I must exist.
We call this claim the cogito, which is Latin for 'I think'.
In a section of the *Discourse* which is not in our collection, Descartes formulates the cogito as, "I think; therefore I am."
This formulation is misleading, and the version in the *Meditations* is more careful.

The problem with the 'I think; therefore I am' formulation is that it makes the claim that one exists look like the conclusion of a deductive argument.

> NC NC1. Whatever thinks, exists.
> NC2. I think.
> NCC. So, I exist.

In deductive arguments, conclusions are established as following from premises according to standard rules of inference.
NC, as a logical deduction, would require previous knowledge of the two premises.

Also, it would require previous knowledge that the conclusion follows from the premises.
Descartes eliminated logical knowledge on the basis of the deceiver doubt.
Thus, the Cogito must not be a logical deduction according to prescribed rules from prior premises.
Descartes calls it a pure intuition.

The cogito is not quite original with Descartes.
St. Augustine presented similar reasoning, in the fifth century CE.
Descartes's use of the cogito is, arguably, original.

The cogito establishes the existence of a thinker, as long as the thinker thinks.

> But what then am I? A thing that thinks. What is that? A thing that doubts, understands, affirms, denies, wills, refuses, imagines, and senses (AW 45a).

III. After the Cogito

Descartes concludes from the cogito that he is a thinking thing.
His thoughts, our thoughts, may not tell us anything true about the world; the doubts about the content of thought remain.
But even if our thoughts are false, even if they misrepresent the world, they still appear to us.
Even if there is no table, we still seem to sense the table.
The doubts lead us to wonder if we are living in a dream-like world.
But that dream world consists of appearances, with certain characteristics.
First, I have direct access to my thoughts in a way that I seem to lack to thoughts of others, if there are any others; my access to my thoughts is privileged.
Second, the doubts infect only my claims about what those thoughts represent.
My beliefs are indefeasible, as long as we take them to be just thoughts.

Note Descartes's distinction between sensing and seeming to sense.
We can not claim to be sensing, if we take sensing to be a relation between ourselves and an external world.
In contrast, ideas can not be false, considered only as images in our minds; that's seeming to sense.
We can get certainty about our beliefs, as they exist inside our minds.
The next step in the *Meditations* consists in examining these thoughts and seeing if they have any character which will help us make any conclusions beyond our thoughts.

Descartes has started to rebuild his knowledge, but he seems to be stuck with not much more than the cogito, and what he can infer about himself from that original piece of knowledge.

> But what then am I? A thing that thinks. What is that? A thing that doubts, understands, affirms, denies, wills, refuses, and that also imagines and senses (AW 45a)

We can distinguish a few mental faculties, in addition to sensing (seeming to sense).
We have an imagination, our capacity for representing or beholding sensory images, whether they represent anything outside of ourselves.
We have a capacity to make judgments, to affirm or deny, or to doubt.
We also have capacities for willing and refusing, and emotions, like happiness.

Beyond discovering or affirming these capacities, we can conclude little else from the cogito.
Blocked by the doubts, Descartes takes another approach.
He considers the physical objects he does not yet know exist, since they are still subject to doubt.
To do so, he relaxes the First-Meditation worries about his doubts, temporarily.

We generally think that our knowledge of physical objects is the result of sense experience.
We see a chipmunk, perhaps represent it to ourselves in imagination, and then we know about the chipmunk.
Descartes claims that this conclusion is an error.
At the end of Meditation Two, he claims that our knowledge of bodies (if there are any) comes from pure thought, rather than sensing and imagining.

> I now know that even bodies are not, properly speaking, perceived by the senses or by the faculty of imagination, but by the intellect alone, and that they are not perceived through their being touched or seen, but only through their being understood (AW 47a).

This odd and provocative claim is the conclusion of the Meditation Two discussion about a ball of wax.

IV. The Nature of Bodies: the Story of the Wax

Consider a ball of wax in two distinct states, 45b.
First, it is cold, hard, yellow, honey-flavored, and flower-scented.
Then, after it is melted, the wax becomes hot and liquid, and loses its color, taste, and odor.
In short, all of its sensory properties have changed.
We have images of the wax, in several incompatible states.
But we do not have an image of what the wax is, independent of these mutable appearances: the essence of the wax, or wax in general.
Such an image would have to represent to us all the possible states of the wax.
Our knowledge of bodies, as they truly are, must therefore be distinct from our sensory images of them.

> I grasp that the wax is capable of innumerable changes of this sort, even though I am incapable of running through these innumerable changes by using my imagination... The perception of the wax is neither a seeing, nor a touching, nor an imagining...even though it previously seemed so; rather it is an inspection on the part of the mind alone (AW 46a).

Here is a formal version of Descartes's argument that knowledge of the world comes from the mind alone.

W
- W1. Knowledge must be firm and lasting.
- W2. What we get from the senses is transient and mutable.
- W3. So our senses do not give us knowledge.
- W4. We do have knowledge about the wax.
- W5. Knowledge which does not come from the senses must come from the mind alone.
- WC. So, our knowledge of physical objects must come from the mind alone.

Descartes might be accused of cheating in W in two ways.
First, he can not conclude anything about our knowledge of physical objects, since we don't even know that physical objects exist.

His conclusion, though, is really conditional: if we have any knowledge of physical objects, then it can not come from the senses.
The second possible cheat concerns whether the wax is the same before and after melting.

> Does the same wax remain? I must confess that it does; no one denies it; no one thinks otherwise (AW 45b).

Descartes here neglects a view on which any change in the properties of an object entails a change in the object itself.
This view is controversial, but it has defenders.
Heraclitus is reported to have said that one can never step in the same river twice.
Since our material constitution is always changing, we are different people at different times.
The wax is different before and after melting.
The Heraclitean view, though, will not get Descartes any "firm and lasting" knowledge.
So, we will put it aside.
It remains for us to distinguish between the real and the apparent properties of objects.
If there are no objects, then all properties will be merely apparent.

According to the new science, the wax is just a body which can take various manifestations, hot or cold, sweet or tasteless, etc., but is identified with none of these particular sensory qualities.

> Perhaps the wax was what I now think it is: namely that the wax itself never really was the sweetness of the honey, nor the fragrance of the flowers, nor the whiteness, nor the shape, nor the sound, but instead was a body that a short time ago manifested itself to me in these ways, and now does so in other ways... Let us focus our attention on this and see what remains after we have removed everything that does not belong to the wax: only that it is something extended, flexible, and mutable (46a).

Bodies are things that can have sensory qualities, but which need not have any particular ones.
The same object may have many different appearances.
Galileo, Newton, and Locke, as we will see, hold closely related versions of this claim.
Berkeley will disagree.

V. Descartes's Metaphysics

Since we have put aside the doubts for a moment, it might be useful here to limn Descartes's metaphysics.
According to Descartes, there are three types of substances:

S1. God (infinite mind);
S2. Persons (finite minds); and
S3. Extended objects (bodies).

Of course, at this point in the *Meditations*, Descartes has not yet concluded the existence of anything except one instance of S2.
But, it will be handy to keep this list in mind.

VI. Strong and Weak Claims About the Role of the Senses in Knowledge

Descartes's claim that knowledge of the world, if there is any, must come from the mind alone seems ambiguous between two positions.

There is a weak claim, that the senses are insufficient for knowledge.
On the weak claim, we use the senses to gather information, and in conjunction with reasoning, which is purely mental, we arrive at knowledge.
The weak claim is fairly uncontroversial.
We seem to have some ability beyond the senses which helps us know about the wax.

Descartes seems to assert a stronger claim, that what we get from the senses can not rise to the level of knowledge.
Knowledge of bodies comes from the intellect (or mind) alone, since senses information is insufficient.
While the weaker claim is more plausible, Descartes's point is that any information we get from the senses does not rise to the level of knowledge.
We can believe that the chair is blue, but we can never know this sensory belief.
Further, we know that the wax can take more forms than we could possibly imagine: more shapes, more sizes.
There might be colors and odors beyond our ability to sense.
Our knowledge that there are other potential shapes and colors goes beyond anything that could come from the senses.

We have two different types of beliefs about the wax.
First, we believe that it has a particular shape, color, and other sense properties.
These first ideas are sensory, but they are not knowledge.
The second type of belief is that the wax can take on innumerably many different forms.
This is not a sensory belief.
And it is knowledge.

VII. The Priority of Mind

The title of the Second Meditation asserts that the mind is known better than the body.
Thus, Descartes's presentation of the *Meditations* follows the epistemic order: we first know minds, then bodies.
Even though we don't know about bodies, at this point in the *Meditations*, we can make some conclusions about our minds.
In fact, we won't get to Descartes's argument that bodies exist until the Sixth Meditation.

Our investigation into the wax led to hypothetical conclusions about bodies: if there are any bodies, this is what they, and our knowledge of them, would be like.
Even on the relaxed supposition that there are bodies, we attain actual knowledge of our minds.

> There is not a single consideration that can aid in my perception of the wax or of any other body that fails to make even more manifest the nature of my mind (AW 47a).

All of the reflections about hypothetical bodies bring us back to our minds, and improve our understanding of them.

VIII. The Criterion for Knowledge

The goal of the *Meditations* is to achieve knowledge through doubt.
As I noted, Descartes's concept of knowledge is strong, including a KK thesis: if we want knowledge, we have to know that we know what we know.
We need some kind of mark, or rule, which enables us to separate true knowledge from mere belief.
We only know one thing, so far: the cogito.
So, we have to look at it, to see if we can find such a mark.

> Surely in this first instance of knowledge, there is nothing but a certain clear and distinct perception of what I affirm. Yet this would hardly be enough to render me certain of the truth of a thing, if it could ever happen that something I perceived so clearly and distinctly were false. And thus I now seem able to posit as a general rule that everything I very clearly and distinctly perceive is true (AW 47).

What could these terms 'clarity' and 'distinctness' mean?
Elsewhere, Descartes writes:

> I call a perception 'clear' when it is present and accessible to the attentive mind - just as we say that we see something clearly when it is present to the eye's gaze and stimulates it with a sufficient degree of strength and accessibility. I call a perception 'distinct' if, as well as being clear, it is so sharply separated from all other perceptions that it contains within itself only what is clear (*Principles of Philosophy* I.45).

Descartes's use of 'perception' is not limited to sense perception.
As the reflections on the wax show, we can not even see clearly and distinctly with our senses at all.
Clear and distinct perceptions come from the mind.
Indeed, it is better to think of the criterion as one of clear and distinct conception.

Later in the Meditations, Descartes refers to the light of nature as a guarantee of truth.
The light of nature is to be distinguished from instinct, or being taught by nature.

> Whatever is shown me by this light of nature, for example, that from the fact that I doubt, it follows that I am, and the like, cannot in any way be doubtful. This is owing to the fact that there can be no other faculty that I can trust as much as this light and which could teach that these things are not true (AW 49a).

Perhaps the specific formulation of the criterion is not important.
What is important is that there be some distinguishing mark.
Without such a mark, all searching for knowledge, on Descartes's terms, is fruitless.

But there is a problem with any formulation.
Given any mark, or rule, for certainty, how do we know that we have the correct mark?
Appeal to the mark itself is circular.
We can not say that we clearly and distinctly perceive that clarity and distinctness is the right criterion without begging the question.
Later, Descartes will argue that the goodness of God will secure the criterion of clear and distinct perception.
But that argument seems to rely on the use of the criterion in the argument for the existence of God.

This problem, called the problem of Cartesian circularity, is one of the more vexing and interesting in Descartes scholarship.

I believe that Descartes did not believe that circular reasoning is always fallacious.
That is one way to ascribe sincerity to the passage about scriptural circularity in the letter of dedication.
See my "Embracing the Cartesian Circle."

Whatever the fate of Descartes's project regarding circularity, the cogito does seem to contain some kind of undoubtable truth.
If we can grasp what it is that makes the cogito unassailable, perhaps we can find such surety elsewhere.

IX. Some Notes on Descartes's Method, Including an Extended Discussion of Euclid's *Elements*

Note: this section of the notes contains quite a bit of discussion that both is ancillary to our central concerns and presupposes that we have read more of the *Meditations* than we have, so far.
It will be useful in our discussion of Spinoza, as well as that of Descartes.

We can compare Descartes's methodology with that of axiomatic sciences, like geometry.
In geometry, and all foundational systems, we start with two elements:

F1. Basic axioms, or undisputable truths; and
F2. Rules of inference which allow us to generate further theorems on the basis of already established ones.

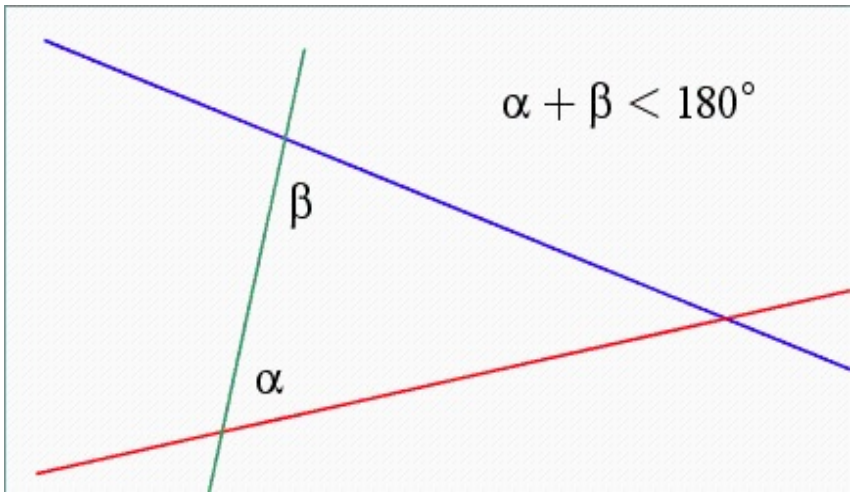
In addition to F1, one might introduce some definitions.
And, one might distinguish the axioms in importance.
But, F1 and F2 are really the core; with just F1 and F2, we have a foundational system.
Descartes gives a synthetic presentation of the content of the *Meditations*, which I have assigned for next week, in the Second Replies.

The synthetic presentation follows the structure of Euclid's *Elements* precisely.
Spinoza's *Ethics* also follows the synthetic, or formal, method I described.

To better understand the structure of such systems, it might be useful to look at Euclid's *Elements.*
I'll discuss that presentation just a bit here, since we won't discuss it in class.
There is an excellent, perspicuous version on line.

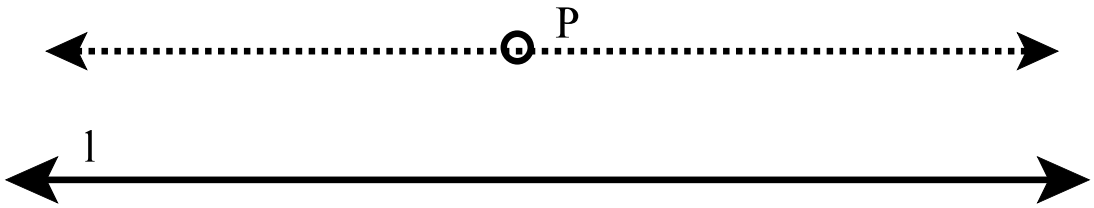
The Elements starts with definitions, adding five geometric postulates and five more general logical axioms, or common notions.
From the postulates and axioms, all the remaining propositions are derived.
The definitions do not assert the truth or existence of any of the objects to which they refer.
For example, Definition 12 says that an acute angle is an angle less than a right angle.
But, it does not claim that there are any acute angles or right angles.
The common notions are not particularly geometric; they are more properly called logical.
To call the common notions into question would be appropriate in a Cartesian project of founding all of our knowledge.
But, since the logical axioms apply so broadly, any questions about them would not be worries about the geometry of the Euclidean project, but about our beliefs more generally.

So, concerns about the foundational project of *The Elements* really focuses, first, on the status of the geometric postulates, and, second, on the derivations of the myriad propositions from the definitions, postulates, and common notions.
Geometers and philosophers have studied both questions for millennia.
In particular, the fifth postulate, the parallel postulate, tuned out to be not quite as secure as the others.
Indeed, Euclid seems to have recognized worries about the parallel postulate, since he does not invoke the fifth postulate freely; he waits until he absolutely requires it.



Euclid's parallel postulate states that if a straight line falling on two straight lines makes the interior angles on the same side less than two right angles, the two straight lines, if produced indefinitely, meet (on the side of the first line on which the angles less than the two right angles lie).

We frequently study the parallel postulate in an equivalent form, known as Playfair's postulate, which says that given a line, and a point not on that line, there exists exactly one line which passes through the given point parallel to the given line.



Both the parallel postulate and Playfair's postulate are equivalent to the claim that the sum of the angles of a triangle is 180 degrees (pi, in radian measure).

But consider an interstellar triangle, formed by the light rays of three stars, whose vertices are the centers of those stars.
The sum of the angles of our interstellar triangle will be less than pi, due to the curvatures of space-time corresponding to the gravitational pull of the stars, and other large objects.
Space-time is not Euclidean, but hyperbolic.
In hyperbolic geometry, instead of there being one line that we can draw parallel to the given line in Playfair's postulate, there are an infinite number of lines.

Hyperbolic geometry is just one of two classes of non-Euclidean geometries.
Riemannian, or spherical, geometry, results when one replaces Playfair's postulate with the claim that

there are no lines parallel to the given line.
Non-Euclidean geometries were developed in detail in the nineteenth century after two millennia of trying to prove the parallel postulate from the other postulates.
Geometers were uncomfortable taking the parallel postulate as a given.
They wanted to derive it from other givens, but found that they could not.

The synthetic version of the *Meditations* is based precisely on Euclid's *Elements*.
Like Euclid, Descartes provides definitions, postulates, common notions, and derived propositions.
The resulting system looks different from the one in the *Meditations*, though the derived propositions are the same.
Descartes starts with a set of definitions:

> thought, idea
> objective reality, formal reality
> substance, mind, body
> God, essence, distinctness

In the definitions of objective and formal reality, Descartes sets up the proofs of God's existence to which we will turn, shortly.
Already in the definitions, though, we can find some worries about Descartes's positive project of reclaiming our knowledge.
If, as in *The Elements*, the definitions do not beg questions of existence, then we can proceed to examine the postulates.
In contrast, if the definitions already assume the existence of anything, then the whole project is suspect.
Some definitions are not at all contentious, and, like Euclid's definitions, avoid raising questions of whether any objects have the properties defined.
For example, consider Definition X:

> Two substances are said to be really distinct from one another when each of them can exist without the other (AW 73a)

Definition IX is worrisome.

> When we say that something is contained in the nature or concept of something, this is the same as saying that it is true of that thing or that it can be affirmed of that thing (AW 73a).

This definition will be central to the ontological argument for God's existence in Meditation V.
We will look at that argument in our next class; see the course website for some further readings on the ontological argument.

It is worth noting that Definitions I and II have proved to be particularly contentious.

> By the word "thought" I include everything that is in us in such a way that we are *immediately aware* of it... By the word "idea" I understand that form of any thought through the immediate perception of which I am *aware* of that very same thought (AW 72a).

The possibility of unconscious thoughts undermines these definitions.
Freud, Adler, and Jung aside, contemporary cognitive scientists are interested in phenomena like blindsight, in which visual processing occurs unconsciously.

Descartes takes seven postulates in the synthetic presentation:

1. Frailty of the senses
2. Security of pure thought
3. Self-evidence of logic, including the logic of causation (but see the Common Notions, as well)
4. Connection between ideas and objects (compare to Definition IX)
5. The idea of God includes necessary existence.
6. Contrast between clear and distinct perception and obscure and confused perception
7. Security of clear and distinct perceptions

He takes ten common notions:

1. We can ask about the cause of any thing.
2. Each instant is independent of every other, so that creation and preservation are indistinct.
3. Nothing can be uncaused.
4. Whatever reality is in a thing is formally or eminently in its first cause.
5. Our ideas require causes which contain formally the reality which exists objectively in the ideas.
6. There are degrees of reality: accidents, finite substances, infinite substance.
7. Our free will aims infallibly toward the good.
8. Whatever can make what is greater can make what is less.
9. It is greater to create (or preserve) a substance than an accident.
10. The ideas of all objects contain existence; only the idea of a perfect object contains necessary existence.

Then, he derives his central propositions:

1. Ontological argument for God's existence
2-3. Causal arguments for God's existence
4. Distinction between mind and body

Notice that the foundation in the Second Replies is quite different from that in the *Meditations*.
In particular, the cogito is almost completely absent from the synthetic presentation.
If we were to sketch the foundation as presented in the *Meditations*, it might look:

Cogito - God - Clarity and Distinctness - Free Will - Mathematics - Mind/Body distinction

The synthetic version hardly mentions mathematics or the cogito, and the order is different.

Remember that Descartes is presenting what he takes to be obvious and incontrovertible definitions and first principles as the foundation of all that will follow.
These first principles are, as Euclid's postulates, supposed to be given to us immediately.
Any worries about presuppositions in the synthetic presentation are probably worth pursuing, and might make a good paper topic.
For now, we will put these aside, and return to our central concerns.

Descartes has given us a starting point for the *Meditations*: the cogito.
And now he has a rule for generating more truths: clear and distinct perception.

X. The Resemblance Hypothesis and False Judgment

Before Descartes uses his new tool he tries to account for the false judgments which led him to write the *Meditations*.
According to the discussion of the wax in Meditation Two, we know about objects through the mind alone.
The only properties we can ascribe to them are extension and mutability.
That is, they are in space and time, and can take more forms than one can imagine.
It seems that the source of at least some of my errors is in believing that sensory experience leads to knowledge.

The central claim underlying beliefs in the veracity of sense experience might be called the resemblance hypothesis.
The resemblance hypothesis says that my ideas of objects are like (resemble) the objects as they are in themselves.
Descartes rejects the resemblance hypothesis.
In order to examine it, he first presents an argument for the hypothesis.

> RH1. I have ideas about objects involuntarily.
> RH2. Involuntary ideas come from outside of me.
> RH3. Objects send me their own likeness.
> RHC. So, my ideas resemble their causes, i.e. physical objects.

When you reject an argument, as Descartes does here, you should determine which premises are false.
Descartes accepts RH1, although he says that those ideas can lead one astray.
Descartes provides arguments against both RH2 and RH3.

Against RH2, Descartes argues that we may have an unnoticed ability to create images.
As with dreams, we may create these ideas without realizing that we are doing so, and mistakenly infer that they arise from external causes.
Or we may have another faculty inside us for making these sensations.
Imagine a race of people much like us, but who, instead of making noises with their vocal cords, merely moved those cords in such a way that others could produce (in themselves) the auditory images (sounds) intended by the so-called speaker.
(You might ask yourself how this odd race differs from humans.)
In such a case, the involuntary idea (the sound) would come from inside me, rather than from outside me.
Still, part of the cause would be external.

The argument against RH3 is more important than the argument against RH2.
Against RH3, Descartes provides the example of the sun.
The senses tell us that the sun is very small.
We reason that the sun is very large.

> Both ideas surely cannot resemble the same sun existing outside me; and reason convinces me that the idea that seems to have emanated from the sun itself from so close is the very one that least resembles the sun (AW 49a-b).

We decide in favor of reasoning, and against sensation.

We have discovered a reason for making errors: reliance on the resemblance hypothesis.
Notice that the arguments against the Resemblance Hypothesis are independent of the three doubts.
The arguments against RH remain even if we ignore the exaggerated doubts.
So, we should look at our ideas, and see if we can delete the ones which depend on the resemblance hypothesis.
Maybe that will leave us in better shape to conquer the doubts.

We now have reasons to keep the rotten apples out of the basket: the three doubts.
We have criteria for putting good apples back into the basket: the criterion for certainty, clear and distinct perception.
And we also have a criterion for recognizing bad apples: reliance on the Resemblance Hypothesis.

XI. Ideas and Judgments

We are now going to return to the central narrative, in the middle of the Third Meditation, within the scope of the First-Meditation doubts.
We have the cogito, and whatever makes the cogito certain, as our basic principles.
We have our ideas, as well, as long as we are careful not to judge errantly on their basis.

Strictly speaking, our ideas, including our images, can not, in themselves, be false.
Only judgments can be true or false.

> Now as far as ideas are concerned, if they are considered alone and in their own right, without being referred to something else, they cannot, properly speaking, be false. For whether it is a she-goat or a chimera that I am imagining, it is no less true that I imagine the one than the other. Moreover, we need not fear that there is falsity in the will itself or in the affects, for although I can choose evil things or even things that are utterly nonexistent, I cannot conclude from this that it is untrue that I do choose these things. Thus there remain only judgments in which I must take care not to be mistaken (AW 48b).

And again, the principle error we have discovered in the judgments depends on reliance on the resemblance hypothesis.
It is natural to take our ideas of objects, and the world in general, as resembling, as being like, the world as it is in itself.
But, the ideas which really tell us about the nature of the world are the ones which are not directly derived from sensory experience, as we saw in the case of the wax.

Descartes distinguishes three classes of ideas, depending on their origins (and independent of whether there are any ideas of each type.)
First, innate ideas are, roughly, *a priori*; they are not instinctive abilities, but pure intuitions are among the innate ideas.
Second, acquired ideas are *a posteriori*, or empirical; they are derived from sense experience.
Lastly, ideas that I create, like those of fantasy and imagination, are also empirical.
Note that only acquired and created ideas are subject to errors from the Resemblance Hypothesis.
The innate ideas, ones which do not rely on the senses, are clean of this infection.
We can see why the light of nature can yield these.
They can be clear and distinct because they are not affected by the Resemblance Hypothesis.

XII. The Conundrum

Descartes seems to be in a bit of confusion in the fourth paragraph of the Third Meditation.
The doubts are very strong.
But the deceiver doubt is somehow unconvincing.
Descartes is torn.

> But what about when I considered something very simple and easy in the areas of arithmetic or geometry, for example that two plus three make five, and the like? Did I not intuit them at least clearly enough so as to affirm them as true? To be sure, I did decide later on that I must doubt these things, but that was only because it occurred to me that some God could perhaps have given me a nature such that I might be deceived even about matters that seemed most evident. But whenever this preconceived opinion about the supreme power of God occurs to me, I cannot help admitting that, were he to wish it, it would be easy for him to cause me to err even in those matters that I think I intuit as clearly as possible with the eyes of the mind. On the other hand, whenever I turn my attention to those very things that I think I perceive with such great clarity, I am so completely persuaded by them that I spontaneously blurt out these words: "let him who can deceive me; so long as I think that I am something, he will never bring it about that I am nothing. Nor will he one day make it true that I never existed, for it is true now that I do exist. Nor will he even bring it about that perhaps two plus three might equal more or less than five, or similar items in which I recognize an obvious contradiction." And certainly, because I have no reason for thinking that there is a God who is a deceiver (and of course I do not yet sufficiently know whether there even is a God), the basis for doubting, depending as it does merely on the above hypothesis, is very tenuous and, so to speak, metaphysical. But in order to remove even this basis for doubt, I should at the first opportunity inquire whether there is a God, and, if there is, whether or not he can be a deceiver. For if I am ignorant of this, it appears I am never capable of being completely certain about anything else (AW 47b-48a).

On the one hand, Descartes wants to move forward with the most obvious claims, on the basis of their similarity (in my surety about them) to the cogito.
On the other hand, the deceiver doubt then places the cogito under suspicion.
Descartes has arrived at a solipsistic barrier.
It seems that to move on, we will have to deal directly with the question of the existence of a deceiver.

The rest of the *Meditations* depends on the goodness of God to secure the rule of clear and distinct perception.
Descartes first argues for the existence of God, on the basis of our ideas, and then for God's goodness.

Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2011 Russell Marcus
Tuesdays, Thursdays: 9am - 10:15am rmarcus1@hamilton.edu

Class 4 - January 27
Meditations Three through Six
Discourse, Part Five

0. Smart Chimps; Painting Elephant

I. The Causal Argument for God's Existence

The Meditation Three argument for the existence of God is, in short, that there is one idea which can not be merely constructed by myself.
The idea of God has properties which make it such that it can not be created by me, alone.
Since I have doubt, I can not be perfect.
I have the idea of perfection.
But, the idea of perfection can not have come from an imperfect source.
That would violate a general principle which prohibits something coming from nothing.
So, the idea of God must come from God.

To look more carefully at the argument, it will help to familiarize yourself with some terms Descartes uses.
The synthetic presentation of the content of the *Meditations* in the Second Replies can be helpful.
The objective reality of an idea is a quality that an idea has in regards to that which it represents.
The idea of God has more objective reality than the idea of a person, which has more objective reality than the idea of a mode (or property) of a person.
There are three kinds of objective reality: of modes, of finite substances, and of infinite substances.

In contrast, formal reality is what we ordinarily think of as existence.
The idea of Easter Bunny has the same kind of objective reality as the idea of myself.
Both ideas are of finite substances.
But, I have formal reality, whereas the Easter Bunny does not.

To prove the existence of God, Descartes relies on a general principle.

> R. There is more reality in the cause of something than in the effect.

From R, we can derive that something can not come from nothing.
R holds for ideas as well as for other objects, like physical ones.
Indeed, at this point in the presentation, R can only hold of ideas since we do not know that there are any other things.
R yields the particular claim that there must be more reality in the idea of God than there is in the idea of a person.
In fact, there is so much reality in the idea of God that we can not have constructed it ourselves.
The idea of God contains the ideas of all perfections.
But, I am imperfect, and could not have devised the notion of such perfections purely from my ideas.

> Although the idea of substance is in me by virtue of the fact that I am a substance, that fact is not sufficient to explain my having the idea of an infinite substance, since I am finite, unless this idea proceeded from some substance which really was infinite... I clearly understand that there is

> more reality in an infinite substance than there is in a finite one. Thus the perception of the infinite is somehow prior in me to the perception of the finite... How would I understand that I doubt and that I desire, that is, that I lack something and that I am not wholly perfect, unless there were some idea in me of a more perfect being, by comparison with which I might recognize my defects (AW 51b)?

Descartes urges that the idea of God is imprinted on him, as a mark of the artist on his work, 53b.
Remember that all of my ideas must be innate, acquired, or created by me.
We have freedom to create ideas any way we wish.
But, the idea of God is not variable; it is the idea of infinite perfection.
So the idea of God can not be created by me.
The idea of God can not be acquired, since we have no sensory experience of God.
So, the idea of God must be innate.

Tlumak (pp 35-6) presents a rigorous version of the causal argument, which I paraphrase here.

T1. Ideas are like images in that they represent things as having certain characteristics.
T2. Some of the objects of my ideas are represented as having more formal reality than others (i.e. some ideas have more objective reality than others).
T3. Whatever exists must have a cause with at least as much formal reality as it has.
T4. Every idea must have a cause with at least as much formal reality as the idea represents its object has having.
T5. I have an idea of God as an actually infinite, eternal, immutable, independent, all-knowing all-powerful substance by whom I (and anything else which may exist) have been created.
T6. I do not have all the perfections which my idea of God represents God as having.
T7. I am not the cause of my idea of God. (From 4, 5, and 6)
T8. The cause of my idea of God is some being other than myself who possesses at least as much formal reality as my idea of God represents. (From 4, 5, and 8)
TC. So, God exists.

I have a couple of small worries about Tlumak's version of the argument.
In his original presentation, Tlumak, following Descartes, distinguishes between efficient, total, first, and principle causes.
Those distinctions are more work than necessary, for our purposes.
I eliminated the different kinds of cause without (I believe) doing harm to the argument.

More substantially, but still without doing harm to the argument, Tlumak says that the general principle T3 is an instantiation of the truth that something can not come from nothing.
In contrast, I think it is a more general principle from which the claim that something can not come from nothing follows.

Tlumak rightly questions the central claim, at T4, that ideas must have causes that are at least as real as the object of that idea.
The claim is that if I have an idea of a rock, there must be a cause of that idea with at least as much reality (i.e. the ability to create) that rock.
The cause of my idea of the rock need not be the immediate source of my idea; I can just look at the rock.
But, it must be the first cause of my idea of the rock.

II. Problems for God

The proof of the existence of God raises some obvious conceptual difficulties.
Among them are:

G1. Evil, which seems to conflict with omni-benevolence.
G2. Error, which seems to conflict with omnipotence.
G3. Free will, which seems to conflict with omniscience.

Another problem with omni-benevolence, which we will discuss when we get to Leibniz, is that it seems to entail that this is the best of all possible worlds.
Such problems, though, are problems with Descartes's conclusion, not with his argument.
We will return to them through the first half of the course.

III. Getting Rid of the Deceiver, and Avoiding Error

We have finished our discussion of the Third Meditation, and are beginning the Fourth.
We have reasons to suspend judgment concerning our beliefs: the three doubts.
We have a criterion for restoring some of our beliefs: clear and distinct perception.
We have a criterion for continuing to doubt others: reliance on the Resemblance Hypothesis.

To proceed, we need to know that the criterion will not lead us astray.
At the beginning of Meditation Four, Descartes argues that the goodness of God secures the criterion.
A perfect God is all good, but the deceiver is not.
So, the argument is pretty simple: the goodness of an all-perfect good will overwhelm any worries about a deceiver, 54b.

GG GG1. Deception is a defect.
GG2. God has no defects.
GG3. So God is no deceiver.
GG4. God created and preserves me.
GGC. So, I am not deceived by God.

Unfortunately, as Descartes notes, this argument appears to be too strong.
If my creator and preserver can not, by her goodness, deceive me, it is a puzzle how I can ever err.
This puzzle is sometimes known as Descartes's problem of error.

PE PE1. God exists and is perfectly good.
PE2. God creates and preserves me.
PE3. My faculty of judgment therefore comes from God.
PEC. So, my judgments never err.

Since I do err, there must be a problem with PE.
Perhaps God is really the deceiver after all!

Since PEC is false, either one of the premises of PE must be false, or the conclusion does not follow from the premises.
Whatever solution Descartes discovers must not contradict the prior claims in GG.

Thus, Descartes is committed to all three premises PE1 - PE3.
His solution is to deny that PE is valid.
That is, he claims that PEC does not follow from the premises of PE.

To explain how we can err, Descartes presents what is know as a two-faculty theory of the mind, 55b-58a
Our minds have faculties both of will and of understanding.
Our power of willing is infinite, but our power of understanding is finite.
We err when we apply our will (and judge) outside our understanding.
The way to avoid error is to avoid judging unless you have a clear and distinct understanding.
If I clearly and distinctly understand that P then I know that P.
Remember, clarity and distinctness, as a criterion, is ensured by the presence of God.
The goodness of God ensures that there is no deceiver, no systematic deception.
I am the source of my error, and if I am careful not to judge hastily, I can be sure to never judge falsely.
Descartes's account of error thus allows small mistakes, but prevents systematic deception or misunderstanding.
I can be wrong about minor particular claims, but not about profound ones, like the existence of a physical world.
Now, we shall begin to reclaim that world.

IV. Applying the Criterion

Let's look back at the three-tiered classification of our beliefs I derived from the First Meditation.

Class I: Beliefs about the sensory nature of specific physical objects, or the existence of distant or ill-perceived objects
Class II: Beliefs about the existence and nature of specific physical objects, and the physical world generally
Class III: Beliefs about universals, like color, and shape, the building blocks of physical objects; and about space and time
Beliefs about arithmetic and geometry
Beliefs about logical and semantic truths

The possibility of a deceiver eliminated our Class III beliefs.
Having eliminated the deceiver, we can reclaim them, or at least the ones we perceive most clearly and distinctly.
Descartes reclaims mathematical truths in Meditation Five, 58b-59a.
These objects are known by proof, and are not sensory.
They are *a priori*, or innate, as Descartes calls them.
Sensory information is still in doubt, since the dream argument lingers, even with the defeat of the deceiver.
The problems of the resemblance hypothesis have not been resolved, but mathematical knowledge is not impugned, even in dreams.

Consequently, Descartes reclaims the mathematical properties of objects (e.g. length, shape, and anything describable using mathematics).
This reclamation leads to Descartes' second argument for the existence of God, the ontological argument, 59b, which derives from a similar argument made by Anselm in the eleventh century CE.

V. Anselm's Ontological Argument

Descartes's ontological argument is very quick, and it might be useful to look at an earlier version of the argument, in the work of Anselm.
There are various consistent characterizations of 'God', to many of which Descartes alludes.

> Whatever necessarily exists
> All perfections, including omniscience, omnipotence, and omnibenevolence
> Creator and preserver

Anselm uses a different characterization: 'something greater than which can not be thought'.
These are definitions of a term, or a word, but not an object.
There is no presupposition in this characterization that such a thing exists.
Or, so it seems.

Anselm's ontological argument for God's existence (see handout)

AO
- AO1. I can think of 'God'
- AO2. If 'God' were just an idea, or term, then I could conceive of something greater than 'God' (i.e. an existing God).
- AO3. But 'God' is that than which nothing greater can be conceived
- AO4. So 'God' can not be just an idea
- AOC. So, God exists.

Anselm further argues that one can not even conceive of God not to exist.
This latter argument is not present in the *Meditations*, and need not concern us.

VI. Descartes's Ontological Argument

Descartes's version of the argument is simpler than Anselm's.
Anselm argued that the object which corresponds to the concept 'something greater than which can not be thought' must exist.
For, if we thought that the object which corresponded to that concept did not exist, then it would not be the object which corresponded to that concept.
There would be something greater, i.e. the object which does exist.
So, we give the name 'God' to that best possible object.

Descartes's version does not depend on our actual conception, or on our ability to conceive.
He merely notes that existence is part of the essence of the concept of 'God'.
This conceptual containment is similar to the way that having angles whose measures add up to 180 degrees is part of the essence of the concept of a triangle.
Or, as Descartes notes, like the concept of a mountain necessarily entails a valley.

The essence of an object is all the properties that necessarily belong to that object.
They are the necessary and sufficient conditions for being that object, or one of that type.
Something that has all these properties is one.
Something that lacks any of these properties is not one.
A chair's essence (approximately) is to be an item of furniture for sitting, with a back, made of durable

material.
The essence of being a bachelor is being an unmarried man.
A human person is essentially a body and a mind.
The essence of God is the three omnis, and existence.

VII. Objections to the Ontological Argument

Descartes's ontological argument starts by noting that the concept 'God' is that of a being with all perfections.
Since it is more perfect to exist than not to exist, the concept must include existence.
And if the concept includes existence, the object to which it corresponds must exist.
You can have the concept of a non-existing object just like God, but which does not exist.
But this would not be the concept 'God', by definition.

Caterus, a Dutch philosopher, noted in correspondence with Descartes that the concept of a necessarily existing lion has existence as part of its essence, but it entails no actual lions.
You can find Caterus's objection and Descartes's reply in the collection of Objections and Replies I have prepared on the website; Caterus was the first objector.
Some of us will look more closely at this objection on Monday.
Caterus is saying that we must distinguish more carefully between concepts and objects.
Even if the concept contains existence, it is still just a concept.

Similarly, Gaunilo, responding to Anselm, wrote that my idea of the most perfect island does not entail that it exists.
In fact, it may entail that it does not exist, since a non-existing island would be free of imperfections.
Still, the airfare would be pretty steep.

Gassendi, in the Fifth Objections, argues that existence is not a perfection.
Existence can not be part of an essence, since it is not a property at all.
If existence is not a property, then the ontological argument is unsound.
Some of us may look at Gassendi's objection in our next class.
Kant, later, pursues Gassendi's suggestion.
We will examine Kant's response at the end of the term.

VIII. Dualism and Monism

While Descartes only discusses the reclamation of mathematical beliefs from what I called Class III beliefs, we can proceed with the understanding that Descartes believes he has secured all such clear and distinct perceptions.
Class I beliefs are mainly not the sort that can be called knowledge, given the problems of the resemblance hypothesis.
It remains for us to reclaim those of Class II that we can.
Specific sense properties of physical objects will never be reclaimed, since they too suffer from the problems of the resemblance hypothesis.
But, by the end of the Fifth Meditation, we still have no argument for, say, the existence of a material world.

Descartes reclaims the material world in two stages.
By the end of the *Meditations*, he has defended a dualist view.
Descartes countenances three types of substances:

S1. God (infinite mind);
S2. Persons (finite minds); and
S3. Extended objects (bodies).

In the first sentence of the Fourth Meditation, he says that our quantity of knowledge of these things comes in this order.
We know a lot about God, some about minds, and very little about bodies.

S1 and S2 are similar in kind; they are both mental substances.
So, we call Descartes a dualist: he believes that there are minds (both finite and infinite) and bodies.
A monist believes that there is only one kind of substance.
Berkeley is a monist who believes that there are only minds.
Hobbes is a monist who believes that there is only matter.
Contemporary science tends toward Hobbesian materialism by identifying the mind with the brain.

IX. Removing Doubts

We reclaimed Class III beliefs only after removing the third doubt.
Descartes does not remove the dream doubt until the very end of Meditation Six.

> The hyperbolic doubts of the last few days ought to be rejected as ludicrous. The goes especially for the chief reason for doubting, which dealt with my failure to distinguish being asleep from being awake. For I now notice that there is a considerable difference between these two; dreams are never joined by the memory with all the other actions of life, as is the case with those actions that occur when one is awake (68b)

This passage is puzzling, especially the claim that the dream argument is the chief reason for doubting.
One might wonder why such a solution was not available in the First Meditation.
Descartes's solution to the problem of error eliminated the possibility of widespread, systematic doubt.
The dream argument concludes widespread, systematic doubt.
Descartes's solution to the problem raised by the dream argument, the demand for a criterion to distinguish waking from dreaming experiences, depends on his newfound surety in the existence and goodness of God.
Without the security of the criterion of clear and distinct perception, Descartes's rejection of the dream argument is implausible.
Similarly, if one rejects Descartes's arguments for the existence and goodness of God, the dream doubt is not so easily eliminable.

The existence and nature of the physical world was brought into doubt by the dream argument.
Descartes now sees a way of judging clearly and distinctly whether we are dreaming.
So, he can reclaim the objects brought into doubt by the dream argument.
Still, we must be careful not to be misled by the (false) resemblance hypothesis.
Descartes reclaims the material world in two stages: an argument that it can exist, and an argument that it does exist.

X. The Material World *Can* Exist

> I now know that [material things] can exist, at least insofar as they are the object of pure mathematics, since I clearly and distinctly perceive them. For no doubt God is capable of bringing about everything that I am capable of perceiving in this way (61).

God is omnipotent.
So, she can create anything that I can perceive.
In fact, she can create anything that does not create a contradiction.
She may not be able to create a round square, or a sphere that's both blue and red all over.
Still, the question remains whether she did in fact create these things.

XI. The Material World *Does* Exist (64b)

MW MW1. I seem to sense objects.
MW2. If I seem to sense objects, while there are none, then God is a deceiver.
MW3. God is no deceiver.
MWC. So, material things exist.

Of course, only the mathematical properties of this material things are known clearly and distinctly.
Their sensory properties are impugned by the resemblance hypothesis.
That is, we never defeat the illusion doubt, in the way that we reject the other two arguments for doubt.
We just do not know what these things are like in themselves, aside from their mathematical properties.
In particular, for Descartes, the essential property of a material thing is its extension.

If the senses are not useful for determining truth, i.e. the nature of the world, Descartes needs to account for the purpose of our sense ideas.
What are they good for?
For Descartes, it seems puzzling that God would give us senses since they are not useful in our quest for knowledge.
He resolves this puzzle by claiming that the senses provide natural protection of our bodies, 65a-b.
This is just the best structure for humans.
Since the body must have a method for transmitting information to the brain, it is bound to be imperfect.
It is better to be deceived once in a while, than not to have any information for the protection of the body.
See 66a and 68a.
The important point is that bodies are perceived by the mind, and only have extension as a real property.
The others are confused representations.

Still, our errors make God seem deceptive, since she could prevent them.
Descartes uses the mind/body distinction to block this accusation.

XII. The Mind/Body Distinction

We have reached the last important topic in the *Meditations*, perhaps the one with the most lasting impact.
Descartes argues that we are, essentially, thinking things, i.e. minds alone.

> From the fact that I know that I exist, and that at the same time I judge that obviously nothing else

> belongs to my nature or essence except that I am a thinking thing, I rightly conclude that my essence consists entirely in my being a thinking thing (AW 64a).

In other words, the mind is distinct from the body.

Descartes provides two arguments, though most attention gets paid to the first.

MB MB1. I have a clear and distinct understanding of my mind, independent of my body.
MB2. I have a clear and distinct understanding of my body, independent of my mind.
MB3. Whatever I can clearly and distinctly conceive of as separate, can be separated by God, and so are really distinct.
MBC. So, my mind is distinct from my body

MB3 is especially contentious.
The ability of an omnipotent God to separate two objects may not be relevant to the nature and relations of those objects.
Even if there were a God who could separate my mind from my body, perhaps my mind is, in fact, just a part of, or an aspect of, my body.

We could weaken the third premise to remove reference to God.

MB3*. Whatever I can clearly and distinctly conceive of as separate are really distinct.

Substance dualism may not follow from MB3*.
Some philosophers believe that MB3* supports a weaker conceptual dualism.
Conceptual dualism just says that we have distinct concepts for the mind and the body.
It is, essentially, a semantic thesis, and not a metaphysical one.
In contrast to substance dualism, conceptual dualism is not very controversial.
We might express the original MB3 as saying that conceptual dualism entails substance dualism.

MB1 and MB2 rely on characterizations of the mind and body.
Descartes characterizes the mind as that which thinks.
In the *Principles*, he says that every substance has one essential characteristic.

> To each substance there belongs one principal attribute; in the case of mind, this is thought, and in the case of body it is extension. A substance may indeed be known through any attribute at all; but each substance has one principal property which constitutes its nature and essence, and to which all its other properties are referred. Thus extension in length, breadth and depth constitutes the nature of corporeal substance; and thought constitutes the nature of thinking substance. Everything else which can be attributed to body presupposes extension, and is merely a mode of an extended thing; and similarly, whatever we find in the mind is simply one of the various modes of thinking (*Principles of Philosophy* 53).

The core characteristic of thought, for Descartes, is consciousness.
Bodies, on the other hand, are mere machines.
In fact, our bodies are no different in kind from those of other complex animals.
We have similar sense organs, and brain structures, for example.
Cartesians were convinced of the absence of animal souls, and some were notorious vivisectionists.
Descartes's writings on animal souls are in themselves ambiguous.

The most obvious distinction between humans and animals is our ability to reason, our mental qualities.
In the *Discourse*, Descartes further characterizes the distinction between bodies/machines and minds on the basis of language use and behavioral plasticity, 33a.
No machine, he says, including an animal, can use language, or solve a wide range of problems.
Descartes's observations remain salient, today, and are central in debates over artificial intelligence.
Machines have made great strides in language use, but plasticity remains a problem.
While some machines can be trained to do a particular task even better than humans, no machine has the ability to adapt, change, and apply its intelligence to a variety of tasks.

If the mind is essentially thinking, and the body is essentially extended, the mind and the body are clearly distinct things.
Descartes claims that we may confuse the nature of mind and body because of the union of our minds with our bodies.
For example, consider our faculty of imagination, the mind's ability to receive images from the senses.
It seems that we first receive images, and then reason about them, 63a.
Descartes argues that this Aristotelian picture is misleading.
We can even exist, and think, without imagination, p 64a.

Descartes has separated thought from sensation, perhaps his most remarkable achievement.
On Cartesian dualism, the senses have been demoted from their lofty position as the origin of all knowledge.
The senses merely provide natural protection of our bodies.

XIII. Arnauld's Objection

Consider the following objection, in the spirit of Arnauld's worries, to Descartes's argument.
If Descartes's argument is valid, then this argument is valid:

AO
- AO1. I have a clear and distinct understanding of Clark Kent, as someone who can not fly.
- AO2. I have a clear and distinct understanding of Superman, as someone who can fly.
- AO3. Whatever I can clearly and distinctly conceive of as separate, can be separated by God, and so are really distinct.
- AOC. So, Clark Kent is not Superman.

AOC is clearly false.
But, the form of AO is the same as the form of MB.
Descartes should respond by finding a difference between the two arguments such that AO is unsound while MB remains sound.
Descartes could insist that we do not have a clear and distinct understanding of Clark Kent, for example.
Instead, our knowledge of him is inadequate.
Denigrating our knowledge of Clark Kent solves the problem with the Superman argument.
But, that solution might rebound on the first premise of Descartes's original argument.
We have to wonder whether our knowledge of the body is also inadequate.
Perhaps, if our knowledge of the mind were adequate, then we would understand that the mind is the body, and not distinct from it.
Hobbes, for example, urges this view.
We will return to some of these topics next week, and throughout the course.

XIV. Descartes's Second Argument for the Mind/Body Distinction

Descartes's second argument for the mind/body distinction is based on the divisibility of bodies, 67a.

DB DB1. Whatever two things have different properties are different objects.
DB2. The mind is indivisible.
DB3. The body is divisible.
DBC. So, the mind is not the body.

In response to DB, we might again just not have noticed that the mind is in fact divisible.
There are other attributes of the mind and soul, which Descartes discusses elsewhere.
Descartes mentions that these other attributes contribute to the argument for the distinction between the mind and the body.
The most important attribute is Descartes's argument that knowledge of God is innate, impressed on the soul of human beings like the mark of a painter on his work.
Also, Descartes discusses the distinction between willing and understanding, which helps account for the problem of error.
The way in which discussions of these attributes contributes to the main argument is that they serve as support for the claim that we have a complete understanding of the mind, without any material attributes.

XV. Descartes, Plato, and the Relation Between the Mind and the Body

Plato argued that the world of sensation, or becoming, is not the real world.
The real world is the world of being, the world of the forms.

In the Fourth Objections, Arnauld claims that Descartes has returned to Plato's view, but Descartes denies it, in response.
For Descartes, we are primarily our minds.
But our bodies are part of us, as well.
Descartes steers a narrow path between the old Platonic view that our bodies are completely inessential and a materialist view on which we are just our bodies.
For Plato, the body is at best merely a vessel for the soul.
For Descartes, we are tied to our bodies in a remarkable way, unlike a sailor and ship, 65a.
We do not merely observe injury to the body, but have a special relationship to it.
Philosophers call this relationship privileged access.

XVI. Immortality

Lastly, notice that Descartes does not even broach the subject of the immortality of the soul in the *Meditations*.
He does discuss it very briefly at the very end of the *Discourse.*

> When one knows how different [the mind and the body] are, one understands much better the arguments which prove that our soul is of a nature entirely independent of the body, and consequently that it is not subject to die with it. Then, since we do not see any other causes at all for its destruction, we are naturally led to judge from this that it is immortal (34).

I leave the evaluation of this argument to you.

XVII. Topics for Review

1. Three doubts:
    - Illusion
    - Dream
    - Deceiver
2. Skepticism
3. Three classes of beliefs
4. Rationalism and empiricism
5. *A priori* and *a posteriori* knowledge
6. The cogito
7. Clarity and distinctness as criteria for knowledge
8. Resemblance hypothesis
9. Three sources of ideas (innate, acquired, produced by me) and their characteristics.
10. The problem of error and Descartes's account of error
11. Descartes's metaphysics: infinite mind, finite minds, bodies
12. Necessary truths (e.g. those of mathematics) and how we know them
13. The ontological argument for God's existence
14. The role of our senses
15. The possibility and existence of physical objects
16. The mind/body thesis

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Class 5 - February 1
Objections and Replies

I. Historical Background

The first edition of Descartes's *Meditations on First Philosophy* was published in Paris in 1641. Descartes was concerned that his work be shown defensible in the face of thorough criticism, and that he deflect attacks. "I would have liked to have the approbation of a number of people so as to prevent the cavils of ignorant contradiction-mongers" (Letter to Mersenne, 30 September 1640, AT III.184.) To this end, he included not just the six brief Meditations and introductory notes, but also a much longer collection of six sets of objections from theologians, scholars, and friends, as well as Descartes's replies to these objections. The objectors were:

1. Johan de Kater (Caterus), a Catholic Dutch theologian;
2. Various theologians and philosophers in a circle centered around the friar and mathematician Marin Mersenne. The second set of objections was collected and presented by Mersenne, who handled the remaining circulation of the manuscript.
3. Thomas Hobbes, in his 50s, exiled and living in France, still ten years before the publication of *Leviathan,* and a year before *De Cive*;
4. Antoine Arnauld, philosopher and Jansenist theologian, a co-author of *The Port-Royal Grammar*, whose comments Descartes said he preferred ("I consider them the best of all" (Descartes, letter to Mersenne, 4 March 1641, AT III.331));
5. Pierre Gassendi, French atomist philosopher; and
6. Various theologians and philosophers whose comments were again collected by Mersenne.

The second edition of the *Meditations*, published a year later in Amsterdam, included an additional, harsh seventh set of objections from Pierre Bourdin, a Jesuit priest, along with Descartes's replies.

Descartes had good reason for concern about the acceptability of his work. Galileo's condemnation by the Inquisition in June 1633 created a dangerous climate for Descartes, who was just entering his most productive philosophical period. Descartes immediately scrapped his plans to publish *Le Monde*, which presented a heliocentric system, as well as the foundations of physics and human physiology. In 1637, when Descartes resolved to publish essays on optics, geometry, and meteorology (though omitting the most controversial topics), he did so anonymously. The introductory essay, now known as the *Discourse on Method*, nonetheless provoked severe criticism. Descartes prepared for publication his consequent correspondence with Jean-Baptiste Morin, a professor at the Collège de France who later contributed indispensably to the second set of objections. Morin and Descartes, though, abandoned their plan when it became clear that their differences on many details could not be resolved.

The *Objections and Replies* to Descartes's *Meditations* are no mere auxiliary commentary to a more important, central work. Indeed, they are essential to the *Meditations* themselves. "[I]t would be illegitimate to read the *Meditations* in abstraction from the *Objections and Replies* with which they intentionally form an organic whole..." (Marion 1995: 20).

Descartes's oeuvre is not the product of a solitary meditator, working alone. His exchanges with colleagues are edifying. The *Objections and Replies* were passed among the objectors sequentially, so themes can be traced through these exchanges. Caterus, Arnauld, Gassendi, and Mersenne all criticize the

arguments for the existence of God. Mersenne, Hobbes, and Gassendi work on the criteria of clear and distinct ideas and the problem of Cartesian circularity. All of the objectors comment on the mind/body distinction. Descartes and his objectors repeatedly pursue and elaborate arguments first raised earlier in the *Objections and Replies*. For example, after Gassendi uses the example of a straight stick appearing bent in water to raise a worry about Descartes's account of error (AT VII.333), Mersenne returns to the example to argue that the senses, rather than reason, correct the error (AT VII.418).

II. The Lesson

1. Group Assignments

2. Each group is assigned a topic.
There are fifteen topics:

I. The Illusion and Dream Arguments
II. The Cogito
III. The Idea of God
IV. The Causal Argument for God's Existence
V. The Ontological Argument
VI. The Nature of Knowledge and the Criteria for Certainty
VII. The Nature of Reason and the Classification Our Ideas
VIII. Innate Ideas and Necessary Truths
IX. The Account of Error and Free Will
X. The Nature of the External World
XI. Arguments for the Mind-Body Distinction
XII. The Nature of the Self, and the Faculties of the Mind
XIII. The Immortality of the Soul
XIV. Differences between Humans and Animals
XV. Method

3. There are three or four roles in each:

1. Objector;
2. Descartes; and
3. Facilitator/Scribe (which can be separated).

The Objector reads the objection aloud to the group.
Descartes reads Descartes's reply.
All the students in the group discuss the merits of the objection and reply.
During adjudication, the Objector and Descartes lobby the Facilitator and defend their positions.
All members of the group should seek agreement on a result.
Not all adjudications result in a clear victor.
To help adjudicate, you must both play your roles, and step out of them.

The Facilitator/scribe adjudicates and takes notes, writing down questions for further research.
All members of each group should be prepared to present at least one of their three adjudications to the whole class at the end of the group work.

Once the first objection is adjudicated, switch roles for the second and third adjudications.
Continue until all the conversations are adjudicated.

After each group has adjudicated each objection and reply, groups dissolve and the class comes together for discussion.
Individual students may present one of their results, including summaries of an objection and reply and the group's adjudication.

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Reading Guide #2
Thomas Hobbes, from *Leviathan*
Baruch (Benedict) Spinoza, from *Ethics*

These questions are provided to assist you in your reading. I encourage you first to read the material through, then go back to answer the questions. You are not expected to hand in written answers. You are expected to have responses ready for class discussion. Page numbers refer to the Ariew and Watkins collection.

Hobbes, from *Leviathan* (AW 114-136)

1. How do thoughts originate? Be specific.
2. What is the relationship between inertia and memory?
3. What distinguishes people from other animals?
4. Explain the analogy of the sequence of thought to water on a table.
5. Distinguish regulated from unguided trains of thought.
6. What do we mean by 'infinite'?
7. What are the purposes and uses of language, especially number terms? Distinguish universals from proper names.
8. What are truth and falsity?
9. What are the four kinds of positive names? How are negative names different?
10. Why are terms like 'wisdom', 'fear', 'cruelty' and 'justice' useless, or even dangerous, in philosophy?
11. What is reason?
12. Distinguish error from absurdity. How is talk of immaterial substance and free will absurd?
13. What's wrong with saying that color is in a body (as in 'the apple is red')?
14. Describe other errors made by philosophers by not attending to the meanings of terms.
15. What, specifically, is science?
16. What are bodies? What are accidents of bodies?
17. To what does 'spirit' or 'soul' refer?
18. What is the goal of philosophy?
19. How do we avoid errors in reasoning?
20. What are separated essences? Why does Hobbes call them a false doctrine?
21. How may some kinds of metaphysics and physics be vain philosophy?

Spinoza, from *Ethics*, Part I (AW 144-164)

22. Distinguish substances, modes, and attributes.
23. How does Spinoza argue that every substance is infinite?
24. How does Spinoza argue that there can be only one substance of any particular nature?
25. Why does our conceiving of two attributes as distinct not entail that they are different entities or substances?
26. Compare Spinoza's arguments for the necessary existence of God with those of Descartes.
27. Explain Spinoza's claim that corporeal substance is indivisible.
28. Characterize Spinoza's conception of God. How is it different from ordinary conceptions?
29. Describe the two arguments Spinoza considers that corporeal substance does not pertain to God (Proposition 15). How does Spinoza respond?
30. What are the two ways to conceive quantity? How does this distinction help account for the temptation to think that corporeal substance is divisible?
31. How must God's will and intellect differ from those of humans?

32. "Particular things are nothing but affections of the attributes of God, that is, modes wherein the attributes of God find expression in a definite and determinate way" (Proposition 25). Explain.
33. Why must finite things have finite causes? How does Spinoza rectify this claim with the absolute/infinite nature of God?
34. How does Spinoza conclude that nothing in nature is contingent? Consider his characterizations of 'contingent', 'necessary', and 'impossible' in Proposition 33.
35. What does Spinoza take to be the major source of opposition to his views?
36. How is the will of God the sanctuary of ignorance?

Spinoza, from *Ethics*, Part II (AW 164-187)

37. What is a body? Distinguish bodies from individual things.
38. How are actions of God different from human actions?
39. Explain Proposition 7: The order and connection of ideas is the same as the order and connection of things. Does Descartes agree?
40. Are humans substances? What are we?
41. What is human perception? Explain.
42. What are the objects of the human mind (i.e. what are our thoughts about)?
43. What is memory? How does it work?
44. How do we know about bodies?
45. How may human knowledge be inadequate?
46. How may God's knowledge be inadequate? When is it adequate?
47. What is falsity?
48. Why do people think they are free? Are they?
49. Why do people differ in their beliefs about universal ideas?
50. What are the three kinds of knowledge? How do they differ?
51. How does Spinoza account for falsity? Why is such an account both difficult and important, for him?
52. How are will and intellect the same thing? Distinguish Spinoza's solution to the problem of error from Descartes's solution.

Spinoza, from *Ethics*, Part V (AW 188-195)

53. In what way are we eternal?
54. How is the third kind of knowledge the best?
55. Distinguish passive and active states of the mind. How does this distinction help explain human freedom?
56. How are freedom and intellect related?

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Class 6 - February 3
Hobbes, from *Leviathan*

0. Attention Blindness; more attention blindness; change blindness; more change blindness

I. Monism and the Problem of Interaction

The second section of our syllabus consists of readings from the master works of two monists: Thomas Hobbes and Baruch (Benedict) Spinoza.
Monism is motivated largely by the problem of interaction in the theory of mind.
The problem of interaction is to describe how our bodies and minds could interact, if they are indeed, as Descartes argues, two independent substances.
Our bodies affect our minds; our minds affect our bodies.
If they are independent substances, it is hard to see how they could do so.
Gilbert Ryle, defending behaviorism about the mind in the twentieth century, accused Descartes of having to rely on "theoretical shuttlecocks" to transfer information from one domain to the other.
Or, to put the problem in a Hamilton-appropriate way: Why does the mind get drunk when the body does the drinking?
To some people, the problem of interaction for a substance dualist like Descartes appears intractable.

In order to focus the question, Descartes posited that interactions between the mind and body take place in one particular place in the human body, the seat of the soul.
Descartes located the seat of the soul in the pineal gland.
Here is a copy of a letter Descartes wrote about the pineal gland.
Descartes's view that the pineal gland is the location where the soul interacts with the body does not solve the problem of interaction.
It merely locates the problem.
We could understand, for example, how a computer chip placed in or near our brain might control us, if, say, we were being externally directed by our alien masters.
In such a case, the interaction between the controlling chip and our bodies would be purely physical.
If the controller were not any kind of physical object, it is difficult to see how it could have any effects on physical objects.

One way to solve the problem of interaction is to deny the dualist's claim that the mind and body are distinct substances.
There are two obvious monist options.
The materialist claims that the mind is really just the body.
Hobbes is a materialist monist.

> The world (I mean not the earth only, that denominates the lovers of it *worldly men*, but the *universe*, that is, the whole mass of all things that are) is corporeal, that is to say, body, and has the dimensions of magnitude, namely, length, breadth, and depth. Also every part of body is likewise body, and has the like dimensions, and consequently every part of the universe is body; and that which is not body is no part of the universe. And because the universe is all, that which is no part of it is nothing, and consequently nowhere (*Leviathan* §I.46, AW 133b).

In contrast, an idealist claims that there are no bodies; there are only minds.
Berkeley is an idealist monist.
Leibniz is also an idealist, though he writes as if there is a material world.

We will not be able to engage Leibniz's monism.

Spinoza is a weirdo monist.
For Spinoza, there is only one substance, which he calls God.
You might prefer to think of that one substance as nature, or Nature.
Spinoza's one substance, God, has many attributes, both mental and physical (and others!).
So, there is just one kind of thing (monism), but it has many aspects, or properties.
In other words, whereas most philosophers take minds and bodies to be substances, Spinoza takes them to be properties of a single substance called God, or Nature.

Thinking about Hobbes and Spinoza as being motivated by the problem of interaction is not a bad way to start reading them.
But, candidly, I am not convinced that the problem of interaction is as intractable as people take it to be.
The problem of interaction seems to require magic, which appears to debar a solution.
But positing a non-corporeal soul already commits you to a kind of magic.
Once you are committed to magic, the problem of interaction just requires more of the same.
The problem seems to be with the dualism, not with explaining the interaction between the body and mind.
Either way, it would be useful to find a non-dualist alternative to Descartes's metaphysics, which is why we turn to Hobbes (today) and Spinoza (next week).

II. Materialism and Conscious Experience

While it is tempting to depict the materialist as claiming that there are no minds, such a picture can be misleading.
The materialist's claim is really that what we normally think of as a mind can be explained on the basis of matter: the mind is the brain.
Still, Hobbes's claim is definitely a rejection of Descartes's substance dualism.
(Hobbes wrote the hostile, and not very good, third set of objections to Descartes's *Meditations*.)

The challenge for any materialist is to account for mental phenomena, especially mental causation.
While my conscious states may not be thought of as real qualities of external objects, they are real qualities of my conscious mind.
Further, they seem to have some effect on my actions.
If I am in pain, I will act in ways that I will not act if I am not in pain.
But mental states, like pain, seem to resist physical explanation; it is private and privileged.
The problem of mental causation is to explain how thoughts can have causal powers.

Hobbes's solution to the problem of mental causation consists in his insistence that mental phenomena are motions in the nerves and brain, which are paradigmatic physical phenomena.
He holds fast to the core idea of the new, Galilean science, that all that exists are particles in motion.
According to Galileo, interactions of particles are limited to transfer of momentum.
Nothing could be given to us by external objects, except their motions.

> The cause of sense is the external body, or object, which presses the organ proper to each sense, either immediately, as in taste and touch, or mediately, as in seeing, hearing, and smelling; this pressure, by the mediation of nerves and other strings and membranes of the body, continues inwards to the brain and heart, causes there a resistance, or counterpressure, or endeavor of the heart, to deliver itself; this endeavor, because *outward*, seems to be some matter without. And this *seeming*, or, *fancy*, is that which men call *sense*... All...qualities called *sensible* are in the object that causes them but so many several motions of the matter, by which it presses our organs diversely. Neither in us that are pressed are they anything else but diverse motions (**for motion produces nothing but motion**) (*Leviathan* §I.1, AW 116; bold emphasis added).

It is a fundamental principle of the new science that objects as we experience them may be very different from how they are in themselves.

Aristotle had taken sensory qualities to be properties of external objects.
The redness and sweetness of an apple are real properties of the apple itself.
Our senses are attuned to the external environment.
For example, color vision occurs when a person's eyes are changed to be like the color of an external object.
I see the apple as red because my eye itself is able to change to red.
The eye's changing to match the environment is perception.
Similarly, in thinking, we are changed to match the forms of other objects in the world.
On this Aristotelian view, our ideas resemble their causes, and objects really have the properties that we perceive them to have.

Descartes, rejecting the resemblance hypothesis, argued that the wax is just a body which can take various manifestations, hot or cold, sweet or tasteless, etc., but is identified with none of these particular sensory qualities.
Elsewhere, Descartes says that sound is, "Nothing but a certain vibration of the air which strikes our ears" (*Le Monde*, AT XI.6).
That is, physical objects are essentially extended things, made of parts which may or may not be in motion, both together and relative to each other.
Depending on how its parts, the atoms, unite and move, an object affects us in different ways.
Their arrangement, along with our sensory apparatus, determines how we experience an object.
The same object may have many different appearances.
The arrangement of particles in a lemon makes the light reflect from its surface so that I have a yellow experience.
Another person, or an alien with a radically different sense apparatus, would have different visual sensations of the same object.
My conscious experience is unlike the lemon in itself.
If my experience of sound really resembled the sound, then I would hear motion, not music.
Hobbes embraces this fundamental principle, which becomes known as the veil of perception, ascribing a profound error to those, like Aristotle, who hold a resemblance hypothesis.

> The third [cause of absurd assertions] I ascribe to the giving of the names of the *accidents* of *bodies without us* to the *accidents* of our *own bodies*; as they do who say the *color is in the body; the sound is in the air, etc*. (*Leviathan* §I.5, AW 127b)

Descartes believed that physical objects have extension as their essence.
Extension is mathematically describable, as is motion.
The mathematical nature of both extension and motion were essential to the Galilean view of the world.

> Philosophy is written in this grand book, the universe, which stands continually open to our gaze. But the book cannot be understood unless one first learns to comprehend the language and read the letters in which it is composed. It is written in the language of mathematics, and its characters are triangles, circles, and other geometric figures without which it is humanly impossible to understand a single word of it; without these, one wanders about in a dark labyrinth (Galileo, *The Assayer*).

Similarly, Descartes writes that the only principles he needs are mathematical.

> The only principles which I accept, or require, in physics are those of geometry and pure mathematics; these principles explain all natural phenomena, and enable us to provide quite certain demonstrations regarding them (*Principles of Philosophy* II.64).

Thus, extension and motion are real properties of physical objects; sense properties are unreal.

'Nominalism' refers to the claim that some words are merely names and do not denote real objects or properties.
We are all nominalists about fictional objects, like the Tooth Fairy.
Some people are nominalists about numbers.
Galileo, Descartes, and Hobbes are all nominalists about sense properties, what Descartes calls the content of our imagination, and what Hobbes calls fancies.

The distinction between the real properties of a physical object and how the object appears through our senses is sometimes called the primary/secondary distinction.
Locke argues for a primary/secondary distinction, as we will see later in the term.
Berkeley rejects the primary/secondary distinction, as we will also see later.
Descartes's discussion of the wax is an argument for the primary/secondary distinction.
Galileo argues for the distinction on analogy with a feather which might tickle us.

> When touched upon the soles of the feet, for example, of under the knee or armpit, it feels in addition to the common sensation of touch a sensation on which we have imposed a special name, 'tickling'. this sensation belongs to us and not to the hand. Anyone would make a serious error if he said that the hand, in addition to the properties of moving and touching, possessed another faculty of tickling, as if tickling were a phenomenon that resided in the hand that tickled (Galileo, *The Assayer*, 275).

No one thinks that the tickle is in the feather.
Similarly, we should not think that the color, or odor, or taste, or heat, is in the object which we perceive as colored, odored, tasty, or hot.
All of these properties are just the result of contact between our sense apparatus and a real object with primary qualities.
They are not, as Aristotle would have, the result of our senses being changed to match the object.
Physical objects are just particles in motion, and they communicate this motion to us.
Just as we don't think that the pain or tickle is in the knife or feather, we should not think that redness or sweetness is in the apple.

Descartes argues, in *Le Monde*, from analogy with words.
A word, like 'Rene', can make us think of something that is nothing like a word, like Rene.
Similarly, sensations, like my conscious experience of red, can make me think of something, like an apple.
But, there is no need to think that the apple resembles my conscious experience of red.
There is something in the apple that makes me see it as red.
We might call this a dispositional property.
A dispositional property is nothing more than a particular arrangements of particles.
There is nothing in the apple that resembles my sensation of red.
Consider the stars and candle of the Sixth Meditation; we should not confuse the appearance of size with the scientist's evaluation of extension.

Hobbes agrees that sensible properties are the results of interactions between our bodies and other bodies.
They are not, as Aristotle had alleged, real properties of external objects.
Hobbes, Galileo, and Descartes believe that physical objects are just particles in motion, and they can communicate this motion to us.
Hobbes's metaphysics, then, is essentially Galilean: the world consists of particles, or atoms, in motion.

Before moving on, I will just mention that contemporary theories of perception are consistent with this claim that the impingement of our retinas by light causes us to see.
But, for both the moderns and the contemporary neuroscientist, we lack an explanation of the connection between my conscious experience and its cause.
Why is it that such and such motions in the air cause me to hear a symphony?
Why is it that certain wavelengths of light cause me to see blue?
These are questions to which we still lack satisfying answers.

III. Hobbes against Descartes

Given the Galilean view of the world, to account for our conscious experience, like yellowness or pain or the pleasing strains of a Bach concerto, Descartes posits a non-physical mind.
For Descartes, the material world is fully Galilean.
Conscious experience occurs out of the world, in the soul.
Descartes thus gets to have the Galilean view of the world while not giving up the reality of our sense experience.
The cost, of course, is substance dualism and the problem of interaction.

Hobbes, in contrast, denies that we must posit a non-physical substance to account for conscious experience.
Our conscious experience just is the motion of particles.
Hobbes's claim sounds almost impossible to take seriously: how could the sound of the concerto just be the motion of air, or the vibration of the tympanic membrane?
What could be more different than motion of air and sound?

For occurrent sensory states, we might favor Hobbes's materialism over Descartes's dualism on Ockhamist grounds.
Hobbes only posits one kind of thing, whereas Descartes posits two.
William of Okham (1287-1347) encouraged philosophers not to multiply entities beyond necessity.
Hobbes's account of my occurrent sensory states seems preferable just for being less profligate.

When we consider memory and fantasy, Hobbes's account of mental phenomena is less compelling.

Hobbes must account for mental states which are not obviously caused by transfers of momentum from objects to our senses, as when we are thinking about something that happened yesterday, or ten years ago.
Besides our faculties of memory and fantasy, Hobbes also needs to account for our ability to deduce new ideas by reasoning.
We can derive new theorems in mathematics, infer laws of physics, and, more simply, make common deductions about the world around us.
The challenge for Hobbes's materialism is to provide an account of human reasoning which does not rely on an independent, thinking substance.

Hobbes responds to the challenge by relying on the Galilean/Newtonian concept of inertia.
Once our ideas are set in motion by sensation, once they enter our imagination, they remain in motion.
The physical effects of our sense experience, fancies, continue in our brains, slowing down only when impeded by other fancies.
We associate ideas as we experienced them, remembering a sequence as we first sensed it.
Memory, which is just imagination in time, fades as we accrue more experiences.
Occurrent sensory images drown out the former ideas, as the sun obscures the distant stars.
So, Hobbes accounts for memory on the basis of the remaining inert, yet obscured, motions of particles in the body.

> All fancies are motions within us, relics of those made in the sense, and those motions that immediately succeeded one another in the sense, continue also together after sense, inasmuch as the former coming again to take place and be predominant, the latter follows, by coherence of the matter moved, in such manner as water upon a plain table is drawn which way any one part of it is guided by the finger (*Leviathan* §I.3, AW 119b).

To account for ideas of fantasy, Hobbes says that we can recombine parts of different memories (as of a horse and a bird), to create new images (as of a flying horse).
The passive succession of thoughts is controlled by our external experience.
Our active control of thoughts, as we seek causes and effects, is guided by our will.

Notice that Hobbes provides a scientifically testable theory, a research program.
Consider:

> The longer the time is, after the sight or sense of any object, the weaker is the imagination (*Leviathan* §I.2, AW 117b).

We could test this claim, in a way that much of Descartes's work appears untestable.

Against Hobbes, while it is true that our memories fade, it does not seem that they do so in proportion to time, alone.
My memory of a minor event yesterday is no more faint than my memory of an important event which occurred years ago.
Still, no one really understands how memory works.

Another problem for Hobbes's scientific account involves the effect of our interests in our perception.
We do not see just a visual manifold.
Rather, we pick out items based on our desires and preconceptions.
Consider the phenomenon of attention blindness.

Even if we accept Hobbes's accounts of memory and fantasy, it is hard to see how those accounts could lead to a full Cartesian account of reasoning.

Perhaps Descartes overemphasized the clarity of reasoning.
Still, Hobbes only gives us an account by which images which were together when originally sensed remain together in memory.

Hobbes is wrong about many of his empirical claims.
The metaphor of water on a table is evocative, but not very convincing.
Hobbes is working with a naive psychology.
But his work is important because it is a precedent for precisely the kind of theory that scientists want.
Hobbes provides a step toward a fully materialist theory of mental causation.

IV. Hobbes's Empiricism

We have been looking at Hobbes's metaphysics, and his philosophy of mind.
But, we started with an epistemological problem, the problem of interaction.
Hobbes's work is not merely motivated by the desire to avoid substance dualism.
He believes that much of the medieval, scholastic philosophy, as well as Descartes's work, was nonsensical.

For Descartes, ideas of the self, God, and mathematics are innate, built into our minds.
Laws of physics, depending on mathematics, are also innate, the result of pure, intellectual judgment.
Descartes and Hobbes both defended the new science and its method of experimentation.
The new science posits a world of material objects, which we think of through use of the imagination.
For Descartes, though, these images are confused; the only real properties are those we can understand by pure reason, through innate ideas.
Hobbes is the first of our empiricists.
Like Locke and Berkeley later, he wants to derive or explain all knowledge by sense experience, avoiding Descartes's innate ideas.
He defines truth and falsity in terms of the correspondence of language to the world.
Terms of language stand for our ideas, the images left by sense experience in our brains.
The discussion of language, and trains of thought, in §3 and §4 of *Leviathan*, emphasizes the strict connection between science, the result of connecting our ideas, and sense experience.

Hobbes distinguishes between error and absurdity, and accuses philosophers like Descartes of absurdity arising from using words with no origins in the senses.

> The first cause of absurd conclusions I ascribe to the want of method, int hat they do not begin their ratiocination from definitions, that is, from settled significations of their words, as if they could cast accounts without knowing the value of the numeral words, *one*, *two*, and *three* (*Leviathan* §I.5, AW 127a).

Hobbes enumerates several particular complaints of purported misuses of language.
We have already looked at one of those errors, ascribing a sense property to an external object.
More importantly, for Hobbes, the concept of an incorporeal body, like a spirit or angel, arises from a misuse of words.
His criticism, in §46, of separated essences is related.

Whether Hobbes was an atheist is a much-debated question.
Certainly, his materialism makes any theism he might hold odd; God would have to be a material object.

One way to see this oddity is to consider the question of whether a finite being can have an infinite idea.

Everyone in the modern era, I think, agreed that there can be no sensory experience which leads to an infinite idea, since they mainly took ideas to be like pictures.
One of Descartes's lasting innovations was to separate thought from sensation, paving the way for his claims that finite beings can have infinite ideas.
Descartes concedes that an infinite idea could not come from sense experience.
Thus, we must have ideas that do not come from the senses, i.e. innate ideas.
In particular, our idea of God is infinite and non-sensory.
Another option would be to argue from our inability to have an infinite idea to the claim that we have no idea of God.
A third option would be to argue that the idea of God is not infinite.

A material deity seems consistent with Hobbes's discussion of spirits in §34.
While he does refer to some religious texts, he also tries to eliminate religion from philosophy.

> Thus philosophy excludes from itself theology, as I call the doctrine about the nature and attributes of the eternal, ungenerable, and incomprehensible God, and in whom no composition and no division can be established and no generation can be understood (*De Corpore*, §1.8).

Religion aside, Hobbes clearly wants to rid philosophy of obscure concepts, cleaning epistemology, and focusing on the pragmatic benefits.
On the pragmatic side, Hobbes thinks that the goal of language generally, not just philosophy, is human flourishing.

> Without words there is no possibility of reckoning of numbers, much less of magnitudes, of swiftness, of force, and other things, the reckonings of which are necessary to the being, or well-being, or mankind (*Leviathan* §I.4, AW 123b).

And,

> By PHILOSOPHY is understood *the knowledge acquired by reasoning, from the manner of the generation of anything, to the properties, or from the properties to some possible way of generation of the same, to the end to be able to produce, as far as matter and human force permit, such effects as human life requires* (*Leviathan* §I.46, AW 132a).

As for cleaning epistemology, not only does Hobbes urge us to rid philosophy of religion, but also of other abstract concepts.

> In reasoning a man must take heed of words, which besides the signification of what we imagine of their nature, have a signification also of the nature, disposition, and interest of the speaker - such as are the names of virtues and vices, for one man calls *wisdom* what another calls *fear*; and one *cruelty*, what another *justice*, one *prodigality*, what another *magnanimity*; and one *gravity*, what another *stupidity*, etc. And therefore such names can never be true grounds of any ratiocination. No more can metaphors, and tropes of speech; but these are less dangerous, because they profess their inconstancy, which the others do not (*Leviathan* §I.4, AW 125b)

Similarly, Hobbes rejects metaphysical approaches to science.

> In many occasions they put for cause of natural events, their own ignorance, but disguised in other words, as when they say, fortune is the cause of things contingent - that is, of things whereof they know no cause - and as when they attribute many effects to *occult qualities* - that is, qualities not known to them, and therefore also (as they think) to no one else - and to *sympathy*,

> *antipathy*, *antiperistasis*, *specifical qualities*, and other like terms, which signify neither the agent that produces them, nor the operation by which they are produced. If such *metaphysics* and *physics* as this be not *vain philosophy*, there was never any; nor needed St. Paul to give us warning to avoid it (*Leviathan* §I.46, AW 136b).

These revolutionary claims about ridding philosophy of absurdities arising from the misuse of language will recur throughout the modern era; we'll see them again in Berkeley and Hume, especially.

V. Evaluating Hobbes's Materialist Monism

In order to accommodate thoughts about God, mathematics, and physics, Descartes distinguishes between thought and sensation, denigrating the latter.
Hobbes rejects Descartes's opposition of sensing and thinking.
In this way, Hobbes is a reactionary.
Hobbes wants to return to the materialism of Aristotle, while accommodating the new science.

Hobbes's materialism has parsimony in its favor.
Also, Hobbes provides a plausible account of mental causation: since all mental phenomena are physical phenomena, the laws of mental causation are the same as the laws of physics.
Still, he lacks a convincing scientific account of human reasoning.
Descartes overemphasized the purity of reason; Hobbes's account is anemic.
The claim that conscious states are just motions of particles seems nearly incomprehensible.
Hobbes neglects the problem that motion is not color.
Why do we see yellow lemons, instead of just extensions in motion?
We might say that the lemon has a dispositional property which makes us see it as yellow.
But the dispositional property is not yellowness, which is, properly speaking, a property only of my experience.
The claim that conscious experiences arise from the interaction of dispositional properties and our sensory apparatus will be revived in the twentieth century in mind-brain identity theory, or topic-neutral materialism, though, so we should not dismiss it completely.)
One response, which Locke will make, is to remain mysterian about conscious experience.
A mysterian says that it is equally a mystery why conscious experiences should attach to minds or to bodies.
Berkeley is unsatisfied with this kind of giving-up on the problem.
He argues that we can resolve the problems by adopting a different kind of monism.

The central problem with Hobbes's account of mental phenomena is that it is tied too closely to an outdated physical theory.

> Hobbes's general account of thought was rather hamstrung by his obsession with mechanics (*Encyclopedia of Philosophy*, vol. IV, p 38).

Galilean mechanics, on which all force is impact, has been superceded several times, first by Newtonian gravitational theory, then by Einsteinian relativity theory, as well as other mechanical theories.
Contemporary materialists try to improve on Hobbes's account, while maintaining its spirit.

Spinoza is next; here's some advice for reading Spinoza:
The Ethics is difficult, written in the synthetic method; take your time.
Focus on the propositions and the scholia, leaving analysis of the proofs for a second or third reading.
Here is a prominent contemporary scholar of modern philosophy on Spinoza's proofs:

> The deductive apparatus masks Spinoza's philosophy. For certain of his deepest and most central doctrines he offers 'demonstrations' that are unsalvageably invalid and of *no philosophical use or interest*; it is not credible that he accepts those doctrines because he thinks they follow from the premisses of those arguments (Jonathan Bennett, *Learning from Six Philosophers*, vol. 1: 113, emphasis added).

Here's Nietzsche on Spinoza:

> Not to speak of that hocus-pocus of mathematical form in which, as if in iron, Spinoza encased and masked his philosophy...so as to strike terror into the heart of any assailant who should happen to glance at that invincible maiden and Pallas Athene - how much personal timidity and vulnerability this masquerade of a sick recluse betrays (*Beyond Good and Evil*, §5).

And Nietzsche liked Spinoza!

The appendix to Part I, AW 160-4, is worth reading, even if you have to skim some of the later propositions in Part I to get to it.
You might find it useful to substitute 'Nature' for 'God'.
Good luck!

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Class 7 - February 8
Spinoza, *Ethics*

0. More Nietzsche on Spinoza

In last notes, I quoted Nietzsche's harsh criticism of Spinoza's formal style.
But I mentioned that Nietzsche loved Spinoza.
Here's what I meant:

> I am utterly amazed, utterly enchanted. I have a *predecessor*, and what a predecessor! I hardly knew Spinoza: that I should have turned to him just *now* was inspired by "instinct." Not only is his overall tendency like mine - making knowledge the *most powerful* affect - but in five main points of his doctrine I recognize myself; this most unusual and loneliest thinker is closest to me precisely in these matters: he denies the freedom of the will, teleology, the moral world order, the unegoistic, and evil. Even though the divergences are admittedly tremendous, they are due more to the differences in time, culture, and science. *In summa*: my solitude, which, as on very high mountains, often made it hard for me to breathe and made my blood rush out, is at least a dualitude (Letter to Franz Overbeck, 30 July 1881).

I. On Reading Spinoza

Spinoza's work comes largely as a response to Descartes's philosophy.
One helpful way to look at Spinoza's project is to see it as attempting to find a middle path between Descartes's mind/body dualism and Hobbes's materialist monism.
Spinoza believed that Descartes relied on a common, perhaps anthropomorphic understanding of God.
Spinoza pursues a purer, rational understanding, one which emphasizes the omnipresence of God over attributes, like perfect goodness or will, which seem to ascribe human characteristics to an infinite being.

Spinoza's work is difficult and obscure, and resists easy analysis.
It is arranged in a synthetic, or geometric, mode of presentation, based on the structure of Euclid's *Elements*.
Today, we would call the structure formal, or axiomatic.
The most fundamental mathematical and logical theories are, or can be, presented axiomatically.
Physical theories, too, may be presented axiomatically.
Spinoza starts with a list of definitions and fundamental axioms, and proceeds to derive, in some sense, a series of propositions expounding his philosophy.
The proofs are intended, presumably, to justify each proposition.
As I mentioned in the Hobbes notes, they are often difficult to follow, and do not seem to work the way they should.
In the scholia, comments located after the proofs of selected propositions, Spinoza relaxes from the formal structure and tries to explain what he means, and how propositions are related.
The Appendix to Part One is similarly informal, and helpful.
Even focusing on the propositions themselves, the scholia, and the Appendix, it is often difficult to see the central claims that Spinoza wants to make.
Normally, in philosophy, we want not merely to understand a claim, but also to understand the argument for that claim, so that we may critically evaluate it.
In the case of Spinoza, we are more concerned with understanding the picture of the world that he draws.
Our critical analysis may apply more usefully to the big picture than to the detailed arguments.

Some secondary reading for Spinoza will be essential.
Melchert mainly avoids Spinoza, except for a helpful five paragraphs on p 438.
The Tlumak is useful, and I have found Bennett's collection, *Learning from Six Philosophers*, to be invaluable.
Both Tlumak and Bennett engage the secondary literature in a sophisticated way.
These notes, relying in large part on the expositions in Tlumak and Bennett, will be more basic.

You may notice that Spinoza's work is called *The Ethics*, though the subjects of most of the work are mainly metaphysical.
Spinoza's claim is that a proper understanding of metaphysics leads one both to right behavior, a kind of eternality of the mind, and proper worship of God.
We will focus on three aspects of Spinoza's philosophy:

1. Monist metaphysics;
2. The relationship between mind and body; and
3. Freedom of the will and the problem of error.

While Spinoza holds views that often do violence to common sense, he is not a mystic.

> His parallelism debars him from treating any aspect of the mental as 'occult' or 'queer'... and his naturalism debars him from treating anything as occult or inexplicable (Bennett 196).

When trying to figure out what his views are, one does well to try to interpret him charitably, as difficult as you may find the task.
One final suggestion: Isaac Bashevis Singer has a wonderful short story, "The Spinoza of Market Street."

II. Monism - An Overview

Spinoza believes that there is just one thing: the most real being.
Mostly, he calls this thing God, though he also calls it Nature.
Spinoza's catchphrase is 'Deus sive Natura': God, in other words Nature.
Individual bodies and minds are attributes of this single substance.
We, and all the things around us, are ways of God/Nature to be.

One way to understand Spinoza's monism is to consider the oddity of thinking about two things: God and a world.
If God were separate from the world, then God would not be omnipresent.
Consider Spinoza's argument, from his work on Descartes that we are not reading, that there can not be two Gods.
(This version of his argument comes from Bennett.)

> If there are two Gods, then either God A knows about God B or he does not. If he does not, he is not omniscient and so is not a God (in the Christian sense). If he does, then he is partly passive - acted upon - because he is in a state of knowledge of God B which must be caused in him by God B - and so again he is not a Christian God (Bennett 119).

One can replace God B in this argument with anything, though.
As Bennett points out, the argument rules out not only another God, but also any other reality.
If we think of ourselves as individuals separate from God, we are limiting an infinite God.
On the basis of just the infinitude of God, then, Spinoza derives his monism.

God just is the world, and we are not individuals separate from God.
We are part of God, modes or attributes of God, ways for God to be.

Spinoza's monism earned him excommunication from his Jewish community, and derision as everything from an atheist to a pantheist.
It is clear that Spinoza rejected traditional religious views; it is not clear that he was an atheist.
Despite corresponding with many of the scholars of his day, Spinoza preferred to avoid established universities, and worked as a lens grinder, living meanly, and writing.

III. Monism - The Dirty Work

Tlumak presents a helpful sketch of Spinoza's argument for monism in Part One of the *Ethics*, which I tweak in this section, taking it in steps.
First, I discuss the argument that substance exists (E); then that it is infinite (I); lastly that it is unique (U).
Let's start with the claim that there is substance, or a substance.

E
- E1. Substance is independent.
- E2. Whatever has an external cause can not be independent.
- E3. So, substance has no external cause, and must be its own cause.
- E4. Anything which is its own cause must exist.
- EC. So substance exists.

E1 follows from Spinoza's definitions, most saliently:

> By substance I mean that which is in itself and is conceived through itself; that is, that the conception of which does not require the conception of another thing from which it has to be formed (*Ethics* 1D3,[1] AW 144).

This claim may be obscure to us, but there is a fairly easy way to understand his point.
Remember that Descartes distinguished, as we do in ordinary language, between objects and properties.
Another term for 'object' is 'substance'; other terms for 'property' are 'mode', 'attribute', and 'affection'.
It is also traditional, and not particularly contentious, to argue that properties depend on objects in a way that objects do not depend on properties.
That claim is just the general principle from which the particular claim that for redness to exist, there must exist red things follows.
Properties need to be properties of something.
Things need to have properties of course, but do not depend on particular properties for their existence.
The red car can be painted yellow without ceasing to be what it is.
Spinoza's claim that substance is independent is just that things are prior to their modes, with the caveat that there may not be more than one thing.

Spinoza takes E2 as a definition.
And E3 follows from E1 and E2 directly (by modus tollens, for you logicians).

E4 is more problematic.
Spinoza is relying on an interpretation of 'cause' that would have been easily understood by his scholastic

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[1] Note: references to *The Ethics* are written, for example, as 1D3 (Definition 3 in Part 1) or 2P7 (Proposition 7 of Part 2).

contemporaries, but which has disappeared with the modern concept of causation.
Spinoza's understanding of cause is connected to questions about the existence of a first cause, and related arguments for the existence of God, the uncaused, or self-caused, cause.

Plato and Aristotle, and other ancients, discussed an uncaused cause.
Cosmological arguments for the existence of God, understood as the uncaused cause, trace to Aquinas
Definition 1 of *The Ethics* indicates Spinoza's view, and alludes to an ontological argument right away.

> By that which is self-caused I mean that whose essence involves existence; or that whose nature can be conceived only as existing (*Ethics* 1D1, AW 144).

Spinoza's arguments for the existence, and necessary existence, of God, and his characterizations of God, proceed through Proposition 15 of Part 1, but I will not pursue them in detail, here.
The point we need to understand is how Spinoza understood 'cause' in such a way that anything which is its own cause must exist.

Notice that the very notion of an uncaused cause is pretty much completely unintelligible, on a contemporary understanding of 'cause'.
For the contemporary reader, a cause must be temporally prior to its effect, by definition.
(Put aside worries from quantum mechanics and relativity theory about backwards causation, for now.)
Spinoza is clearly using a different interpretation.

We can start to understand Spinoza's notion of 'cause' by thinking of it as related to explanation.
A cause of something may explain its existence.
The cause of an event might be its explanation, even on a contemporary understanding.
If you ask why I am tired, I can explain that it is because I did not get much sleep last night.
Asserting the existence of an unexplained cause, or an unexplained explanation, or a phenomenon which explains itself, is not as repugnant as asserting the existence of an uncaused, or self-caused, cause.
And it is only a very short step from saying that God is an unexplained cause to saying that God's existence needs no explanation, or that something which is self-caused could not be conceived of as not existing.

That last claim is E4.
E4 and E3 entail EC, that substance exists.
The claim that substance exists is slight.
It is manifest that *something* exists.
Spinoza does a lot of work for a little claim.
I have spent time on it because of the characterizations of substance, cause, and independence we have examined along the way.
In particular, notice that the derivation of the existence of substance makes no reference to how many substances there are, or whether we can differentiate among them.

Let's move to the infinitude of substance.

I I1. Substance exists and is its own cause.
I2. No finite thing is its own cause.
I3. An infinite substance must have all attributes.
IC. So, substance must be infinite, and have all attributes

I1 comes directly from the prior argument, E.

For I2, consider Spinoza's definition of finite.

> A thing is said to be finite in its own kind when it can be limited by another thing of the same nature. For example, a body is said to be finite because we can always conceive of another body greater than it (1D2, AW 144).

If a thing is finite, then there are other things that limit it.
Explanations about the first thing are going to appeal to its relations to other things.
Remember, Spinoza's notion of cause is tied to explanation.
If we want to explain why I am typing, we have to appeal to the keyboard, the computer, my students, parents, my family, and more.
Since explanations about any finite thing will depend on other things, finite things can not be their own causes.

As an aside, 1D2 leads us to wonder whether substance (or a substance) can be limited by another thing of the same nature.
Spinoza denies that this is possible.

> In the universe there cannot be two or more substances of the same nature or attribute (*Ethics* 1P5, AW 145).

Attributes are how substances are individuated: different properties, different substance.
If there were two or more substances with the same attributes (or nature) those things would be indistinguishable.
Leibniz later invokes a principle of sufficient reason to block such a possibility: God would have no reason to create two substances with the same attributes.
Spinoza does not appeal to that claim, but, understood correctly, it is actually fairly uncontroversial.
Take any two things; there must be some difference between them.
Even if they were the same internally, they would have to differ in spatio-temporal location.
That's all that 1P5 says, properly speaking.
Its oddity is that Spinoza is taking it to show that there is only one thing.
Two bodies might limit each other, as he explains in 1D2, but that only shows that bodies are not substance (or substances).

I3 is implausible, on the surface.
Some infinite collections omit some things.
A line can travel in one direction without containing all points.
But, Spinoza's claim is clear once we take Spinoza not to distinguish between 'infinite' and 'complete'.
Spinoza thinks of God as not just infinite, but as encompassing everything.
This conception is part of his rejection of Descartes's common, anthropomorphic conception.

Lastly, let's derive Spinoza's monism, the uniqueness of substance.

U U1. Substance is infinite, and has all attributes
U2. There can not be two substances with the same attribute.
U3. So, at most one substance exists.
U4. Substance exists.
UC. So, there is exactly one substance; we can call it God, or Nature.

We have seen both U1 and U2 in the argument I; U3 follows from them.
And U4 is the conclusion of the first argument E; UC follows from it.
The argument is complete.

Some interpreters of Spinoza's work argue that we limit ourselves by thinking of substance as an individual thing.
They suggest that we think of it as the order of things, or the realm of nature.
That approach might be useful, psychologically, but it does not do justice to Spinoza's actual words.

In the Appendix to Part One, Spinoza clarifies his reasons for thinking that everything is God.
Spinoza believes that everything is explicable.
God could not be separate and isolated from the world; that would limit God's power.
If God were separate from the world and interacting with it, then explanation would cease to be possible.
We would have to know God's mind, know God's reasons.
If God interacted with the world, we would have to impute to God will and desire, all properties of finite beings, but only anthropomorphically ascribed to God.
One should not think of God in the image of a human being.

> He who loves God will not try to get God to love him back (*Ethics* 5P19, not in AW).

Explanations which appeal to God's will seem to Spinoza to be unsatisfactory.

> If a stone falls from a roof on to some one's head and kills him, [those who make God separate from the world] will demonstrate...that the stone fell in order to kill the man; for, if it had not by God's will fallen with that purpose, how could so many circumstances (and there are often many concurrent circumstances) have all happened together by chance? Perhaps you will answer that the event is due to the facts that the wind was blowing, and the man was walking that way. "But why," they will insist, "was the wind blowing, and why was the man at that very time walking that way?" If you again answer, that the wind had then sprung up because the sea had begun to be agitated the day before, the weather being previously calm, and that the man had been invited by a friend, they will again insist: "But why was the sea agitated, and why was the man invited at that time?" So they will pursue their questions from cause to cause, till at last you take refuge in the will of God - in other words, the sanctuary of ignorance (*Ethics*, 1 Appendix; AW 162a-b, but in an alternate translation).

Compare this passage to the question of why the big bang occurred.
Scientific explanations that trace back to the big bang seem to leave open that question, and can never thus be fully satisfying.
But, we might find a more satisfying answer if we altered the way in which we thought about explanation.
I am not clear about how Spinoza's monism provides more satisfying explanations.
But, Spinoza thought that it did.

IV. Mind and Body

Given that there is just one substance, we are naturally led to wonder if that substance is material or ideal, if it is body or mind.
Descartes posited both minds and bodies; that makes him a substance dualist.
Hobbes tried to explain everything with just bodies; he is a materialist monist.
Spinoza claims that the one substance is both mind and body.
That is why I called him a weirdo monist.
There is only one substance, one object, properly speaking.
What we ordinarily think of as objects (e.g. trees, persons, Wankel rotary engines) for Spinoza are properties, or attributes, of God.
There are mental properties, and there are physical properties.
Thus, Spinoza is both a substance monist and a property dualist.

Property dualism, in Spinoza's sense, should be distinguished from a current use of that label, though it will be useful to compare them.
Let's take a moment to understand property dualism.
Recall Descartes's master argument for substance dualism.

SD
SD1. I have a clear and distinct understanding of my mind, independent of my body.
SD2. I have a clear and distinct understanding of my body, independent of my mind.
SD3. Whatever I can clearly and distinctly conceive of as separate, can be separated by God, and so are really distinct.
SDC. So, my mind is distinct from my body.

If we are unconvinced by D3, we can weaken it, and the conclusion.

PD
PD1. I have a clear and distinct understanding of my mind, independent of my body.
PD2. I have a clear and distinct understanding of my body, independent of my mind.
PD3. Whatever I can clearly and distinctly conceive of as separate, are really distinct concepts.
PDC. So, my mind is conceptually distinct from my body. I.e. mental properties are distinct from physical properties.

The new argument gives up on substance dualism, and establishes property dualism.
Contemporary property dualists claim that mental properties, like those that compose our conscious states, are not completely explicable in terms of physical properties.
The claim that a conscious sensation just is the firing of neurons in the brain, seems difficult to defend.
Still, we might argue that mental states supervene on physical states: for every mental state, there is a corresponding physical state.
Instead of looking for the conscious experience in our brains, we look for the neural correlates of consciousness.
Thus substance monism (there are just physical bodies) is compatible with property dualism (mental properties are irreducible to physical properties).

I alluded to property dualism in criticizing Hobbes's account of mental properties.
Hobbes says that pain, or sensation of red, or taste of a mango, is just the firing of neurons in my brain.
The property dualist claims that such identifications are category errors: they are different properties, and the one can not be reduced to, or explained in terms of, the other, even if there really are only bodies.

Spinoza's property dualism shares some of the characteristics of contemporary property dualism.

In particular, Spinoza agrees that there is a sharp separation of mental and physical attributes.

Let's start with the mental properties, and again let's consider an argument from Descartes.
Recall Descartes's argument that bodies or machines, like animals, can not think.
He appeals to two characteristics of people: our language use and our behavioral plasticity.
Our bodies are essentially similar to those of animals, perhaps a bit more complex in places.
Yet we can think, and (other) animals can not.
This alone shows Descartes that there must be minds independent of bodies.

> For while reason is a universal instrument that can be of help in all sorts of circumstances, these organs require some particular disposition for each particular action; consequently, it is for all practical purposes impossible for there to be enough different organs in a machine to make it act in all the contingencies of life in the same ways as our reason makes us act (*Discourse* Part Five, AW 33a).

Descartes claims that the number of thoughts that we have could not be instantiated in a physical body.
It would be like trying to run Windows 7 on a 1960s mainframe computer.
It just doesn't fit.

Spinoza, like the contemporary substance monist/property dualist, rejects Descartes's claim that there is an incompatibility between minds and bodies.

> The order and connection of ideas is the same as order and connection of things (*Ethics* 2P7, AW 166).

2P7 is key for understanding Spinoza's solution to the mind-body problem, which we call parallelism.
Here is a basic overview.

Talk of minds and bodies is misleading, since they are not individual, independent substances.
Still, it will be easier to talk like normal people, and just remember that we are referring to attributes, rather than things.
Spinoza rejects Descartes's substance dualism, as we have seen.
But he maintains a dualism among attributes: there are mental attributes of the one substance and there are physical attributes of the substance.
Since everything is God, and there are minds and bodies, these must be properties of God.
Notice that this means that God is, at least in one attribute, material.
Descartes's argument that bodies are insufficient to support minds is thus moot; these are both properties of an infinite substance.
Nevertheless, the argument for property dualism still holds, so that there is a problem of interaction between these properties.

Actually, as an aside, Spinoza claims that there are more than merely two kinds of attributes.

> Each entity must be conceived under some attribute, and the more reality or being it has, the more are its attributes which express necessity, or eternity, and infinity. Consequently, nothing can be clearer than this, too, that an absolutely infinite entity must necessarily be defined (Def. 6) as an entity consisting of infinite attributes, each of which expresses a definite essence (*Ethics* 1P10, AW 147b).

Imagine that there were aliens with an extra capacity for sense perception.
Suppose they had our five senses, but antennae with a sixth kind of receptor in addition.

We perceive the world in only five modalities; the aliens perceive the world in six.
We have absolutely no idea what it would be like to have a sixth sense, but there is no reason to think that there couldn't be such a thing.
So it is with the attributes of God, for Spinoza.
We only know the worlds of minds and bodies, but there could be additional attributes, other aspects of nature hidden from us.
In fact, since God is infinite, there is some reason to believe that there are other such attributes.
This multiplication of attributes is not a central claim, and affects very little in the rest of Spinoza's work.

Returning to the nature of minds and bodies and their relation, I mentioned that the problem of interaction reappears even within Spinoza's monism.
Spinoza is clearer about this claim in Part Three, which is not in our reader:

> The body cannot determine the mind to thinking, and the mind cannot determine the body to motion, to rest, or to anything else (if there is anything else). Proof: All modes of thinking have God for a cause, insofar as he is a thinking thing, and not insofar as he is explained by another attribute (by 2P6). So what determines the mind to thinking is a mode of thinking and not of extension, that is (by 2D1), it is not the body. This was the first thing. Next, the motion and rest of a body must arise from another body… whatever arises in the body must have arisen from God insofar as he is considered to be affected by some mode of extension, and not insofar as he is considered to be affected by some mode of thinking (also 2P6), that is, it cannot arise from the mind, which (by 2P11) is a mode of thinking. This was the second point. Therefore, the body cannot determine the mind, and so on (*Ethics* 3P2).

Given that a monist metaphysics might be motivated by the problem of interaction, it is disappointing that the problem reappears for Spinoza at the level of properties.
Nevertheless, Spinoza has a unique and compelling solution.
He claims that though the mind and body do not interact, they move parallel to each other in such a way as to give the appearance of interaction.

Here is how Spinoza's parallelism works.
Let's say your sweetheart gives you a kiss, which makes you feel happy, which in turn makes you hug your sweetie back.
It looks like a physical event caused a mental event which in turn caused another physical event.
Whether these events are made of interacting substances or properties is immaterial.
The point is that there seems to be causation moving from the material to the mental and back.
What is really happening, according to Spinoza's parallelism, is that there are two independent causal sequences.
In the physical chain, the kiss, p_1, causes a second physical event, p_2, which causes the hug, p_3.
In the mental chain, a mental event, m_1 causes the happiness, m_2, which causes a third mental event, m_3.
m_1 is the mental correlate of the kiss, and m_3 is the mental correlate of the hug; we are unaware of those ideas.
Similarly, there is a physical correlate, p_2, of the mental state of happiness.
There is no interaction between the p_is and the m_is.
But, it appears as if there is, since the two chains are aligned just right.

Spinoza's parallelism solves the problem of interaction by explaining how the appearance of interaction can arise from a system in which there is no interaction.
That solution comes at a cost of positing extra mental and physical states.
There must be a mental state corresponding to every physical state, and a physical state corresponding to every mental state.
The contemporary defender of supervenience might subscribe to the latter claim.
The former claim is much more foreign, and difficult to understand.
There seem to be lots of physical states with no corresponding mental state.
What mental state is the correlate of, say, the tree falling in the forest with no one to hear it?
Still, the cost of his profligacy is small, since Spinoza is already committed to the broadest possible infinity of states, in God.

Moreover, in favor of Spinoza's account, we have to remember that the way we have been speaking, of interaction, is really derived from a view of the world as containing independent substances.
Strictly speaking there is just the one substance.
Talk of interaction between the body and mind should, strictly speaking, be understood more like talk about different properties of the same substance.
Perhaps the difference between the mind and the body is more like the difference between perceiving an object with two different sense modalities: the taste and the look of the apple, say.
Just as we can perceive the wax with our different senses, so we have mental and physical aspects of ourselves.

This way of bringing together both the monist and parallelist doctrines of Spinoza can be edifying.
It helps explain Spinoza's claims that the mind is always thinking about the body.

> That which constitutes the actual being of the human mind is basically nothing else but the idea of an individual actually existing thing (*Ethics* 2P11, AW 168b).

> Whatever happens in the object of the idea constituting the human mind is bound to be perceived by the human mind; i.e., the idea of that thing will necessarily be in the human mind. That is to say, if the object of the idea constituting the human mind is a body, nothing can happen in that body without its being perceived by the mind (*Ethics* 2P12, AW 169a).

> The object of the idea constituting the human mind is a body - i.e., a definite mode of extension actually existing, and nothing else (*Ethics* 2P13, AW 169b).

Recall Descartes's claims that knowledge of the wax brought him even more knowledge of himself.
Spinoza is claiming that the wax and one's body and mind are all part of the same whole.

> The human mind is part of the infinite intellect of God; and therefore when we say that the human mind perceives this or that, we are saying nothing else but this: that God...has this or that idea (*Ethics* 2P11 corollary, AW 169a).

The union of the parallelist and monist aspects of Spinoza's work also allow us to see the relation between Spinoza's monism and Hobbes's monism.
Just as Hobbes's had only a material world with which to work, Spinoza has one, united world.
There are different aspects, or attributes, of this world.
But, they are not to be differentiated and separated; they hang together.

Spinoza's rationalism may obscure his other affinities to Hobbes.
While Spinoza's physics purports, like Descartes's, to be based in truths of reason, it adopts the new

science's anti-Aristotelian view about inertia, and other anti-scholastic claims.
Spinoza, of course, adds a modal twist to the claim (i.e. that it is necessary)!

> A body in motion or at rest must have been determined to motion or rest by another body which likewise has been determined to motion or rest by another body, and that body by another , and so *ad infinitum* (*Ethics* 2P13, AW 170b).

Despite his odd approach, and his weird metaphysics, Spinoza's physics is essentially Cartesian.
Bodies are not independent, and self-subsisting, of course.
The very notion of motion probably has to be altered.
We ordinarily think of motion in terms of objects changing their places.
It is hard to see how attributes could move.
Even if we came up with an account of the motion of attributes, since attributes depend on a substance, and all bodies are part of one substance, the relations among those attributes does not seem to follow directly from our ordinary conception of the relations among bodies.
That is, bodies can move relative to one another, but the relative motion of attributes is less clear.
Spinoza tackles the question in the physical interlude, the discussion following 2P13.
I reproduce here a long section which is useful to see how Spinoza turns from his account of motion to a further characterization of monism.
He uses 'individual thing' to refer to particular bodies and minds, recognizing that they are not really objects, but needing a term for them.

> We have conceived an individual thing composed solely of bodies distinguished from one another only by motion-and-rest and speed of movement; that is, an individual thing composed of the simplest bodies. If we now conceive another individual thing composed of several individual things of different natures, we shall find that this can be affected in many other ways while still preserving its nature. For since each one of its parts is composed of several bodies, each single part can...without any change in its nature, move with varying degrees of speed and consequently communicate its own motion to other parts with varying degrees of speed. Now if we go on to conceive a third kind of individual thing composed of this second kind, we shall find that it can be affected in many other ways without any change in its form. If we thus continue to infinity, we shall readily conceive the whole of Nature as one individual whose parts - that is, all the constituent bodies - vary in infinite ways without any change in the individual whole (*Ethics* 2P13 Lemma 7 Scholium, AW 171-2).

Bennett suggests an analogy for understanding motion in the single substance: consider how a thaw might, in a sense, move across a region.
There are difficulties with this analogy, but I will not pursue them.
The interactions of bodies, however conceived, are governed by laws, and appeals to final causes and purposes are banished.
These laws govern the behavior of both bodies and mind, making all of our decisions determined.

> Nothing in nature is contingent, but all things are from the necessity of the divine nature determined to exist and to act in a definite way (*Ethics* 1P29, AW 156).

This strict determinism, for both bodily and mental attributes, will cause difficulty in Spinoza's account of human error, as we will see.

We have looked at Spinoza's metaphysics and his philosophy of mind.
There is just one substance, call it God or Nature, and we are just aspects of that one thing.
Our minds and bodies work in parallel.

They may even be just two different ways of describing the same properties.
The last question we will ask, about Spinoza's work, is how his picture of the world can be compatible with our manifest ability to err.

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Class 8 - February 10
Spinoza, *Ethics*

0. X-Phi on Free Will

I. Freedom and Error - An Overview

At the beginning of the Fourth Meditation, Descartes confronts a serious puzzle in the problem of error.
Once he establishes that we are both created and preserved by an infinitely good God, the possibility of error, despite appearances, seems unlikely.
Descartes's solution is constrained by the need to avoid ascribing imperfections to God, while admitting that God's creation is imperfect and prone to error.
Descartes tries to solve that problem by showing how we can act independently of God.

Turning to Spinoza, the problem of error appears even more intractable.
Not only are we created and preserved by God, for Spinoza; we are God!
Descartes availed himself of our independence from God: our free will.
Spinoza denies that we have such freedom, as we have seen.
Descartes can sneak out of the window to go to the party; Spinoza is stuck inside the house.
Further, since we are, in substance, God, it seems that there can be no false ideas; all ideas are true.

> All ideas are true insofar as they are related to God (*Ethics* 2P32, AW 178a).
> There is nothing positive in ideas whereby they can be said to be false (*Ethics* 2P33, AW 178a).
> Every idea which in us is absolute, that is adequate and perfect, is true (*Ethics* 2P34, AW 178a).

Spinoza's solution, in brief, to the problem of error is that while there is no falsity (i.e. every idea is true to some degree) there are clearer ideas and more confused ideas.
The clearer ideas are closest to the truth.
At the upper limit, there are adequate ideas.
In particular, there are geometric ideas which do not admit of any confusion.
But, since we are just one attribute of God, we only have ideas from a particular perspective, and this limitation prevents full apprehension of truth, generally.

II. Freedom and Error - The Dirty Work

Spinoza's account of human error involves his determinism, and his interpretation of human freedom.
We'll start, as usual, by contrasting his position with that of Descartes.

Spinoza denies what appeared to be an uncontroversial assumption of Descartes's, that ideas, in themselves, are neither true nor false.
For Descartes, an idea is a mere representation.
Only judgments can be true or false.

In contrast, as we have seen, Spinoza thinks that all of our ideas are true.
Spinoza argues that every idea contains within itself an affirmation.
Ideas are not mere representations, but carry beliefs with them.
Descartes's view was that an idea is like a picture.
For sensory ideas, we have an image; for non-sensory ideas, we have a non-sensory representation.

We can either affirm or deny that our representation holds in reality.
Spinoza's claim that all our ideas are true thus differs from Descartes's claim that they can not be false.

While Descartes's assumption appeared uncontroversial, it does lead to the odd claim that we are free to choose whether or not to affirm a given belief.
In contrast, many philosophers hold what has come to be known as doxastic involuntarism: we can not choose what to believe.
('Doxa' is Greek for beliefs.)
Doxastic involuntarism is a compelling thesis: just try to believe that, say, your roommate is an alien from Venus.
Even if you are promised a reward for believing such a fact, or threatened with severe punishment, you can not believe it.
You can pretend to do so, but you can not sincerely do so.

Spinoza, rejecting Descartes's view, claims that our ideas are not neutral, but come with built-in beliefs.

> I deny that a man makes no affirmation insofar as he has a perception. For what else is perceiving a winged horse than affirming wings of a horse? For[2] if the mind should perceive nothing apart from the winged horse, it would regard the horse as present to it, and would have no cause to doubt its existence nor any faculty of dissenting, unless the imagining of the winged horse were to be connected to an idea which annuls the existence of the said horse, or he perceives that the idea which he has of the winged horse is inadequate (*Ethics* 2P49 Scholium, AW 186b-187a).

Thus, the default belief attached to any idea is an affirmation.
To deny that there is a winged horse, there must be another positive idea which crowds it out, which overrides our initial affirmation.
Spinoza's view that our ideas come with intrinsic beliefs gives us a reason to reject Descartes's claim that truth and falsity do not apply to ideas.
His claim is that even the most confused and inadequate idea has some measure of truth in it.
Even a fantastic idea, like the chimera or a hallucination, reflects a change in a mode of the one true substance, and so has at least a small measure of truth to it.
Thus, Spinoza believes that truth comes in degrees, and that our less-true ideas are, ideally, over-ridden by the more-true ones.

> To begin my analysis of error, I should like you to note that the imaginations of the mind, looked at in themselves, contain no error; i.e., the mind does not err from the fact that it imagines, but only insofar as it is considered to lack the idea which excludes the existence of those things which it imagines to be present to itself (*Ethics* 2P17 Scholium, AW 173b).

Spinoza's view of beliefs highlights the problem of error.
The distinctions between levels of truth among our ideas get his solution started.
He has recast the problem from one of accounting for how we make mistakes to one of describing why some ideas are more true than others.

III. Passive and Active Ideas

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[2] Bennett makes a convincing argument for reading the Latin *enim* here as 'thus', instead of 'for'.

Another aid to Spinoza's account of error relies on a distinction between passive and active ideas, and the freedom we have in our active minds.
As long as we are passive, we receive ideas from outside of us.
Those ideas are of bodies, as we saw above, and in 2P11, 2P12, and 2P13.
Ideas of bodies are inadequate, or mutilated, or confused.
They are confused especially because they are caused by the interaction of my body and other bodies.
Recall Descartes's discussion at the end of the Second Meditation: the wax brought him more knowledge about himself than it did about the wax.
The inadequacy of our understanding of wax and other objects outside of ourselves prevents us from excluding those overriding ideas which block them out.
The inadequate ideas are not false, exactly; how could they be?
But, they are less true than the adequate ones.
They are governed by psychological associations, rather than by logical ones.

The distinction between my active and passive ideas mirrors Spinoza's distinction between two ways to conceive of substance: *natura naturans*, or active nature, as God conceives himself; and *natura naturata*, or passive or generated nature, God as conceived through modes.
Spinoza has removed as much of the anthropocentric view of God as he could from Descartes's metaphysics.
But, there are limits.
We are finite, and any account of the world and its structure will have to include us.
Spinoza includes us by making us part of God, considered in a finite mode.

IV. Inadequate and Adequate Ideas

Spinoza claims both that all ideas have some truth, and that the ones that are active are more true than the ones that are passive.
Let's take a particular example of an idea which might be thought to contain an error.
Descartes considered two ideas we have of the sun: a sensory idea and one derived from reason.
He determined that the former is false, and the latter is true.
Spinoza, in contrast, thinks that both are true, to different degrees.
We do make an error, when we affirm that the sun is small, or not so far away, as it appears.
But that error is, properly speaking, just inadequacy, not falsity.

> When we gaze at the sun, we see it as some two hundred feet distant from us. The error does not consist in simply seeing the sun in this way but in the fact that while we do so we are not aware of the true distance and the cause of our seeing it so. For although we may later become aware that the sun is more than six hundred times the diameter of the earth distant from us,3 we shall nevertheless continue to see it as close at hand. For it is not our ignorance of its true distance that causes us to see the sun to be so near; it is that the affection of our body involves the essence of the sun only to the extent that the body is affected by it (*Ethics* 2P35 Scholium, AW 178b).

On the other hand, there are some stronger, clearer, and more adequate ideas.

> Those things that are common to all things and are equally in the part as in the whole can be conceived only adequately (*Ethics* 2P38, AW 179a).

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[3] Indeed: the distance from the earth to the sun is more than ten thousand times the diameter of the earth.

Common ideas are those that come from the use of reason, which is one of three kinds of knowledge Spinoza describes in 2P40 Scholium 2.
The other kinds are sensory, which Spinoza calls opinion or imagination, and intuition, which Spinoza says is the highest kind of knowledge (5P25, AW 189).

In this case, we can see Spinoza aligning with Descartes.
Descartes claims that what I called the Class III beliefs were free from errors of reliance on sense experience, from reliance on the resemblance hypothesis.
Class III beliefs are innate, and so secure.
Similarly, Spinoza claims that the common ideas are the result of reasoning, which does not rely on inadequate ideas received passively from outside of us.
These most-secure beliefs are active ideas that we discover ourselves.
They are governed by logical necessity, and they allow us to engage God.

> The human mind, insofar as it perceives things truly, is part of the infinite intellect of God...and thus it is as inevitable that the clear and distinct ideas of the mind are true as that God's ideas are true (*Ethics* 2P43 Scholium, AW 182).

Primarily, the common notions concern pure geometry and philosophy, and knowledge of God.

V. Spinoza's Determinism
It looks as if Spinoza is encouraging us to spend our time focusing on the adequate ideas, those which Descartes would have called clear and distinct.
Unfortunately, the situation can not be quite that simple.
According to Spinoza, we just lack the freedom to choose other than the way in which one chooses.
Everything is determined.
Spinoza criticizes Descartes for using the method of doubt, in part because he says that such doubt is impossible.
Again, we can not freely choose our beliefs.
We can only pretend to believe that we are dreaming, or deceived.
If Cartesian doubt is impossible, then no counsel against it could be effective or even appropriate.

Still, Spinoza defends a kind of freedom which arises from focusing on the active ideas.
For Spinoza, freedom is having a greater proportion of adequate ideas, so that one is more fully self-determining.
Since we can never have only active ideas, purely adequate, freedom, like truth, is a matter of degrees.
Even though our actions are determined, we can still strive (in some sense) to be free of our passions, our base desires.
Such striving leads us to a kind of eternality.

We can strive to be free by contemplating ourselves as finite modes in Nature.

> The mind's intellectual love towards God is the love of God wherewith God loves himself not insofar as he is infinite, but insofar as he can be explicated through the essence of the human mind considered under a form of eternity. That is, the minds intellectual love towards God is part of the infinite love wherewith God loves himself... From this we clearly understand in what our salvation or blessedness or freedom consists, namely, in the constant and eternal love towards God (*Ethics* 5P36, and Scholium, AW 191-2).

Spinoza, in the end, urges us to give up the commands of the passions, to free ourselves from our confused understanding, and to contemplate the eternal as a route to happiness.
He derives advice on how to live from the metaphysical and physical realities he has described.
While he phrases that advice in the language of love of God, the advice itself is not particularly religious.
Indeed, it echoes Plato's counsel away from the constraining and never-satisfying pleasures of the body, and toward philosophy and the love of knowledge.

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Reading Guide #3
G.W. Leibniz, *Monadology* and *Discourse on Metaphysics*
Isaac Newton, from *Principia* and from *Optics*
G.W. Leibniz, from *Letters to Clarke*

These questions are provided to assist you in your reading. I encourage you first to read the material through, then go back to answer the questions. You are not expected to hand in written answers. You are expected to have responses ready for class discussion. Page numbers refer to the Ariew and Watkins collection.

Leibniz covers much of the same material, with different emphases, in the *Monadology* and the *Discourse*. Thus, some of the questions have significant overlap. In the end, you should try to consolidate your answers, using material from both selections where appropriate. Also, some of the secondary readings on the syllabus will be helpful: "Letters to Arnauld" on minds, bodies, and freedom; "Primary Truths" on the Principle of Contradiction; and "New System of Nature" on parallelism.

Monadology (AW 275-283)

1. What are monads? How do we know that there are monads?
2. How do monads differ from composites?
3. Are monads all alike? Explain.
4. Distinguish perception from apperception. How does Leibniz criticize Descartes regarding perception?
5. How does Leibniz argue that machines (bodies) can not think?
6. How are human souls (minds) distinct from monads?
7. "The present is pregnant with the future" (§22). Explain.
8. What distinguishes humans from animals?
9. Describe Leibniz's two basic principles of philosophy. (The brief selection *Primary Truths*, AW 265-268) will be helpful.)
10. How does reason depend on axioms (and postulates)? Characterize these primitive principles.
11. What is God? How, according to Leibniz, do we know there is a God?
12. Distinguish the a priori argument for God's existence from the a posteriori argument.
13. Do monads interact? Explain.
14. How does Leibniz argue that this is the best of all possible worlds?
15. How does God maximize variety and order?
16. "Communication extends to any distance whatsoever" (§61). Explain.
17. Why, if each monad represents the entire universe, are we not omniscient?
18. How are living bodies distinct from machines?
19. What, for Leibniz, is what we ordinarily call death?
20. Describe Leibniz's account of the relation between mind (soul) and body.
21. How does Leibniz's view of the mind (soul)/body distinction differ from that of Descartes? How does Leibniz account for the difference?
22. How do rational souls (minds) differ from ordinary souls?

Discourse on Metaphysics (AW 224-247)

23. How does Leibniz define 'perfections'?
24. Contrast Leibniz's views on whether goodness and the eternal truths are products of God's will with those of Spinoza and Descartes. Why does Leibniz reject the claim that God makes the eternal truths true?
25. How does Leibniz argue that this is the most perfect world? Characterize this perfection.
26. What conditions are required for true predication? (Consider explicit and virtual containment.)
27. What is an individual substance? What makes the notion of a substance complete?
28. How does each substance express the whole universe? Describe the so-called paradoxes that follow.
29. How is the universe multiplied many times over?
30. What are substantial forms? Who denies their existence?
31. How do Leibniz's claims about monads undermine the possibility of human freedom? How does the distinction between certainty and necessity help him account for free will? Consider the Caesar example.
32. How does Leibniz account for error?
33. "Nothing can happen to us except thoughts and perceptions" (§14). Explain.
34. How does Leibniz account for what we ordinarily call change, or interaction?
35. Distinguish force from quantity of motion. How is this distinction relevant to Leibniz's philosophy, and his differences with Descartes?
36. Do we see because we happen to have eyes, or were eyes made for seeing? Explain.
37. What are final and efficient causes? How does Leibniz try to rectify them?
38. How does Leibniz criticize the ontological argument for God's existence? What does he claim it shows?
39. Distinguish confused, clear, distinct, adequate, and intuitive knowledge.
40. How does Leibniz assess Plato's doctrine of recollection?
41. Do we acquire knowledge from our senses? Explain.
42. Explain Leibniz's doctrine of the relation between mind and body.

Newton selections (AW 284-293)

43. How does absolute time differ from relative time? Characterize each.
44. How does absolute space differ from relative space? Characterize each. What is the difference between place and space?
45. What is the relation between absolute space and absolute motion?
46. How do fluctuations in the solar day support Newton's argument for absolute time?
47. How do we measure space and time? Does this method support the relationalist or the absolutist?
48. How do basic facts about space and time conflict with Cartesian accounts of motion as relative to surrounding bodies?
49. Describe Newton's bucket experiment. What does it show, and how?
50. Is it possible to determine true motion from our observations? Explain, using Newton's example of the spinning globes.
51. How does Newton argue for the existence of God?
52. Why does Newton call gravity a hypothesis? What does he believe is the status of hypotheses?
53. How, according to Newton, do we arrive at general laws?

Leibniz, from *Letters to Clarke* (AW 294-303)

54. For Leibniz, what does it mean that space and time are "merely relative" (LIII.4)?
55. How does Leibniz use the principle of sufficient reason to object to absolute space? How does he use that principle to object to absolute time?
56. How, according to Leibniz, is gravity miraculous?
57. Is absolute space a substance or an attribute? Explain.
58. "Two states indiscernible from each other are the same state" (LIV.13). Explain.
59. According to Leibniz, is the universe finite or infinite?
60. How does Leibniz argue that the universe is a plenum?

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Class 9 - February 15
Leibniz, *Monadology*

I. Leibniz Background

We started the term looking at Descartes's work, to which all of the philosophy we will study is, to some degree, a response.
Descartes attempted to accommodate the new science into an orthodox, theological world view.
We then looked at the work of two philosophers, Hobbes and Spinoza, who presented very different views of the world, philosophers who were eager to dismiss the religious orthodoxy.
Leibniz rejects the materialism of Hobbes, the atheism (or at least naturalism) of both Hobbes and Spinoza, and, the view, found in both Hobbes and Spinoza, that everything is necessary.
Indeed, Leibniz's attempt to rehabilitate a standard view of contingency and human freedom is central to his work.
Still, there are Spinozan elements to Leibniz's work which we can see especially in his claim that every living thing reflects the entire universe, and its past and future.

While Leibniz's philosophy is closer to that of Descartes, broadly speaking, they differ on many details.
In particular regarding bodies, Descartes had argued, as part of his embrace of the new science and its mechanics, that bodies are essentially extended, unthinking, divisible, individual substances.
In contrast, Leibniz rejects the infinite divisibility of matter, holding that there are atomic components of the world called monads.
Leibniz rejects Descartes's claim that the ultimate constituents of the material world are passive, believing that in order for them to be substances, they have to have within them a source of action.
Leibniz thought that the claim that bodies are unthinking leads to the impossibility of thought.
For Leibniz, the fundamental components of the world are not inert divisible matter, but active, mind-like substances.

> Each portion of matter can be conceived as a garden full of plants, and as a pond full of fish. But each branch of a plant, each limb of an animal, each drop of its humors, is still another such garden or pond (M67, AW 281b).

Still, Leibniz's work is, like Descartes's, an attempt to recapture much of the prevailing, and preceding, theological view of the world.
Leibniz's reactionary views include embracing both efficient and final causes.
According to Aristotle, there are four different kinds of causes:

C1. Efficient cause: the source of a change (basically our contemporary notion)
C2. Final cause: the goal, or telos, of an object or event
C3. Material cause: the constituent matter of the object
C4. Formal cause: what it is to be an object

Galilean physics denigrated C2-C4, focusing on C1 alone.
Leibniz, seeking a return to an admittedly anthropocentric view of God's role in the universe, looked to rehabilitate the notion of a final cause.
According to Leibniz, bodies act according to laws of efficient causation, but souls act, like God, according to laws of final causes.

> It would be best to join together both considerations, for if it is permitted to use a humble

> comparison, I recognize and praise the skill of a worker not only by showing his designs in making the parts of his machine, but also by explaining the instruments he used in making each part, especially when these instruments are simple and cleverly contrived. *And God is skillful enough artisan* to produce a machine which is a thousand times more ingenious than that of our body, while using only some very simple fluids... (D22, AW 237b-238a)

These two systems of final and efficient cause work together, in parallel.

Our study of Leibniz's work will focus mainly on two, comprehensive presentations of his philosophy, the *Monadology* and the *Discourse on Metaphysics*.
These two works cover much of the same material, though with different emphases.
In the next three classes, we are going to examine five elements of Leibniz's world-view:

1. Monads;
2. The Complete-World View of Substance;
3. The Mind/Body Distinction;
4. Theodicy; and
5. Freedom and Harmony.

Next Thursday, we will look at Leibniz's controversy with Newton over the nature of space and time.
Like Descartes, Leibniz was an profoundly influential mathematician.
Leibniz and Newton independently developed the calculus of infinitesimals, without which the physics of the late 17th century and beyond would not have been possible.
Newton and Leibniz fought for credit for the development of calculus, and the powerful Newton prevented Leibniz from gaining university employment in England, which he had sought.
The correspondence conducted between Leibniz and Newton's secretary Samuel Clarke regarded the question of whether space is an absolute receptacle in which matter is contained (Newton) or whether there is no space independently of the relations among material bodies (Leibniz).

We start with the fundamental substances of the world, which Leibniz calls monads.

II. Monads

If the basic metaphysical question is, "What is there?", the consensus answer among the moderns is, "Substance."
Then, they haggle over the details.
Differences among them regarding the specific nature of substance characterize their different theories.
For Descartes, there are two kinds of substance, each with its own essential trait: mind (consciousness) and body (extension).
For Hobbes, there are only bodies.
For Spinoza, there is only one instance of a substance: God, or Nature.

Leibniz accepts the multiplicity that we ordinarily assume, and which we see in the work of Descartes and Hobbes, rejecting Spinoza's unity.
But, he adopts Spinoza's views on the ubiquity of mind, and his claim that substance has to have an internal agency.
For Leibniz, substance is an active unity, always perceiving, and which can will.

In the *Discourse*, Leibniz characterizes the monad as a substantial form, a soul or a haecceity, the thing which underlies or collects all its properties.

In the *Monadology*, Leibniz argues for the existence of simple substances on the basis of the obvious plurality of things.
Since there are composites, these must be made of parts.
A Cartesian piece of extended matter could be divided into further pieces of matter.
You can never get to simple parts by taking extended bodies as substances.
Leibniz argues that if there are no simple parts, there can be no composites.
Thus, there must be some basic elements.
He calls these basic elements monads.
The relation between these simple substances and the bodies or composites that we see is like the relation of a rainbow to drops of water and refracted light.
We think of bodies as coherent wholes, but they are really just accidental unities of real substances.

So far, Leibniz sounds like the Greek atomists, like Democritus, or the 17th century atomists, like Gassendi.
The difference between atoms and monads, though, is striking.
For the atomists, the simple objects are essentially undifferentiable; they are all alike.
Leibniz denies the similarity of atoms.
We can see two reasons for this denial.
First, Leibniz takes each monad to be an active, rather than passive unity.
Second, he denies that there can be identical objects on the basis of his principle of sufficient reason.

In the first case, Leibniz argues that machines could never think.

> *Perception*, and what depends on it, *is inexplicable in terms of mechanical reasons*, that is, through shapes and motions (M17, 276b).

Leibniz considers walking inside the mechanical parts of a thinking substance, like a brain.
All we would see would be moving parts.
We would see no memory, no thought.

Consider Ned Block's Chinese Nation example, normally used to argue against functionalism in the philosophy of mind.
The brain is essentially a collection of neurons which discharge impulses from one to another.
Neurons fire, and induce other neurons around them either to fire or not to fire.
The story is obviously more complicated than that, but the differences are a matter of degree, not of kind.
Neurons transmit information like electrons passing along a circuit board.
Imagine that we have mapped the brain, and it contains one billion neurons.
(This is a fiction, but only by a factor of about a hundred - there are about a hundred billion neurons in the brain.)
We can set up the people of China to act as our billion-neuron brain, with walkie-talkies connecting each person to surrounding people.
We give each person the instructions to transmit information in the way that our neurons do, to other people, as our mapping of the brain indicates.
The Chinese-Nation brain can even be attached to human-looking robot with receptors that function like our sense organs.
Information can be transmitted to the Chinese brain and back to the robot via radio signals.
The result would be a creature that looked and functioned just like us with an artificial processing system made out of the people in China.
Leibniz imagines just this sort of case, and concludes that such contraptions could not support thought.

> When inspecting its interior, we will only find parts that push one another, and we will never find

> anything to explain a perception (M17, AW 276b).

Since there is no thought in a mechanical body, Leibniz argues, there must be some essentially active, essentially perceptive, component to the basic elements of the world.
We need active components in order to account for minds.
The perceptions of these monads will distinguish them, thus denying the atomist's uniformity.

The second reason that Leibniz rejects the materialist's atomism relies on his claim that there could be no two objects that did not have some internal difference.

> It is also necessary that each monad be different from each other. For there are never two beings in nature that are perfectly alike, two beings in which it is not possible to discover an internal difference, that is, one founded on an intrinsic denomination (M9, AW 276a).

This latter claim, that there can not be two identical objects in the world, is known as the identity of indiscernibles.
It follows, Leibniz argues, from his two great principles, contradiction and sufficient reason.

> Our reasonings are based on *two great principles, that of contradiction*, in virtue of which we judge that which involves a contradiction to be false, and that which is opposed or contradictory to the false to be true...And *that of sufficient reason*, by virtue of which we consider that we can find no true or existent fact, no true assertion, without there being a sufficient reason why it is thus and not otherwise, although most of the time these reasons cannot be known to us... (M31-2, AW 278a).

I'll call the principle of contradiction PC and the principle of sufficient reason PSR.

Alternatively, for Leibniz, we can take PSR as holding that there is no effect without a cause.
As Leibniz notes, though, these reasons can be obscure, hidden from our view.

PSR, especially in its second version, seems almost definitional, and uncontroversial.
But, since Leibniz wields PSR to substantial conclusions it is worth noting that he thinks of it as following from a more substantial thesis, his conception of truth as a claim in which a predicate is contained in a subject.

III. PSR, PC and Truth

Leibniz discusses his theory of truth in the *Discourse*.

> All true predication has some basis in the nature of things and...when a proposition is not an identity, that is, when the predicate is not explicitly contained in the subject, it must be contained in it virtually (D8, AW 228).

Note that Leibniz is dividing all true propositions into basic ones, in which the predicate is explicitly contained in the subject, and derived ones, which follow by analysis.
Finite analysis leads us to necessary truths.
But infinite analysis is required for contingent truths, so can only be completed by God.

> There must also be a *sufficient reason* in *contingent truths*, or *truths of fact*, that is, in the series of things distributed throughout the universe of creatures, where the resolution into particular

> reasons could proceed into unlimited detail because of the immense variety of things in nature and because of the division of bodies to infinity. There is an infinity of past and present shapes and motions that enter into the efficient cause of my present writing, and there is an infinity of small inclinations and dispositions of my soul, present and past, that enter into its final cause (M36, AW 278b).

The difference between truths known by finite analysis and truths only knowable by infinite analysis grounds Leibniz's account of free will, which is central to his rejection of Spinoza's philosophy.
For now, we should pursue the method of analysis.
The basic truths are known according to PC, since their denial is an explicit contradiction.
The denial of complex claims will lead to a contradiction once we analyze the complex claim into its simpler components.
So, consider:

> M. David is a married bachelor.

There is no explicit contradiction, here.
Another way to put the point is that M is not logically false.
But, if we substitute 'unmarried man' for 'bachelor', we transform M into M'.

> M'. David is a married unmarried man.

In M', the contradiction is explicit.
By analyzing M into M', we have revealed, explicitly, a contradiction that had been merely implicit.
The methodology of analysis, without Leibniz's heavy metaphysics, is the foundation of twentieth-century analytic philosophy, having been adopted by Frege, and later Russell, Wittgenstein, and the logical positivists.
The twentieth-century analytic philosophers relied on the new tools of mathematical logic to help perform rigorous analyses.
Contemporary analytic philosophers have mainly abandoned the central claims of analysis, especially that the proper method of philosophy is analysis of complex expressions into their component parts.
But, they have held on to the idea of using formal logic as a support to rigorous thinking.

From his theory of truth as conceptual containment, Leibniz derives PSR.
If some effect did not have a cause, if some truth had no reason, Leibniz argues, then there would be a claim whose subject did not contain its predicate.

IV. The Identity of Indiscernibles and the Second Argument Against Atomism

We are still looking at Leibniz's arguments against atomism, as a way of understanding the nature of monads.
Leibniz provides two arguments against atomism.
The first argument is that to take atoms as the basic components of objects entails denying the possibility of thought.
The second argument requires appeal to a further general principle, the identity of indiscernibles (II).
Leibniz argues to II from PSR:

> II1. If there were two indiscernible individuals, a and b, in our world, W, then there must also be another possible world, W*, in which a and b are "switched".
> II2. God could have had no reason for choosing W over W*.

II3. God must have a reason for acting as he does, by PSR.
IIC. Therefore, there are not two indiscernible (identical) individuals in our world (Adapted from SEP entry on Leibniz, §3.5).

Here's a contemporary (second-order) logical version of the identity of indiscernibles, for the sake of clarity among those who speak the language:

II. $(\forall x)(\forall y)(\forall F)[(Fx \equiv Fy) \supset x=y]$

The claim is that if any two objects share every property, they must be the same object.

Be careful not to confuse the controversial II with its almost incontrovertible converse, known as Leibniz's law:

LL. $(\forall x)(\forall y)(\forall F)[x=y \supset (Fx \equiv Fy)]$

LL just says that if two names refer to the same object, then the same properties hold of the referent under each name.

Given the identity of indiscernibles, simple substances must have distinct properties.
Since atoms are all alike, monads must not be atoms.

V. Monads and Perception

Among the properties of monads, the most essential is their ability to perceive, or express, the world.
Monads are representative in character; they express the way the world is.
And, they do not just express the way they are in the world.
They express the nature of the entire universe.

> Since every present state of a simple substance is a natural consequence of its preceding states, the present is pregnant with the future (M22, AW 277a).

We will return to the way in which monads represent the universe below.
For now, it is important to get clear on the concept of perception, and how these active, simple monads perceive.

Notice that monads are mind-like.

> One can call all simple substances or created monads entelechies, for they have in themselves a certain perfection...; they have a sufficiency...that makes them the sources of their internal actions, and, so to speak, incorporeal automata (M18, AW 276b-277a).

Only some monads have sense perception and memory; these we can call minds, or souls.
But all monads, being simple substances, have internal causes, independence from other monads.
They are the causes of their own activity; they are not merely passive receptors.
Leibniz likens them to substantial forms.
Since monads are like minds, their changes are representations, or perceptions.
These perceptions are pre-arranged by God, in harmony with the perceptions of all other monads.

Descartes argued that the essential characteristic of a mind is consciousness.
Leibniz mainly adopts Descartes's claim.
But since Leibniz's class of entelechies is wider than Descartes's class of minds, Leibniz's characterization of the essential characteristic of substance will have to be correspondingly broader.
All monads perceive.
The perception of a monad consists in its ability to represent, from its internal state, the entire history of the universe.

> The passing state which involves and represents a multitude in the unity or in the simple substance is nothing other than what one calls *perception*, which should be distinguished from apperception, or consciousness...This is where the Cartesians have failed badly, since they took no account of the perceptions that we do not apperceive. This is also what made them believe that minds alone are monads and that there are no animal souls or other entelechies (M14, AW 276a).

One person's modus ponens is another person's modus tollens.

> Can you really believe that a drop of urine is an infinity of monads, and that each of these has ideas, however obscure, of the universe as a whole? (Voltaire, *Oeuvres complètes*, Vol. 22, p. 434)

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Class 10 - February 17
Leibniz, *Monadology* and *Discourse on Metaphysics*

I. The Complete-World View of Substance

We have seen that Leibniz claims that true statements are ones in which the predicate is contained in the subject.
This claim has profound ramifications for the nature of a substance.
It means, in particular, that the concept of any substance has to contain all the properties that might be predicated of it.

> We can say that the nature of an individual substance or of a complete being is to have a notion so complete that it is sufficient to contain and to allow us to deduce from it all the predicates of the subject to which this notion is attributed (D8, AW 228a)

Leibniz considers the subject and concept of Alexander the Great.
The substance must correspond to a complete concept, in order for Alexander to be a substance.
These complete concepts will differentiate individual substances.
The individual substance contains all of the attributes of Alexander.
The concepts may be analyzed down to true predications.

> When we consider carefully the connection of things, we can say that from all time in Alexander's soul there are vestiges of everything that has happened to him and marks of everything that will happen to him and even traces of everything that happens in the universe, even though God alone could recognize them all (D8, AW 228b).

The history of the universe, past and future, can be seen in every individual substance.
We can call this claim the complete-world view of substance

Leibniz draws a remarkable series of consequences from the complete-world view:

> A substance can begin only by creation and end only by annihilation...
> A substance is not divisible into two...
> One substance cannot be constructed from two...
> The number of substances does not naturally increase and decrease...
> Every substance is like a complete world and like a mirror of God or of the whole universe, which each one expresses in its own way (D9, AW 229a).

Leibniz does not argue for each of these claims, though we can see how they can hang together.
Since monads reflect the entire history of the universe, they must exist from creation to destruction, for all eternity.
Leibniz's arguments for monads rely on his rejection of Descartes's doctrine of infinite divisibility, so their indivisibility is apparent.
Similarly, monads are simple substances, so can not have parts, can not be composites.

II. The Plenum

Leibniz's complete-world view is further explained by the interaction between the inter-connectedness of the universe and the independence of individual monads.

> Everything is a plenum, which makes all matter interconnected. In a plenum, every motion has some effect on distant bodies, in proportion to their distance. For each body is affected, not only by those in contact with it, and in some way feels the effects of everything that happens to them, but also, through them, it feels the effects of those in contact with the bodies with which it is itself immediately in contact. From this it follows that this communication extends to any distance whatsoever (M61, AW 280b).

The interconnectedness of all bodies continues today in physical theories, such as universal gravitation, which extend the force of one body on others to infinity.
In practice, this force is often negligible.
It is not clear that Leibniz thinks that the effects of one thing on another is ever quite that small.
Moreover, there is a problem interpreting Leibniz's statements about the plenum, since, strictly speaking, he believes that there are no bodies.

III. Minds and Bodies

We have been talking about bodies, and interactions.
For instance, Leibniz writes that organized bodies are divine machines.

> A machine constructed by man's art is not a machine in each of its parts. For example, the tooth of a brass wheel has parts or fragments which, for us, are no longer artificial things, and no longer have any marks to indicate the machine for whose use the wheel was intended. But natural machines, that is living bodies, are still machines in their least parts, to infinity (M64, AW 281a).

But, this is casual talk, and we should be know how to speak most seriously.
Strictly speaking, Leibniz is an idealist; he believes that there are no bodies.
Bodies are the appearances of monads.

> I don't really eliminate body, but reduce it to what it is. For I show that corporeal mass, which is thought to have something over and above simple substances, is not a substance, but a phenomenon resulting from simple substances, which alone have unity and absolute reality. (Leibniz, Letter to de Volder, in *Philosophical Essays*, Ariew and Garber eds.: 181).

For Leibniz, there is a real world (monads), a phenomenal world (bodies), and an ideal world (space and time).
Monads are not in space because the concepts of space and time do not apply to the world of the monad.

The activity of monads is internal, which is what makes them substances.
Each monads has a series of perceptions.
Having perceptions is what makes them distinct from atoms, and what grounds the possibility of thought.
The life of a monad is like unfolding its inner core.
Human minds are monads of a particular sort.
For ordinary monads, the series of their perceptions are all unconscious.
Our internal perceptions often come to us, like well-ordered dreams, from ourselves.
Even for conscious monads, the series is often unconscious, as when we sleep.

Still, unlike Berkeley, Leibniz talks about bodies in a way that he does not think is illegitimate.
He argues that minds and bodies are subsumed by distinct laws.
Minds obey laws of final causes; bodies are governed by efficient causes.
Thus, Leibniz has still to resolve the problem of interaction between mind and body.

If bodies really were *just* the appearances of monads, then Leibniz wouldn't have much of a problem of interaction.
But, given that they obey different laws, the question of why minds and bodies seem to be so finely attuned arises: why are the laws governing final causes just the same as the laws governing efficient causes?

Leibniz's response to the problem of interaction is guided by his understanding of three predecessors.
In addition to Descartes and Spinoza, Leibniz is influenced by Malebranche's occasionalism.

IV. Malebranche's Occasionalism

Descartes's work raises the problem of interaction.
Spinoza solves the problem of interaction by positing a parallelism that results from the unity of substance: mind and body are two different ways of looking at the same thing.
The part of Spinoza's claim that takes the body to be another perspective on the mind is amenable to Leibniz.
But, Leibniz rejects Spinoza's singularity of substance, embracing the multiplicity.
So, he can not say that bodies and mind are each perspectives on the same thing.

Malebranche argues for occasionalism.
Occasionalists argue that communication of motion among substances is impossible.
They see the problem of interaction (between mind and body) as a special case of a general problem of causal interaction (between any two things).

Let's take a moment to see the general problem.
The occasionalists were generally dualists, and the problem of interaction arises mainly for dualists.
Within a dualist framework, there are four kinds of causal interactions:

> CI1. Body-body (e.g. when one curling stone transfers momentum to the next)
> CI2. Body-mind (e.g. when one's body is harmed and the mind feels pain)
> CI3. Mind-body (e.g. when I decide to take a walk, and my body gets up and goes)
> CI4. Intra-mental (e.g. when I think about my children and that causes me joy)

We have seen that CI2 and CI3 are problems for the dualist.
But, CI1 is also a problem for Descartes.
Descartes claims that God both creates and preserves the universe, and that no one moment in any way necessitates the next.
Thus it appears that God is the immediate cause of what appear to be physical interactions.
The same problem arises for CI4, since there appears to be no more necessity in the order of my thoughts than in the order of events in the world.

The occasionalist argues that all types of causation are problematic.
Their central argument against CI1 is that bodies are passive, and thus can exert no force on each other.

> When I see one ball strike another, my eyes … seem to tell me, that the one is truly the cause of

> the motion it impresses on the other… . But when I consult my reason I clearly see that since bodies cannot move themselves, and since their motor force is but the will of God that conserves them successively in different places, they cannot communicate a power they do not have and could not communicate even if it were in their possession. For the mind will never conceive that one body, a purely passive substance, can in any way whatsoever transmit to another body the power transporting it. (Malebranche, *The Search for Truth and Elucidations of the Search for Truth*, p 660).

On occasionalism, bodies themselves can do nothing but respond to the will of an active substance.
Whenever a body is affected, there must be an agent to manage that interaction.
In body-mind events, CI2, God intervenes to create a mental events whenever the body is affected.
Thus, God does the moving.
Some people read Descartes as an occasionalist.

V. Transeunt and Immanent Causation

Leibniz accepts that the problem of causation among passive bodies is a serious one, but he rejects the occasionalist's recourse to appeals to God to guide every interaction.

> In solving problems it is not sufficient to make use of the general cause and to invoke what is called a *Deus ex machina*. For when one does that without giving any other explanation derived from the order of secondary causes, it is, properly speaking, having recourse to a miracle (*New System of Nature*, AW 273a).

Instead, Leibniz claims that monads are independent, and cannot affect one another.

> Nothing ever enters into our mind naturally from the outside; and we have a bad habit of thinking of our soul as if it received certain species as messengers and as if it has doors and windows...The mind always expresses all its future thoughts and already thinks confusedly about everything it will ever think about distinctly (DM 26, AW 240b).

This isolation of each monad is essential to their character, to their completeness.
The universe is multiplied many times over, in each monad.

> There is also no way of explaining how a monad can be altered or changed internally by some other creature, since one cannot transpose anything in it, nor can one conceive of any internal motion that can be excited, directed, augmented, or diminished within it, as can be done in composites, where there can be change among the parts. The monads have no windows through which something can enter and leave (M7, AW 275b)

Transeunt causation is a term used to describe the interactions among substances, as when one billiard ball transfers its momentum to another billiard ball.
Immanent causation, in contrast, describes the connections among states within a substance.
The series of thoughts in one's mind might be described as immanently caused.
Leibniz denies the possibility of transeunt causation.
He argues that all causation is immanent.

The denial of the real existence of bodies, then, entails that CI1 - CI3 are all moot.
Leibniz holds on to CI4, arguing that while there is no transeunt causation, there is internal, or immanent, causation.

Immanent causation is, as we have seen, guided by the will.

The problem of interaction, then, for Leibniz, is not, like Descartes's problem, to describe the interaction between mental substances and physical substances.
Strictly speaking, there are only mental substances.
Nor is Leibniz's problem of interaction, like the occasionalist's problem, to account for causation generally.
Instead, Leibniz's problem of interaction is to explain why, given the laws governing the series of perceptions and representations in the monad there is a parallel series in the appearances of the monad (i.e. the body) which are governed by strict physical laws.
In other words, he must explain why there appear to be transeunt efficient-causal interactions when there are only immanent, final-causal sequences of perceptions.

VI. Pre-Established Harmony

Leibniz solves his problem of interaction by proposing a system of pre-established harmony, much like Spinoza's parallelism.

> The soul follows its own laws and the body also follows its own; and they agree in virtue of the harmony pre-established between all substances, since they are all representations of a single universe (M78, AW 282a).

Leibniz's argument for parallelism is clearer in *New System of Nature*, 273a-b, than it is in either the *Monadology* or the *Discourse on Metaphysics*; you might look at it there.
The central claim is that the appearances of bodies seem to follow the laws of efficient causation since they are designed by God to do so, in parallel with the pre-programmed series of perceptions of the soul.

Without transeunt causation, the relations among monads are just pre-established harmony.
God puts the universe in motion in such a way that the mind and body seem to affect each other, and such that monads seem to affect each other.
Immanent causation, the relations among perceptions of a monad, are not impugned.
But, the appearance of transeunt causation is, as it was for Spinoza, an illusion.
While this pre-established harmony undermines the freedom of the will, by positing a determined sequence of events, it also makes that freedom easier to describe, since interactions among bodies need not be taken as governed by external laws.

VII. Leibniz and Descartes on Interaction

This section is a short aside.
Leibniz criticizes an error in Descartes's claim that the soul can affect the body.
Descartes had argued that it would violate the laws of physics for souls to add motion into the universe, but that it would not violate laws for a soul to change the direction of a body.
Descartes believed correctly that quantity of motion (momentum) was conserved in a physical interaction.
In that, he anticipated Newton's laws of motion.
But Descartes misinterpreted momentum as a scalar quantity, ignoring its vector (or directional) qualities, and leaving open the option for a soul to interact with bodies without violating physical laws.
Leibniz believes that Descartes would have adopted his view of pre-established harmony, if he had seen the error in his physics.

> Descartes recognized that souls cannot impart a force to bodies because there is always the same quantity of force in matter. However, he thought that the soul could change the direction of bodies. But that is because the law of nature, which also affirms the conservation of the same total direction in matter, was not known at the time. If he had known it, he would have hit upon my system of pre-established harmony... (M80, AW 282b).

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Class 11 - February 22
Leibniz, *Monadology*, *Discourse on Metaphysics*, from *Theodicy*

0. Subliminal Advertising

I. Theodicy

Leibniz holds, perhaps most famously, that this world is the best of all possible worlds.
He defends this claim in his *Theodicy*, which is one of only two books that Leibniz published in his lifetime.
(The other was his extended commentary on Locke's work, *New Essays on the Human Understanding*.)
The claim about our world being the best of all possible worlds may give us insight into Leibniz's subtle claims about contingency and freedom.
In the *Monadology*, Leibniz argues for this conclusion from one of his two basic principles, the principle of sufficient reason.

> T1. God is omnipotent and omniscient and benevolent and the free creator of the world.
> T2. Things could have been otherwise—i.e., there are other possible worlds.
> T3. If this world is not the best of all possible worlds, then at least one of the following must be the case:
> T3a. God was not powerful enough to bring about a better world; or
> T3b. God did not know how this world would develop after his creation of it; or
> T3c. God did not wish this world to be the best; or
> T3d. God did not create the world.
> T4. 3a-3d all contradict 1.
> T5. Therefore, this world is the best of all possible worlds (M53, AW 280a et seq.).

Note that God is, according to Leibniz, obligated to create the best world possible as a requirement of divine benevolence.
We might wonder how worlds get ranked in order of goodness, what the criteria of goodness are.
Spinoza worried about our anthropocentric projections, especially of the nature of goodness, onto God.
Leibniz takes the universality of mathematics as paradigmatic, using simplicity and richness as criteria.

> God has chosen the most perfect world, that is, the one which is at the same time the simplest in hypotheses and the richest in phenomena, as might be a line in geometry whose construction is easy and whose properties and effects are extremely remarkable and widespread (D6, AW 227a-b).

Voltaire lampooned Leibniz's claim T5 in *Candide*, just as he derided his claims about monads.
Though Leibniz's claim does seem false, even absurd, sneering is not an argument.

The obvious argument against Leibniz's claim is that we can imagine better possible worlds.
We might agree with Spinoza in thinking that everything non-contradictory is possible.
No obvious contradiction arises from the concept of a world like this one but with less famine and war.
Thus, there seem to be other possible worlds better than this one.
David Lewis, in the 20th Century argues for modal realism: all possible worlds exist; the Spinozan view persists.

II. Possibility and Compossibility

In response to the criticism that other possible worlds are better than ours, Leibniz insists that the possibility of an event alone does not entail its compossibility with other events.
Alternative worlds appear possible, but only because we are seeing them incompletely.
If we saw the full set of consequences of even a single change, Leibniz argues, we would find either a contradiction or a worse world, overall.

It looks to us as if the world which is just the same as it is, except that Hamilton College is located on a small Caribbean island with fruited mango trees and sea breezes on campus all year around, is possible.
But, Leibniz argues, to make even one change in the world entails changing other factors in that world.
What seems possible in itself may not be compossible with other changes that moving Hamilton would entail.

We can see the problem of compossibility clearly when we recall Leibniz's complete-concept view of the monad.
I could not live in the Caribbean-Hamilton world.
For, my complete concept includes living in Clinton, not in the Caribbean.
And, one could, in principle, know that I live in Clinton just by analyzing my concept.
If Hamilton were located in the Caribbean, none of us would be members of its community.
There would be people somewhat like us attending and teaching at that school.
We do not know what other properties of those people would have to be different from us in order to construct a system of compossibilities.
We could call the people in the Caribbean-Hamilton world our counterparts, but they would not be us.

> These worlds are all here, that is, in ideas. I will show you some, wherein shall be found, not absolutely the same Sextus as you have seen (that is not possible, he carries with him always that which he shall be) but several Sextuses resembling him, possessing all that you know already of the true Sextus, but not all that is already in him imperceptibly, nor in consequence all that shall yet happen to him. You will find in one world a very happy and noble Sextus, in another a Sextus content with a mediocre state, a Sextus, indeed, of every kind and endless diversity of forms (Theodicy, ~416).

Note the subtlety of Leibniz's position, here.
There are other Sextuses, in the other possible worlds, but they are not him.

The controversy over whether we exist in other possible worlds, or whether only our counterparts exist in other worlds, continues to be a hot topic in contemporary modal metaphysics.
Saul Kripke, in *Naming and Necessity*, argued that we stipulate other possible worlds, keeping as much as we like the same across worlds.
This claim is related to his assertion that names are rigid designators, that they refer to the same thing across all possible worlds.
According to Kripke, we exist in other possible worlds.
In contrast, David Lewis defended counterpart theory, the claim that I am not the same across all possible worlds.
According to counterpart theory, there are counterpart relations among me and all my dopplegangers in other possible worlds.
Exploring the nature of other possible worlds involves specifying, as far as possible, those counterpart relations.
We might identify me with the set of my counterparts across all possible worlds, but that would be to make me a mathematical object (a set), rather than a person!

Today, we use the term Kripkean semantics to refer to theories of possible worlds with transworld identity, in which the same object can exist in more than one world.
We use the term counterpart theory to refer to theories of possible worlds with merely transworld counterpart relations, following Lewis and Leibniz.

Here, for you logicians, are the axioms of counterpart theory, with the given translation key:

Wx:	x is a world
Ixy:	x is in world y
Ax:	x is actual (exists in the actual world)
Cxy	x is a counterpart of y

C1. $(x)(y)(Ixy \supset Wy)$	worlds are the containers of objects
C2. $(x)(y)(z)[(Ixy \bullet Ixz) \supset y=z]$	individuals can only exist in one world
C3. $(x)(y)[Cxy \supset (\exists z)Ixz]$	
C4. $(x)(y)[Cxy \supset (\exists z)Iyz]$	all counterparts exist in worlds
C5. $(x)(y)(z)[(Ixy \bullet Izy \bullet Cxz) \supset x=z]$	there are no distinct counterparts in any given world
C6. $(x)(y)(Ixy \supset Cxx)$	a thing is the counterpart of itself
C7. $(\exists x)[Wx \bullet (y)(Iyx \equiv Ay)]$	there is a world which contains all and only actual things
C8. $(\exists x)Ax$	the actual world exists

Let's put aside counterpart theory and return to Leibniz's problem of compossibility, of arguing that this world, despite its flaws, is really the maximization of compossible events.
According to Leibniz, this world is the result of God's maximizing various factors which are in tension, even if the tension is not apparent.

> Just as the same city viewed from different directions appears entirely different and, as it were, multiplied perspectively, in just the same way it happens that, because of the infinite multitude of simple substances, there are, as it were, just as many different universes, which are, nevertheless, only perspectives on a single one, corresponding to the different points of view of each monad... And this is the way of obtaining as much variety as possible, but with the greatest order possible, that is, it is the way of obtaining as much perfection as possible (M58, AW 280b).

Leibniz's view, then, recalls Descartes's claim, in the Fourth Meditation, that the perfection of the whole is not apparent from the view of the finite individual.
Leibniz believes that a world without disasters would be a world with irregular laws, in which science and engineering would be impossible.
A world without sin would be a worse world, even if it does not appear to be worse.

III. Leibniz's Arguments for the Existence of God

The problem of knowing whether possibilities are compossible explains Leibniz's criticism of Descartes's ontological argument for the existence of God.
We have been taking Leibniz's claim for the existence of God as axiomatic.
In fact, Leibniz presents an improved version of the ontological argument.
Leibniz complains that Descartes's argument only shows that the concept of God contains existence, if God exists.
Descartes's argument omits a defense of the initial instantiation of the concept.

> But since we often think of impossible chimeras - for example of the highest degree of speed, of the greatest number, of the intersection of the conchoid with its base of rule - this reasoning is insufficient... There are true and false ideas, depending upon whether the thing in question is possible or not. And it is only when we are certain of its possibility that we can boast of having an idea of the thing (D23, AW 239a).

It remains for the defender of the ontological argument to show that it is possible for God to exist, that the perfections are compossible.

Leibniz argues that perfections are compossible since they are simples, and all simples are compossible. You can find a more detailed analysis of Descartes's argument, and Leibniz's improvement of the argument, in an essay called, "That a Most Perfect Being Exists."

Leibniz also presents a cosmological, or causal argument, for the existence of God.

> There must be a *sufficient reason* in *contingent truths*, or *truths of fact*, that is, in the series of things distributed throughout the universe of creatures, where the resolution into particular reasons could proceed into unlimited detail...And since all of this *detail* involves nothing but other prior and or more detailed contingents, each of which needs a similar analysis in order to give its reason...It must be the case that the sufficient or ultimate reason is outside the sequence or *series* of this multiplicity of contingencies, however infinite it may be...The ultimate reason of things must be in a necessary substance in which the diversity of changes is only eminent, as in it source. This is what we call *God* (M336-8, AW 278b).

From the mere existence of this world, and the principle of sufficient reason, Leibniz thus derives the standard infinite characteristics of God.
God, according to Leibniz, must have an infinite understanding, in order to survey all possible worlds.
God must have an infinite will which allows him to choose among all possible worlds.
And, God must have infinite power to create this world.
See *Theodicy*, §7, for more on these derivations.

IV. Contingent and Necessary Truths

We were looking at Leibniz's claim that this is the best of all possible worlds in order to gain insight into Leibniz's claims about contingency and freedom.
Where Spinoza thought that everything that was possible was actual, Leibniz thinks that there are other possible worlds which are non-actual.
Ordinarily, and for Leibniz, we think of alternate worlds as descriptions of paths not taken, of choices we have not chosen.
Thus, the questions surrounding possible worlds are linked to questions surrounding human freedom.
If there are non-actual possible worlds, they are naturally seen as the result of our freedom to choose this one, rather than another.
The existence of this world, as against other possible worlds, is contingent on our free choice.
Indeed, Leibniz's work is motivated in large part by a rejection of Spinozan necessitarianism, the claim that every decision is determined, since God instantiates every possibility.
Leibniz believes that, for some actions, I could have done otherwise.

In contrast, Leibniz holds, as a basic and fundamental principle, that nothing happens without sufficient reason (PSR).
PSR, combined with God's omniscience, entails that God has foreknowledge of all of our actions.

Further, Leibniz believes that any truth can be discovered by analyzing the complete concept of a substance into its component parts.
By analysis, we will either find a given predicate inside the original concept, or find a contradiction arising from that predication.
Either a property is true of a substance or it is not, both in the future and in the past.
The status of any claim can be evaluated by analyzing the concept of any monad at any time.
There seems to be no room for free choice, for denying that one can act other than one does, that the world can be other than what it is.

In Leibniz's discussions of contingency and necessity, we can see three hints at room for a resolution of this conundrum.
First, while Leibniz states that the actual world is the best of all possible worlds, he does accept that such other worlds are possible.
We can look at those possibilities, and on what they depend, more carefully for an account of contingency.
Second, Leibniz claims that contingent claims can by discovered only by infinite analysis, while necessary truths are discoverable by finite analysis.
Third, Leibniz distinguishes between certain truths and necessary ones.

> Everyone grants that future contingents are certain, since God foresees them, but we do not concede that they are necessary on that account (D13, AW 230b).

By exploring these three hints, we can arrive at a characterization of contingency and freedom, and then see if we can accommodate this view with the more necessitarian elements of Leibniz's work.

Leibniz's claim that there are other possible worlds arises directly from his observation of the phenomenology of free will.
The problem with the phenomenology of free will is that we do not know whether it is an illusion.
The existence of an omniscient God seems to debar any future that was not already, in a sense, settled.
Further, the laws of physics seem, at least on the observable level, to be deterministic.
So, Leibniz's weakest claim about other possibilities, and our freedom to create them, is that they are merely chimerical.
The fact that Leibniz embraces talk about possible worlds does not entail that such talk does not conflict with other of his claims.
In particular, as we have seen, an account of contingency is likely to conflict with Leibniz's complete-world view of substance.

Our second hint is that Leibniz makes a distinction between those truths which require infinite analysis and those which require only finite analysis.
The topics of analysis and conceptual containment are, like the nature of possible worlds, important in contemporary philosophy, and will continue to be relevant through this course.
In a finite analysis, we can unpack a complex concept until we reach what Leibniz calls an identity statement.

$$3^2 = \sqrt{81}$$
$$3 \times 3 = 9$$
$$3 \times 3 = 3 \times 3$$

Since the terms on each side are identical, we have shown the original statement to be necessary.
Later philosophers call such claims analytic truths.

Similarly, given a false statement, we will arrive at some kind of contradiction by analysis.
Leibniz thinks that we can one use the same process of analysis to determine the truth of other statements, including scientific claims.
Consider:

> Russell has two children.

According to the doctrine of conceptual containment, my concept contains, in some way, my having two children.
Nevertheless, there are possible worlds in which I don't have two children.
Correspondingly, when we analyze the concept 'Russell', we will not be able to unpack the claim that I have two children.
God could do so, but we can not.

> The one whose contrary implies a contradiction is absolutely necessary; this deduction occurs in the eternal truths, for example, the truths of geometry. The other is necessary only *ex hypothesi* and, so to speak, accidentally, but it is contingent in itself, since its contrary does not imply a contradiction. And this connection is based not purely on ideas and God's simple understanding, but on his free decrees and on the sequence of the universe (D13, AW 231a).

So, Leibniz claims, it is certain that I have two children; God can see that fact.
But, it is not necessary that I have two children, since this fact depends on the free choices of my wife and me.

Leibniz illustrates his distinction between certainty and necessity, our third hint, referring to Julius Caesar.

> If someone were able to carry out the whole demonstration by virtues of which he could prove this connection between the subject, Caesar, and the predicate, his successful undertaking, he in fact be showing that Caesar's future dictatorship is grounded in his notion or nature, that there is a reason why he crossed the Rubicon rather than stopped at it and why he won rather than lost at Pharsalus and that it was reasonable, and consequently certain, that this should happen. But this would not show that it was necessary in itself nor that the contrary implies a contradiction... For it will be found that the demonstration of this predicate of Caesar is not as absolute as those of numbers or of geometry, but that it supposes the sequence of things that God has freely chosen, a sequence based on God's first free decree always to do what is most perfect and on God's decree with respect to human nature, following out of the first decree, that man will always do (although freely) that which appears to be best. But every truth based on these kinds of decrees is contingent, even though it is certain; for these decrees do not change the possibility of things...it is not its impossibility but its imperfection which causes it to be rejected. And nothing is necessary whose contrary is possible (D13, AW 231b).

Necessary events will have possible contraries.
But, alternative possibilities need not be compossible with other alternatives.
They may be possible only in themselves, not in respect to the broader world.

I am not going to defend Leibniz's distinction between necessity and certainty, which is also called the distinction between truths of reason and truths of fact.
If my future actions are certain, my free will is denigrated, even if Leibniz calls those actions contingent.
Leibniz may have provided us only a semantic difference, not a real difference.
Putting that complaint aside, let's see how Leibniz's distinction manifests his resultant theory of freedom.

V. Freedom

For freedom, Leibniz is most concerned to establish a theory of will on which God's will is free.
The freedom of God's will seems challenged by Leibniz's claim that God's will is constrained to choose the best.
God's will appears to be determined.

Leibniz's solution is to say that while God's is constrained to choose the best, that choice is still free.
There is nothing in the nature of any possible world that constrains God to create it.
All worlds are contingent, and remain to be brought into existence by God.
Only God could perform the infinite analysis which would yield knowledge of which world is best.

Elsewhere Leibniz argues for what is called the doctrine of striving possibles.
Each possible entity strives for existence against other possible entities.

> Since something rather than nothing exists, there is a certain urge for existence or (so to speak) a straining toward existence in possible things or in possibility or essence itself; in a word, essence in and of itself strives for existence. Furthermore, it follows from this that all possibles, that is, everything that expresses essence or possible reality, strive with equal right for existence in proportion to the amount of essence or reality or the degree of perfection they contain, for perfection is nothing but the amount of essence. From this it is obvious that of the infinite combinations of possibilities and possible series, the one that exists is the one through which the most essence or possibility is brought into existence. In practical affairs one always follows the decision rule in accordance with which one ought to seek the maximum or the minimum: namely, one prefers the maximum effect at the minimum cost, so to speak ("On the Ultimate Origination of Things").

The actual world is the result of the resolution of the struggle among possibles.
In that struggle contains a hint of freedom, one that will allow us to assimilate the accounts of God's freedom and human freedom.

For human freedom, recall that one of the motivating factors in positing the existence of monads was to capture mental phenomena; bodies can not think.
Leibniz takes active, thinking things as elemental.
The life of the monad consists of the unfolding of its perceptions.
The activity of a monad corresponds to the distinctness of its perceptions.
Some perceptions are unconscious, some perceptions are conscious apperceptions, some perceptions are clear and distinct.
But all activity is self-determined, according to laws of final causes; Leibniz denies any transeunt causation.
Leibniz calls the guiding principles of the unfolding of a monad's perceptions appetition.

> The action of the internal principle which brings about the change or passage from one perception to another can be called *appetition*; it is true that the appetite cannot always completely reach the whole perception toward which it tends, but it always obtains something of it, and reaches new perceptions (D15, AW 276b).

As the monads of persons have both conscious experience (distinct perception) and memory, we apperceive our appetition.

Let's say that I desire a milkshake.
My desire for that milkshake is reasonably attributable to some prior beliefs and desires, along with some account of my current experiences and surroundings.
An account on which all of those factors are beyond my control is not implausible.
But notice, the more ignorant we are of those factors, the more we take them to be unconscious or hidden, the more likely we are to see our desire for the milkshake as free.
Once we analyze our beliefs, desire, and surrounding, we are more likely to see ourselves as constrained.
Consider the strength of subliminal advertising.
We might think that we are freely choosing to have a beverage, though that thought is actually the result of predictable subconscious trains of thought.
So, Leibniz's account of freedom on which our actions are determined (knowable in advance) and yet free, is not incompatible with common sense, in such cases.

Libertarians (in the philosophical sense - defenders of freedom of the will) are more concerned to defend the freedom of our decision to acquire and drink, or not, the milkshake.
Leibniz's account of free will is harder for a libertarian to accept.
For Leibniz, human freedom, like God's freedom, is restricted.
God understands what is best, and freely chooses it; what is possible is independent of God's will, but not his understanding.
Our freedom, like God's, is the name we give to our faculty for striving, for unfolding the internal principles of our essence.
We strive for future states, even if they are states of pain and unhappiness, as these are preferable to the alternative, which is non-existence.

I won't pursue a defense of Leibniz, here.
I will just mention that contemporary discussions of free will are often less concerned with the metaphysical problem.
Most philosophers agree that the arguments for metaphysical determinism are strong.
The focus of a lot of contemporary research is on how to rectify determinism with our beliefs about moral responsibility.
Many people hold what is called compatibilist views: we can have free will, in a sense, and moral responsibility in a determined universe.
We will return to free will, and discuss compatibilism, when we get to Hume.

Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2011 Russell Marcus
Tuesdays, Thursdays: 9am - 10:15am rmarcus1@hamilton.edu

Class 12 - February 24
Leibniz, *Monadology* and *Discourse on Metaphysics*
Newton, "Scholium to Definitions" from *Principia*, and other selections
Leibniz, from *Letters to Clarke*

I. Absolute and Relational Notions of Space and Time

Theories of space and time have their roots in our observations about change.
Most or all change appears due to some sort of motion, of the change of place of some objects over time.
Motion is ordinarily measured relative to some external object.
When I am traveling on the highway, I am moving, with respect to the world outside the car, and sitting with respect to the car itself.
We use terms like 'up' and 'down', relative to the Earth.
But, even the Earth itself is moving, spinning on its axis.
The axis of the Earth is shifting as well, in the annual revolution of our planet around the sun.
The solar system is moving relative to our Milky Way Galaxy, and the Milky Way is moving within our local system of galaxies.
And so on, one supposes.
I am driving 50 mph west, while the Earth is spinning at 650 miles per hour East, and the whole system is flying through space in its revolution around the sun at around 66,000 miles per hour.
Further, our solar system is moving within our galaxy, which is moving in relation to other galaxies.
Is there some fixed point, some privileged reference frame, to which all motion can be measured?
For most practical purposes, we can pick a frame of reference outside of our solar system, measuring motion with respect to distant stars.
But, is there an absolute sense in which we can be said to be moving or not?
If so, can we measure this motion relative to some special body or substance, like absolute space?
Is there space, in addition to places?

Newton and Leibniz clashed over whether space and time had absolute reality, or whether they were merely relational concepts.
Newton's view is that space is something distinct from the bodies that occupy it, and that time is something that passes uniformly without regard to events in the world.
Space is an empty container, and time marches inexorably forward.
Though we measure space and time using bodies and events, these are only indicative of relative motions.

In contrast, Leibniz's relationalist view is that space and time are idealizations, abstractions from the realities of the material world.
(Here, we will put aside Leibniz's idealism, and consider bodies as real things.)

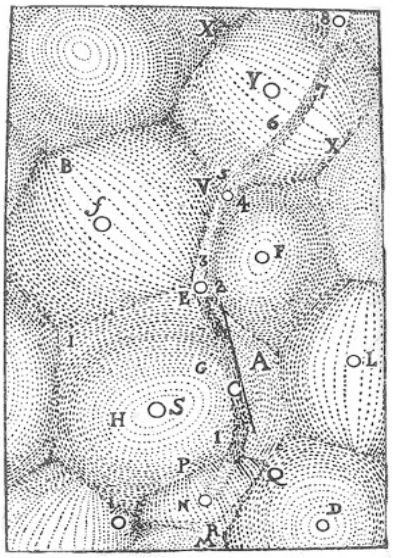
> I hold space to be something merely relative, as time is...an order of coexistences, as time is an order of successions (Leibniz, LIII.4, AW 297b).

The differences between Newton and Leibniz over the nature of space and time are tied to their different conceptions of motion, and acceleration.
If motion is change of place over time, then to define motion, we have to know if we are appealing to absolute motion, the change in the place in absolute space of an object, or relative motion, the mere rearrangement of bodies.

Newton and Leibniz were influenced by two distinct schools of thought.

On the one hand, Descartes's physics denied the possibility of a void, or vacuum.
This view was inherited from the Aristoteleans who believed that a void is nothing, and what is nothing does not exist.
Descartes incorporated the opposition to a vacuum into the new science by taking the world to be a plenum, in which space is not distinct from the bodies which fill it.

> All places are full of bodies... Each body can move only in complete circle of matter, or ring of bodies which all move together at the same time: a body entering a given place expels another, and the expelled body moves on and expels another, and so on, until the body at the end of the sequence enters the place left by the first body... (Descartes, *Principles of Philosophy*, II.33).



(Right: Descartes's depiction of the plenum, *Principles of Philosophy*, II.553)

Despite his many differences with Descartes, both in physics and metaphysics, Leibniz adopts Descartes's views on the completeness of the material world.

Leibniz agrees with Descartes about the plenum.

> Let us fancy a space wholly empty. God could have placed some matter in it without derogating, in any respect, from all other things; therefore, he has actually placed some matter in that space; therefore, there is no space wholly empty; therefore, all is full (Leibniz, LIV.PS, AW 303a).

Leibniz believes that the idea of empty space is self-contradictory, and contradicts God's commitment to creating the best of all possible worlds.
His denial of a void implies that there is no space beyond the places of objects.

In contrast, the atomists, like Gassendi, argue that the places between objects are empty.
Objects are placed in a transcendent void.
When we move, we change our place relative to the objects around us, and, they argue, we change our location in absolute space.

Here is one way to see the difference between Newton's absolutist view and Leibniz's relationalism.
Consider the question, "What exists outside the universe?"
Leibniz, with the Cartesians, answers that the universe extends infinitely, so that there is no outside.
Newton, with the atomists, answers that there is an empty void.
Today, the debate between relationalism and absolutism continues between space-time relationalists, who believe that space-time is an artificial, or nominal, construct out of particular bodies, and substantivalists, who believe in the existence of space-time points or regions.

II. Newton's Bucket

Here is a summary of Newton's views on space and time.

> Absolute time passes steadily without relation to anything external, and thus without reference to any change or way of measuring of time.
> Absolute space remains without relation to anything external.
> Relative spaces are measures of absolute space defined with reference to some system of bodies; a relative space may be in motion.
> The place of a body is the space which it occupies, whether absolute or relative.
> Absolute motion is the translation of a body from one absolute place to another; relative motion is the translation from one relative place to another.

Thus, space is distinct from, and exists independently of, bodies.
It is logically and metaphysically prior to bodies and events among bodies, in that bodies require space but space need not include any bodies.
There is a fact of the matter whether a given body moves and what its true quantity of motion is.
The true motion of a body does not consist of, or cannot be defined in terms of, its motion relative to other bodies.
See the Stanford Encyclopedia of Philosophy article on Newton's views of Space, Time, and Motion; also see Tlumak 167-8.
More speculatively, Newton refers to space as the sensorium of God, and as the seat of divine cognition.

Newton's view can be found in the Scholium, as well as in the other assigned selections.
In the Scholium, Newton starts with definitions of absolute and relative spaces, and motions, and then proceeds to argue for the existence of absolute time and space.
In large part, Newton's arguments are aimed against the Cartesians who defined motion in terms of the translation of a body relative to its surrounding objects in the plenum.
Newton had many reasons to be unhappy with Cartesian physics.
For one, Descartes centered his account of physics around motion, rather than acceleration.
The arguments in paragraphs 8-11, the last of which immediately precedes the discussion of the bucket experiment, are mainly directed at Cartesian physics.
He argues that the definition of motion as translation of a body relative to its surrounding objects will not allow us to arrive at a measurement of absolute motion.

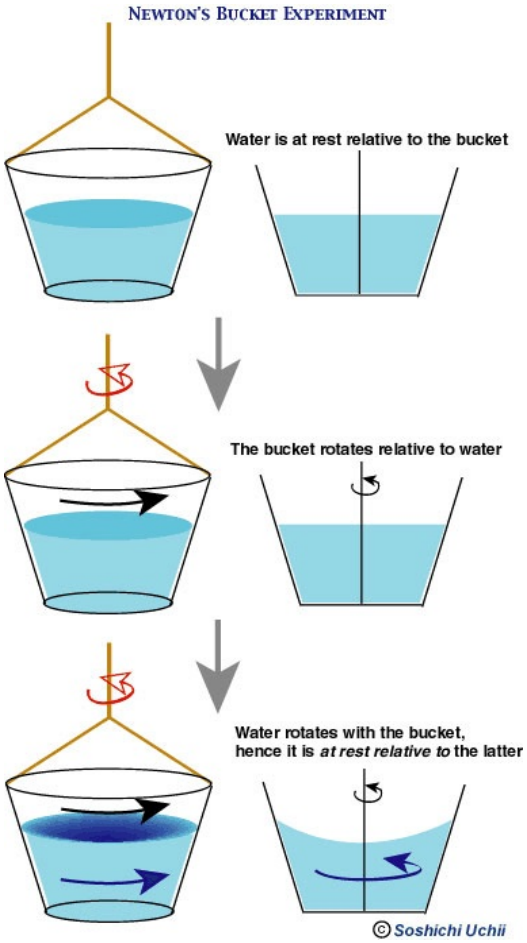
For example, let's assume that bodies that are truly at rest are at rest with respect to one another.
Imagine that there is a distant star which is absolutely at rest.
We might wonder if something in our vicinity, say this table, is at rest, too.
But, if we measure the motion of the table relative to the motions of things around it, we can not know whether it is moving or at rest relative to the distant star.
The table is at rest with respect to its surroundings, but that does not determine whether it is at rest, absolutely.
Thus, true rest cannot be defined simply in terms of position relative to bodies in the vicinity.

Newton discusses other properties of motion that lead to difficulties for Cartesian physics.
The property that if a part of a body maintains a fixed position with respect to the body as a whole, then it participates in the motion of the whole body entails that absolute motion cannot be defined as a translation from the immediately surrounding bodies.
Imagine that I am sleeping in the back of the car.
My femur is at rest with respect to me.
I am at rest with respect to the car.

But, my femur and I are both moving.
The property that a body participates in the motion of its place when it moves away from that place entails that the absolute motion of a body cannot be defined except by means of stationary places.
You can change the relative motion of a body by changing the motion of the bodies to which you are comparing it.
But, you can only change the true, or absolute, motion of a body by applying some force to it.

These arguments from properties and causes are important for characterizing Newton's concept of absolute space and motion.
But, the most influential argument in favor of his thesis that we must posit absolute space in order to make sense of motion is Newton's example of a rotating bucket.
Newton's bucket experiment provides a case in which there are states of a system with different motions, yet which can not be described in terms of changes of place with respect to surrounding objects.
We know that the motions are different in the two states, but we can not differentiate them in terms of local changes of place.

Consider a bucket, suspended by a rope, and filled with water.
Turn the bucket many times, so that the rope twists.
In state 1, hold the bucket still.
The surface of the water inside the bucket is flat.
Now, let go of the bucket.
In state 2, the motion of the bucket is fast, but the motion of the water is slow.
The surface of the water in the bucket remains flat.
The water is moving very rapidly with respect to the bucket, and yet there is no centrifugal force manifested.
After a while, the water begins to turn with the bucket, and centrifugal force pushes the water up the sides of the bucket.
The surface of the water becomes concave.
In state 3, the bucket and the water are at relative rest, and yet the water has a concave surface.



Now, compare state 1 to state 3.
In both states, the water and the bucket are at relative rest.
In state 1, for both the relationalist and the absolutist, there is no motion.
But state 3 is measurably different to state 1, and the relationalist seems unable to describe the difference between the two states, since the water and the bucket are at relative rest in both states.
The absolutist needs merely to point out that in state 3, the system is in absolute motion, while in state 1, the system is at absolute rest.

One problem for the doctrine of absolute motion, a problem which Newton admits, is that, in contrast to rotation, which the bucket experiment measures, it is difficult to measure absolute velocity.
The absolute speed of a body is the rate of change of its position relative to an arbitrary point of absolute space.
According to Newton's account, absolute velocity is a well-defined quantity.
But consider, as Galileo did, riding in a ship at a constant velocity.

> Shut yourself up with some friend in the main cabin below decks on some large ship, and have with you there some flies, butterflies, and other small flying animals. Have a large bowl of water with some fish in it; hang up a bottle that empties drop by drop into a wide vessel beneath it.
>
> With the ship standing still, observe carefully how the little animals fly with equal speed to all sides of the cabin. The fish swim indifferently in all directions; the drops fall into the vessel beneath; and, in throwing something to your friend, you need to throw it no more strongly in one direction than another, the distances being equal; jumping with your feet together, you pass equal spaces in every direction.
>
> When you have observed all of these things carefully (though there is no doubt that when the ship is standing still everything must happen this way), have the ship proceed with any speed you like, so long as the motion is uniform and not fluctuating this way and that. You will discover not the least change in all the effects named, nor could you tell from any of them whether the ship was moving or standing still. In jumping, you will pass on the floor the same spaces as before, nor will you make larger jumps toward the stern than towards the prow even though the ship is moving quite rapidly, despite the fact that during the time that you are in the air the floor under you will be going in a direction opposite to your jump. In throwing something to your companion, you will need no more force to get it to him whether he is in the direction of the bow or the stern, with yourself situated opposite.
>
> The droplets will fall as before into the vessel beneath without dropping towards the stern, although while the drops are in the air the ship runs many spans. The fish in the water will swim towards the front of their bowl with no more effort than toward the back, and will go with equal ease to bait placed anywhere around the edges of the bowl. Finally the butterflies and flies will continue their flights indifferently toward every side, nor will it ever happen that they are concentrated toward the stern, as if tired out from keeping up with the course of the ship, from which they will have been separated during long intervals by keeping themselves in the air... (Galileo Galilei, *Dialogues Concerning the Two Chief World Systems*)

We cannot determine from observations inside the cabin whether the boat is at rest in harbor or sailing smoothly.
The point of the ship example, in this context, is to show that Newton's absolute velocity cannot be experimentally determined, unlike absolute rotation.

> Yet the thing is not altogether desperate; for we have some arguments to guide us, partly from the apparent motions, which are the differences of the true motions, partly from the forces, which are the causes and effects of the true motions (Newton, Scholium to Definitions in *Principia*, AW 288a).

I will not pursue the details of Newton's solutions, which are really the elements of his mechanics.

III. Leibniz's Relationalism

Leibniz discusses many conflicts in his correspondence with Newton's secretary, Samuel Clarke. Newton, it seems, participated in constructing some of the correspondence, though some of it appears to be written by Clarke, alone.

> Our dispute consists in many other things. The question is whether God does not act in the most regular and most perfect manner; whether his machine is liable to disorder, which he is obliged to mend by extraordinary means; whether the will of God can act without reason; whether space is an absolute being; also concerning the nature of miracles; and many such things, which make a wide difference between us (Leibniz, LIII.16, AW 299a).

We are focusing only on the question of whether space is relational or absolute.

One problem with Newton's claim is that space seems difficult to classify as a substance or an attribute.
Newton does not take space to be a substance, for it lacks causal powers.
But, it is also not an attribute, since its existence transcends the existence of any things.
Unlike, say, redness, it doesn't need a thing to be predicated of.

> If space is a property or attribute, it must be the property of some substance. But of what substance will that bounded empty space be an affection or property, which the persons I am arguing with suppose to be between two bodies? (Leibniz, LIV.8, AW 300a).

So, space is real, but hovers in between substance and attribute.
We could, for Newton, call it a pseudo-substance.
Leibniz seems to think that this argument is important.
He derives consequences from it that seem to impugn the perfections of God.
But, it is not clear that the argument has the ramifications that Leibniz takes it to have.
Perhaps the classification of all objects into substances and attributes is incomplete.

Leibniz's more influential arguments derive from his general principles which he claims rescue science from nonsense.

> Those great principles of sufficient reason and of the identity of indiscernibles change the state of metaphysics. That science becomes real and demonstrative by means of these principles, whereas before it did generally consist in empty words (Leibniz, LIV.5, AW 299b).

Leibniz says that the doctrine of absolute space and time lead to absurdities.
Could the universe, for example, have been created at a different time?
Could it be moved three inches to the left?
There would be no way to distinguish two universes that were identical in all their relations among objects, but put into a different space, or reoriented.

> Those two states, the one such as it is now, the other supposed to be the quite contrary way, would not at all differ from one another. Their difference therefore is only to be found in our chimerical supposition of the reality of space in itself. But in truth, the one would exactly be the same thing as the other, they being absolutely indiscernible, and consequently there is no room to inquire after a reason for the preference of the one to the other (Leibniz, LIII.5, AW 297b-298a; see also LIV.13, AW 300a-b).

Instead, Leibniz argues, space is a set of relations among bodies.

Time is an abstract relation among events (or perceptions).
Those systems of relations might be thought of as abstract, but they should not be reified.
Elsewhere, in the Fifth Letter, Leibniz refers to the structure of space time as analogous to a family tree, which is just set of organizing relations, and not a thing in itself.
The infinite divisibility of space and time are further arguments against their reality; no really existing thing could be infinitely divisible.
We must take space and time to be ideal, or imaginary constructs derived from the appearances of bodies.

The status of space and time are further impugned when we remember that even bodies, for Leibniz, are just appearances.
Space and time turn out to be abstractions on what is already only a mere appearance.
The only reality is monadic.
Monads have temporal properties, but not spatial properties, except in a thin, derivational sense.

IV. End Continental Rationalism (Until Kant)

We have come to the end of the sometimes-trippy, often-speculative, and always-difficult-to-comprehend-and-interpret continental rationalists portion of the course.
Ahead of us lie the British Empiricists: Locke, Berkeley, and Hume.
Those three writers will rein in the speculation, both by restricting the use of intuitive principles in their philosophy and by paying close attention to the limits of human cognition.
From Descartes, Leibniz, and Spinoza, we were given grand systems of knowledge: of God, and Nature, and mathematical principles which grounded deterministic physical laws, governed by divine goodness.
Never mind that our ordinary beliefs had to be re-calibrated: to deny the veridicality of sense perception, to see the thin universe both packed with matter and infinitely divisible, to deny the very existence of a material world, and to prefer a universe in which bodily existence was reduced to a mere appearance.
We were introduced to ‘compossibilities’, and ‘necessitarianism’, and ‘the plenum’.

At the end of this course, Kant will return to pick up the rationalist’s thread of argument, and attempt to unite it with what we are now going to see from the British Empiricists.
For now, we will examine attacks on the fundamental presuppositions of the grand systems-builders.
We return to our senses.

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Reading Guide #4
John Locke, from *An Essay Concerning Human Understanding*

These questions are provided to assist you in your reading. I encourage you first to read the material through, then go back to answer the questions. You are not expected to hand in written answers. You are expected to have responses ready for class discussion. Page numbers refer to the Ariew and Watkins collection.

Book I, Chapters I-II (AW 316-322)

1. What is Locke's goal? How does he plan to achieve that goal? Be specific.
2. "If we disbelieve everything because we cannot certainly know all things, we shall do quite as wisely as he who would not use his legs, but sit still and perish, because he had no wings to fly" (I.I.5). Explain.
3. What is an idea?
4. Are colors innate? What does Locke infer from the answer to this question?
5. What is general assent? Why does it not prove that there are innate ideas?
6. How does the example of children show that there are no innate ideas?
7. What is reason? Why do appeals to reason not support innate ideas?
8. How does the mind first get its ideas?
9. When do we start using names for our ideas? How do we get general ideas?
10. What does Locke mean by 'ready assent'? Why does ready assent not prove that there are innate ideas?
11. Does implicit knowledge support the doctrine of innate ideas? Explain.

Book II, Chapters I-VIII (AW 322-337)

12. Describe and differentiate the two sources of ideas.
13. When do we start to have ideas?
14. "The perception of ideas [is] to the soul what motion is to the body - not its essence, but one of its operations" (II.I.10). Explain. Who disagrees?
15. How does Locke argue against the view that our souls are always thinking? Why is this argument relevant to Locke's work?
16. Distinguish simple and complex ideas. Why does Locke say that simple ideas can be neither created nor destroyed?
17. What is solidity? How do we know of it?
18. How are bodies different from space?
19. How can a positive idea come from a privative cause?
20. "[I]t will be convenient to distinguish them *as they are ideas or perceptions in our minds*; and *as they are modifications of matter in the bodies that cause such perceptions in us*..." (II.VIII.7). What does this mean? Why does Locke think that this distinction is important?
21. How does Locke distinguish ideas from qualities?
22. What are the primary qualities? (Provide a description and a list.)
23. What are the secondary qualities? (Provide a description and a list.)
24. How do ideas of external objects get into our minds, according to Locke?
25. How do we get ideas of secondary qualities?
26. "The ideas of primary qualities of bodies are resemblances of them, and their patterns do really exist in the bodies themselves, but the ideas produced in us by these secondary qualities have no

resemblance of them at all" (II.VIII.15). Explain.

27. Do we think that the warmth is in the fire? What does this show?
28. "Take away the sensation of them; let not the eyes see light or colors, nor the ears hear sounds; let the palate not taste, nor the nose smell, and all colours, tastes, odours, and sounds, as they are such particular ideas, vanish and cease, and are reduced to their causes, i.e. bulk, figure, and motion of parts" (II.VIII.17). Explain.
29. How does the example of the porphyry support the primary/secondary distinction?
30. How does Locke's discussion of the water support his primary/secondary distinction?
31. How does Locke demonstrate that figure is a primary quality?
32. How are powers different from primary and secondary qualities?

Book II, Chapter XXVII (AW 367-377)

33. How do we determine identity? How is our determination relative to a kind of thing?
34. What is the difference between a mass of matter and the plant or animal made of that matter?
35. What, generally, makes us the same people over time?
36. Why is an account of personal identity based on the soul not tenable?
37. What is the relationship between consciousness and personal identity? Consider the role of memory.
38. Distinguish 'soul', 'man', and 'person'. What are their different identity conditions?
39. Describe the case of the prince and the cobbler. What does it show?
40. How is personal identity independent of questions of substance?
41. How is the problem of defining personal identity a moral question?
42. What is the problem of lost memories? How does Locke solve this problem?
43. Describe the case of the day and night man. What does it show?

Book III, Chapter III and Chapter VI (AW 377-386)

44. How does the particularity of things contrast with the generality of words?
45. What are names? Why do we need general names?
46. How are general words made? For what do they stand?
47. Do general terms refer to real things? Explain.
48. Distinguish real and nominal essences. Relate this difference to the primary/secondary distinction.
49. How are essences related to abstract ideas?
50. Why are real essences unknown to us?

Book IV, Chapters I-IV (AW 386-405)

51. According to Locke, what is knowledge?
52. What are the four kinds of agreement of our ideas?
53. Distinguish actual knowledge from habitual knowledge.
54. How does mathematics require habitual knowledge?
55. What is intuition? What is reasoning? How do they differ?
56. How are the individual steps of a proof justified?

57. Is mathematics the only subject whose propositions admit of proof?
58. Can we know that we are not dreaming? Explain Locke's answer.
59. What are the three degrees of knowledge?
60. How is our knowledge short of the reality of things?

61. How does Locke justify his claim that it is possible for matter to think?
62. Why is it hard to account for colors and sounds and pleasures and pains? What does this show about the soul?
63. In what two ways do philosophers err about the relationship between mind and body? What error do both positions share?
64. "The connection between most simple ideas is unknown" (IV.III.10, AW 395a). Explain.
65. How are we ignorant of the connection between primary and secondary qualities?
66. Are moral claims demonstrable like mathematical ones? Explain.
67. To what three causes does Locke attribute ignorance?
68. Is knowledge of our ideas purely psychological? Explain.
69. How do we know that simple ideas are veridical? How do we know that complex ideas are not misrepresentative?
70. Are mathematical claims certain? What are the objects of these claims?
71. Are our ideas of substance veridical? Explain.

Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2011 Russell Marcus

Class 13 - March 1
Locke, *An Essay Concerning Human Understanding*
Book I, Chapters 1-2 (AW 316-322)
Book IV, Chapters I-II (AW 386-392)
Book II, Chapters I-IX (AW 322-339)

I. Locke's *Essay*

Locke's 1690 *Essay Concerning Human Understanding* is over-written and long-winded, but contains some of the most insightful and fecund work of his time.
Reading Locke's *Essay* has been compared to going into your grandmother's attic.
There's a lot of stuff in there, and a lot of it is really cool.
But, you have to find it amid the dust and clutter.
Leibniz worked through the *Essay* in detail, responding with a book-length commentary, *New Essays on Human Understanding*.
If you are looking for a paper topic, there are lots of good ones to be found in the contrasts between Leibniz and Locke.
Ariew and Watkins present just a portion of the *Essay*.
We will read only a portion of their selections.

Locke's work comes in large part as a response to Descartes, and also to Spinoza and Leibniz, though Leibniz is really a contemporary of Locke.
Leibniz's *Discourse on Metaphysics* was written four years before Locke's *Essay*, though the *Monadology* was not written until almost twenty-five years later.
The rationalists embraced intuition and reasoning, what Locke calls *koinai ennoiai* (primary notions) or innate ideas, as central aspects of their work.
Descartes claimed that we have pure intuitions, and clear and distinct perceptions of innate ideas.
For Descartes, ideas of the self, God, and mathematics are innate, built into our minds.
Laws of physics, depending as they do on mathematics, are also innate, the result of pure, intellectual judgment.
Spinoza relied on innate ideas, as well, calling them rational and intuitive knowledge.
Leibniz defended innate truths of reason as the source of the most certain beliefs, opposing truths of fact.
The very nature of the monad, which reflects the entire history of the universe, makes its ideas innate.
Leibniz denied transeunt causation, which entails that ideas can not, strictly speaking, ever be acquired.
All three of the rationalists we read built grand metaphysical systems which claimed that reality is much different from our ordinary interpretations of sense experience.

Locke wants to limit the scope of pure understanding, and reign-in speculative metaphysics.

> It may be of use to prevail with the busy mind of man to be more cautious in meddling with things exceeding its comprehension, to stop when it is at the utmost extent of its tether, and to sit down in a quiet ignorance of those things which, upon examination, are found to be beyond the reach of our capacities (I.I.4, AW 317a).

Locke's belief that many philosophers claim to know more than they can know might seem to lead to skepticism, a denial that we can know anything.
Recall that Descartes seemed unable to justify any of his beliefs without relying on the existence and goodness of God, the arguments for which he supposed to be innate.
Descartes is driven to his position by his claim that we must be certain of something beyond any doubt if we are to know it.

Unless we defeat the deceiver, we know almost nothing.
One might think that rejecting speculative metaphysics entails conceding to the skeptic and ceding all of our beliefs, but Locke does not.
He believes that Descartes's standard for knowledge is too high and that we can know about the world around us, without proving the existence of God.

> If we disbelieve everything because we cannot certainly know all things, we shall do quite as wisely as he who would not use his legs, but sit still and perish, because he had no wings to fly (I.I.5, AW 317b-318a).

While knowledge may not, contra Descartes, entail certainty or the KK thesis, it does require justification, and truth.
If we know that p, then p must be true, and we must have good reasons to believe that p.
But, according to Locke, it does not follow that I must not be able to doubt that p.
Locke thus does not worry about defeating a deceiver.
And he thinks that there are easy refutations of the dream doubt.

> If anyone says a dream may do the same thing, and all these *ideas* may be produced in us without any external objects, he may please to dream that I make him this answer: 1. That it is no great matter, whether I remove his scruple or not; where all is but dream, reasoning and arguments are of no use, truth and knowledge nothing. 2. That I believe he will allow a very manifest difference between dreaming of being in the fire and being actually in it (IV.II.14, AW 392a).

Instead of working to overcome such doubts, Locke pursues good justifications for the beliefs he will count as knowledge.

We will cover four central topics in Locke's work:

> Arguments against innate ideas
> The primary/secondary distinction
> An account of personal identity, including Locke's approach to the mind/body problem
> Locke's philosophy of language, including the doctrine of abstract ideas

Locke, like Hobbes, is known as much for his political theory, and his work on the social contract, as his metaphysics.
In this course, though, we will hardly mention those aspects of his work.

II. Against Innate Ideas

Locke, like most philosophers of the modern period (Berkeley is one significant exception), defended the new science and its method of experimentation.
The new science posits a world of material objects, available to sense perception.
We think about material objects through the use of our imagination, our capacity to represent sensory images.
The rationalists derogated beliefs that were based on sense perception.
For Descartes, these images are confused, and the only real properties are those we can understand by pure reason, through innate ideas.
An innate idea is one that is implanted in our minds, or souls, rather than learned from sense experience.
We are born with innate ideas, according to their proponents, which is why everyone has them, and everyone agrees about them.

Locke argues that he can avoid appealing to innate ideas by accounting for all of human knowledge on the basis of sense experience.

> Men, barely by the use of their natural faculties, may attain to all the knowledge they have, without the help of any innate impressions, and may arrive at certainty without any such original notions or principles (I.II.1, AW 319a).

Locke points out that we do not know some of the ideas which Descartes alleges are innate.
For example, children do not know lots of them.

> It is evident that all *children*...do not have the least apprehension or thought of them. And the lack of that is enough to destroy that universal assent which must be the necessary concomitant of all innate truths... (§I.II.5, AW 319b).

For accounts of innate ideas on which mathematical claims are innate, we need not appeal to the limitations of children to support Locke's claim.
Consider Goldbach's conjecture, that every even number can be written as the sum of two odd primes.
There is no proof, yet discovered, of Goldbach's conjecture.
Even the best mathematicians do not know if it is true.
Thus, we can not claim that there is universal assent to Goldbach's conjecture.

Given that every one doesn't know some of their innate ideas (e.g. Goldbach's conjecture) and some people (e.g. small children) do not know any of them, the defender of innate ideas might claim that such ideas require development.
We have to reason to them, or unfold them from within.

Locke takes such recourse on the part of the rationalist to be a concession.

> It [seems] to me near a contradiction to say that there are truths imprinted on the soul which it does not perceive or understand (§I.II.5, AW 319b).

Remember that for Descartes, consciousness is the mark of the mental.
We need not recall all of our clear and distinct ideas in order to know them.
But, to think that there are innate ideas that are inaccessible to us seems, to Locke, to be implausible.

None of the rationalists we have read appeal to any doctrine of universal assent to defend innate ideas.
Instead, they appeal to an argument that has come to be known, in contemporary work on innate ideas, as a poverty of the stimulus argument.
According to poverty of the stimulus arguments, sense experience is insufficient to account for some kinds of knowledge.
Thus, we must posit some innate ideas or capacities.

In contemporary linguistics, Noam Chomsky has argued that children learn both the vocabulary and grammar of their first language too quickly to be explained by behavioral conditioning (i.e. sense experience).
Chomsky argues that the poverty of the stimulus shows that our brains are hard-wired to learn language, with universal grammar built into them.
We call Chomsky's view linguistic nativism.

Note the similarity between Chomsky's argument and Descartes's argument for innate ideas.
Descartes argued that all ideas must be innate, acquired, or produced by me; but some ideas could not be

acquired or produced by me.
Thus, there must be innate ideas; the stimulus is too poor to account for our knowledge of mathematics or God.

In contrast, Locke focuses on the doctrine of universal assent.
It is difficult to discern precisely the argument he attributes to the rationalists.
Here are three possibilities, for any proposition p.

> UA1. Everyone agrees that p if and only if p is innate.
> UA2. If everyone agrees that p, then p is innate.
> UA3. If p is innate, then everyone agrees that p.

UA1 is just the conjunction of UA2 and UA3.

The examples of children and Goldbach's conjecture undermine UA3, but, they leave UA2 alone.
Locke provides further examples which undermine UA2.
He presents claims that engender widespread agreement while at the same time being tied to sense experience.
For example, he considers the claim that green is not red.
No one believes that experience of color is innate.

> I imagine everyone will easily grant that it would be impertinent to suppose the *ideas* of colors innate in a creature to whom God has given sight and a power to receive them by the eyes from external objects... (I.II.1, AW 319a).

It is likely that some of the defenders of innate ideas contemporary with Locke did hold some form of a doctrine of universal assent.
But, no one I have read appeals explicitly to such a doctrine, it is difficult to know how important Locke's criticisms really are.
It seems plausible that a rationalist might hold UA3.
UA2 and UA1 are much less plausibly ascribed to defenders of innate ideas.
Locke's criticisms of those claims seem irrelevant.

III. Locke's Positive Project

UA3 is logically equivalent to UA3*.

> UA3* If it is not the case that everyone agrees that p then p is not innate.

Locke argues against UA3* by showing that we need experience to learn some supposedly-innate ideas.
Small children don't know any innate ideas, and even the best mathematicians lack knowledge of Goldbach's conjecture.
But, nobody questions whether experience is necessary for us to have knowledge.
The question is whether experience is sufficient to account for what we know.
Locke's positive project is to show that it is.
His empiricist claim is that we are born with no innate knowledge, no principles imprinted on the understanding.
Thus, he does not appeal to claims that depend on the rationalists' innate ideas, especially claims about the nature of God and the soul.

Locke doesn't reject the claim that we have knowledge of God.
He just argues that our idea of God comes from experience, rather than from naturally imprinted first principles.

> If we examine the *idea* we have of the incomprehensible supreme being, we shall find that...the complex *ideas* we have both of God and separate spirits are made of the simple *ideas* we receive from *reflection*: e.g. having, from what we experiment in ourselves, got the ideas of existence and duration; of knowledge and power; of pleasure and happiness; and of several other qualities and powers, which it is better to have than to be without. When we would frame an *idea* the most suitable we can to the Supreme Being, we enlarge every one of these with our *idea* of infinity; and so putting them together, make our complex *idea of God* (II.XXIII.33, AW 366b).

As a rule, the empiricist has difficulty explaining our knowledge of mathematics.
It is difficult to see how experience can support universal claims about mathematical objects, which are not sensible.
Locke's account of our knowledge of mathematics, like his account of our knowledge of God, does not rely on innate ideas.
Instead, it relies on intuition and demonstration, starting with ideas of sensation, and then using reason to discover relations among them.

> I do not doubt but it will be easily granted that the *knowledge* we have of *mathematical truths* is not only certain, but *real knowledge*, and not the bare empty vision of vain insignificant *chimeras* of the brain. And yet, if we will consider, we shall find that it is only of our own *ideas* (IV.IV.6, AW 404b).

Locke's empiricist strategy thus has two lines of attack.
In one direction, Locke gives up some of the general principles supposedly known innately.
In the other direction, Locke attempts to reclaim some of the knowledge that was formerly thought to rely on innate ideas.

Locke has two sets of tools for that reclamation project.
First, he has sensation, and any ideas which can be attributed to our sense experience.
Second, he has the psychological capacities of our minds, including memory and the ability to reflect on our ideas.
While Locke rejects innate principles, he does not deny our natural capacity to reason and intuit.

IV. Sensation and Reflection

Locke claims that the mind begins as a blank slate, or *tabula rasa*.

> Let us then suppose the mind to be, as we say, white paper, void of all characters, without any *ideas*. How does it come to be furnished? From where does it come by that vast store which the busy and boundless fancy of man has painted on it with an almost endless variety? From where does it have all the materials of reason and knowledge? To this I answer, in one word, from *experience*; our knowledge is founded in all that, and from that it ultimately derives itself. Our observation employed either about *external sensible objects* or *about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understandings with all the materials of thinking*. These two are the fountains of knowledge, from which all the *ideas* we have, or can naturally have, do spring (II.I.2, AW 323a).

We learn particulars, first, beginning with sense experience.
We get simple ideas of sensation from individual sense experiences of particular objects.
Tlumak calls Locke's theory of perception causal representative realism: (at least some of) our ideas truly represent the world, which causes our perceptions.

Individual perceptions are simple.
They are so simple, in fact, that impressions of the same object under different sense modalities are independent.
The taste of the lemon is independent of its yellowness, and of its texture and odor.
Locke's claim that the sense modalities are independent explains his response to the Molyneux problem.

> Suppose a man born blind, and now adult, and taught by his touch to distinguish between a cube and a sphere of the same metal, and nearly of the same bigness, so as to tell, when he felt one and the other, which is the cube, which the sphere. Suppose then the cube and sphere placed on a table, and the blind man be made to see. Quaere, whether by his sight, before he touched them, he could now distinguish and tell which is the globe, which the cube? (II.IX.8, AW 338b).

Locke denies that the blind person could tell which was the sphere and which was the cube without touching the objects.
In other words, our sense of touch is independent of our vision.
There is experimental research supporting Locke's solution, but the question has not been resolved completely.

Once we have received simple sense impressions, we can hold the ideas they create in memory, and recall them.
Our ability to recall simple ideas is facilitated by our use of language, which primarily consists of names of our simple ideas.
We can also reflect on those simple ideas.

> The other fountain from which experience furnishes the understanding with ideas is the *perception of the operations of our own mind* within us, as it is employed about the *ideas* it has gotten - which operations, when the soul comes to reflect on and consider, do furnish the understanding with another set of *ideas*, which could not be had from things without. And such are *perception*, *thinking*, *doubting*, *believing*, *reasoning*, *knowing*, *willing*, and all the different actings of our own minds, which we, being conscious of and observing in ourselves, do from these receive into our understandings as distinct *ideas* as we do from bodies affecting our senses... I call this REFLECTION (II.I.4, AW 323b).

Using our naturally developing ability to reflect, we can go beyond the limits of particular sense experience, and memory of such experience.
Locke uses 'reflection' to cover a wide variety of psychological capacities, including contemplation, memory, discerning, comparison, composition, and abstraction.
We can, for example, generalize, or abstract, to find universals, like those of mathematics.

> The senses at first let in particular *ideas*, and furnish the yet empty cabinet, and the mind by degrees growing familiar with some of them, they are lodged in the memory, and names got to them. Afterwards the mind proceeding further abstracts them, and by degrees learns the use of general names (I.II.15, AW 321a).

Thus, despite Locke's rejection of innate ideas, he believes that we have some innate, if developing, capacities to reflect on our own ideas.
For another example, we can recognize similarities and differences among our ideas, an activity which yields intuitive knowledge of the agreement or disagreement of ideas.

> If we will reflect on our own ways of thinking, we shall find that sometimes the mind perceives the agreement or disagreement of two *ideas* immediately by themselves, without the intervention of any other. And this, I think, we may call *intuitive knowledge* (IV.II.1, AW 389a).

For those of you who took Ancient, you might recall Plato's argument, in the *Phaedo*, that we can not learn about equality merely by seeing equals, that we must have knowledge of equality in order even to see two objects as equals.
Plato uses that argument to conclude that we are born with knowledge, foreshadowing the moderns' doctrine of innate ideas.
Locke uses the argument to deflate the innatists' claims.
He claims that there are four kinds of agreement or disagreements of ideas which can be intuitively apprehended, without commitments to innate ideas:

1. Identity or diversity;
2. Relation;
3. Coexistence or necessary connection; and
4. Real existence.

Locke claims that our ability to recognize identity and diversity is undeniable, but does not reflect our having been born with innate principles.

> This is so absolutely necessary that without it there could be no knowledge, no reasoning, no imagination, no distinct thoughts, at all. But this the mind clearly and infallibly perceives each *idea* to agree with itself, and to be what it is, and all distinct *ideas* to disagree, i.e., the one not to be the other, And this it does without pains, labor, or deduction, but at first view, by its natural power of perception and distinction (IV.I.4, AW 386b).

In addition to intuitive knowledge, Locke claims that reflection yields demonstrative knowledge.
Demonstrative knowledge requires proof, and each step of the proof has to be intuitive.
Because demonstrative knowledge requires chains of reasoning, doubt, which does not infect intuitive knowledge of agreement of ideas, can arise, even though the individual steps are intuitively justified by sense perception.
Demonstrative knowledge grounds both mathematical and moral claims.
The picture of mathematical beliefs being justified by a combination of intuitive first principles and secure methods of proof has a long history.

In mathematics, as in philosophy, though, the kinds of claims that are made on the basis of intuition have given that capacity a bad name.
By the late 19th Century, serious worries about the consistency of calculus, which relied on intuitive claims about infinitesimals, combined with strange results in non-Euclidean geometries and transfinite mathematics, impelled mathematicians to seek a more secure standard of proof.
Gottlob Frege replaced Locke's intuitive guarantee of the steps in a proof with a syntactic criterion, and revolutionized logic, creating what we now know as modern symbolic, or mathematical, logic.

In moral philosophy too, Locke claims that we have intuitive knowledge of some primitive relations among ideas.
And in both cases, we derive more complex ideas by reflecting and abstracting from them.

> *Morality* [is] *among the sciences capable of demonstration*; in which I do not doubt but from self-evident propositions, by necessary consequences, as incontestable as those in mathematics, the measures of right and wrong might be made out to anyone who will apply himself with the same indifference and attention to the one as he does to the other of these sciences... "*Where there is no property, there is no injustice*," is a proposition as certain as any demonstration in *Euclid* (IV.III.18, AW 397b-398a.).

We have seen that Locke criticizes innate ideas, and argues that we have psychological capacities for attaining reflective knowledge.
Further, he criticized Descartes's demand for indubitable certainty.
Still, if he is not to beg the question of whether knowledge is possible, he has to explain, in greater detail, how sense experience leads to veridical beliefs.
Can Locke account for the errors which motivated Descartes, the false beliefs that he had taken as true in his youth, and demonstrate ways to avoid such errors without relying on innate ideas?

V. Appearance and Reality

Locke rejects a contentious form of the doctrine of innate ideas.
He doesn't seem to be arguing against specific arguments in Descartes, Spinoza, or Leibniz, say, but against a position which holds claims like UA.
Locke has thus been accused of attacking a straw person, rather than a serious argument.
Still, that criticism holds only against the negative arguments against abstract ideas.
Locke's positive claim, that our beliefs can be justified by appeal only to sense experience, and some basic mental capacities, is independent of his criticisms of innate ideas.
If he can show how we acquire knowledge while avoiding any appeal to innate ideas, we might prefer his empiricist account to a more tendentious rationalist system.
We might, that is, appeal to Ockhamist principles of simplicity to support Locke's account.
So, it will be worthwhile to return to Descartes's criticisms of sense experience.
We want to see how Locke deals with the problems that impel Descartes to denigrate sense experience.

Descartes presents three considerations against the veridicality of sense experience:

1. The illusion and dream doubts;
2. The wax argument; and
3. The rejection of the Resemblance Hypothesis on the basis of the example of the sun.

The moral of the illusion argument is to take care to use one's senses in the best way possible.
It impugns sense evidence when we are in poor conditions, looking at distant or very small objects, say.

We need not dismiss all of our sense evidence on the basis of illusion, as Descartes admitted.

Descartes dismissed the dream argument, in Meditation Six, almost without argument.
There, he relies on the goodness of God not to deceive.
If we withhold the divine guarantee, Descartes's argument against the possibility of systematic deception due to dreaming is weak.
Locke's arguments against the dream doubt are no stronger than Descartes's.
But the dream doubt is a skeptical hypothesis, difficult, perhaps impossible, to defeat.
One reasonable response to the skeptic is merely to ignore her.
In any case, Descartes's other two arguments are more serious.

The wax argument proceeds by demonstrating a physical object with contradictory sense properties.
Just as I can not both be in my office and not in my office, or both tall and short, the wax can not be both yellow and clear, both smell of flowers and lack odor.
Descartes's conclusion is that the wax is an extended body which can take various manifestations, hot or cold, sweet or tasteless, but is identified with none of these particular sensory qualities.
Physical objects are essentially things which can have sensory qualities, but which need not have any particular ones.
The same object may have many different appearances.
The appearance of an object is distinct from its real qualities.
The obvious question for us metaphysicians is which qualities are real, and which are mere appearances.
As I mentioned in the Hobbes notes, the distinction between the real and merely apparent qualities of objects has come to be known as the primary/secondary distinction.
The primary qualities are the real ones, and the secondary properties are the apparent ones.

Descartes, recall, believes that the only real property of physical objects is their extension.

> The only principles which I accept, or require, in physics are those of geometry and pure mathematics; these principles explain all natural phenomena, and enable us to provide quite certain demonstrations regarding them (Descartes, *Principles of Philosophy* II.64, AT VIIIA.78)

Further, mathematical claims are not derived from sense evidence, since our imagination is not capable of representing true extension.
We think of extension mathematically, using pure thought.

Descartes's view that extension is the only essential property of physical objects was not standard during the modern era.
Many philosophers of that era believed that physical objects really had primary qualities of size, shape, mass, motion, and number.
Those philosophers, like Galileo who wrote that the book of nature is written in the language of mathematics, argued for the reality of other mathematically-describable properties.
The expansion of the list of real properties from Descartes's extension to the other qualities does not indicate any difference in principle.

The primacy of mathematical properties explains Descartes's rejection of the Resemblance Hypothesis on the basis of the example of the sun.
Descartes contrasts our sense idea of the sun (as very small) with the mathematical idea of the sun (very large) and favored the latter.
Again, Descartes dismisses sense properties, taking only mathematical properties as real.
He thinks of the secondary, sensory properties, as artifacts of interactions between our bodies and other bodies, and not as real properties of those external bodies.

> Most philosophers maintain that sound is nothing but a certain vibration of the air which strikes our ears. Thus, if the sense of hearing transmitted to our mind the true image of its object then, instead of making us conceive the sound, it would have to make us conceive the motion of the parts of the air which is then vibrating against our ears (Descartes, *Le Monde*, AT XI.5).

If my experience of sound really resembles the sound, then I should hear motion, not music.
Thus, Descartes is a nominalist about secondary properties.

VI. Locke's Arguments for the Primary/Secondary Distinction

While the primary/secondary distinction pre-dates Locke by at least a century, and we saw it in our discussion of Hobbes's work, Locke provides a comprehensive argument for the distinction.
Locke agrees with Descartes and other earlier philosophers that at least some sense qualities are not veridical.
The debate between Locke and Descartes concerns whether no sense experience is veridical.
We will look first at Locke's arguments for the primary/secondary distinction, and then turn to his use of that distinction in the service of his empiricism.

Locke's water experiment (II.VIII.21) plays a role in his epistemology similar to the wax example for Descartes.
Consider three buckets, each containing water of a different temperature: hot, lukewarm, and cold.
Put one hand into the hot water and one into the cold water, and let them sit for a short while.
Then, take them out, and put both hands into the lukewarm water.
The lukewarm water will feel hot to one hand, and cold to the other.
The water, like the wax, displays incompatible sense properties.
Note that Locke's example is even more compelling than Descartes's.
In the water experiment, the same object displays incompatible properties at the same time.
I mentioned that one possible response to the wax argument is Heraclitean.
The Heraclitean argues that any change in the properties of an object entails a change in the object itself.
Or, for two objects to be the same object, they must share all properties.
The Heraclitean claims that the wax before melting and after melting are different objects, and so no contradiction arises among the sensory properties.
There are just two different objects, loosely tied together merely by a name, 'wax'.
Locke's solution to Descartes's problem is Heraclitean.

> No one subject can have two smells or two colors at the same time. To this perhaps will be said, has not an opal, or the infusion of *lignum nephriticum*, two colors at the same time? To which I answer that these bodies, to eyes differently placed, it is different parts of the object that reflect the particles of light. And therefore it is not the same part of the object, and so not the very same subject, which at the same time appears both yellow and azure. For it is as impossible that the very same particle of any body should at the same time differently modify or reflect the rays of light, as that it should have two different figures and textures at the same time (IV.III.15, AW 396b).

The Heraclitean response, though effective in the wax example, is unavailable in the water case.
The exact same water displays the incompatible properties.
If we are going to base our knowledge on our sense experiences, we have to have some account of the error that will not force us to abandon all sense experience.
That is the role to which Locke puts the primary/secondary distinction.
Let's see how he argues for it.

Consider an apple.
We might have the following ideas of the apple:

Red
Round
Cool to the touch
Sweet, though a bit sour
Shiny
Smooth
Sits still on the table
Crunchy
Weighs 4 oz.
Has a mass of 120 grams
Is one apple
Is being considered by you
Smells like, well, an apple

Locke tacitly presumes two principles to distinguish veridical ideas from misrepresentative ones.
The first principle is destructive, yielding misrepresentative properties.

LP1: If one perceives an object as having two (or more) incompatible ideas, then those ideas do not represent real properties of the object.

Besides hot and cold, other sense ideas are not veridical, according to LP1.
The example of porphyry in the dark (II.VIII.19) shows that color is a secondary quality.
Taste and odor are shown secondary by LP1, because an almond changes taste and odor when mashed (II.VIII.20).
Applying LP1 to Descartes's wax example, we can see that we have ideas of secondary qualities in all five sense modalities.

Consider tasting orange juice before and after brushing your teeth.
What tasted sweet before, tastes sour (for want of a better word) after.
Thus, the sweetness and sourness are not real qualities of the orange juice.
The orange juice example leads to a corollary to the first principle:

LP1C1: Even if a change in us entails the change in the perceived quality, the ideas which change can not be veridical.

Now, consider the color impressions of a normal-sighted person and a color-blind person.
The differences show, once again, that color is not a real quality of an object.
We can infer a second corollary:

LP1C2: Qualities that appear different to different observers are not veridical.

The above principle and its corollaries support Locke's primary/secondary distinction by allowing Locke to account for sense error.
Locke's second principle is constructive, yielding veridical properties.

LP2: If an idea of an object is the same under all conditions, that idea is veridical.

LP1 and LP2 allow us to distinguish among our sense experiences.

Some sense experience is veridical, and can be trusted.
Some sense experience is misrepresentative, and can not be trusted.

> We may understand how it is possible that the same water may, at the same time, produce the sensations of heat in one hand and cold in the other; which yet figure never does, that, never producing the *idea* of a square by one hand, which has produced the *idea* of a globe by another (II.VIII.21, AW 335b).

The second principle also has a corollary.

> LP2C: If every observer receives the same idea from an object, then that idea is veridical.

Let's apply the principles to our apple

Red	Misrepresentative
Round	Real
Cool to the touch	Misrepresentative
Sweet, though a bit sour	Misrepresentative
Shiny	Misrepresentative
Smooth	Misrepresentative
Sits still on the table	Real
Crunchy	Misrepresentative
Weighs 4 oz.	Misrepresentative
Has a mass of 120 grams	Real
Is one apple	Real
Is being considered by you	Misrepresentative
Smells like an apple	Misrepresentative

Thus, we have arrived at the primary/secondary distinction via argument:

> These I call *original* or *primary qualities* of body, which I think we may observe to produce simple *ideas* in us, namely, solidity, extension, figure, motion or rest, and number. *Secondly*, such *qualities* which in truth are nothing in the objects themselves but powers to produce various sensations in us by their *primary qualities*...these I call *secondary qualities* (II.VIII.9-10, AW 333a-b).

Primary Qualities	Secondary Qualities
Solidity	Color
Extension	Odor
Figure	Hot/ Cold
Motion/ Rest	Sound
Number	Texture
	Taste

Locke continues to classify as tertiary ideas those that we impute to an object on the basis of its power to change the appearance of another object.
He uses the example of the power of the sun to make wax white.
We need not concern ourselves with tertiary qualities.
No one takes the tertiary qualities to be real properties of an object.
The point of appealing to the primary/secondary distinction is to show that empiricism is possible, that we

can justify our beliefs on the basis of sense experience without worrying that we will be forced to accept errors as true because we are relying on our senses, rather than pure reason.

I believe that LP2 and LP2C accurately reflect Locke's intentions.
But, Locke can be sloppy in his discussions of the veridical properties.

> Qualities thus considered in bodies are, first, such as are utterly inseparable from the body in whatever state it is, such as in all the alterations and changes it suffers, all the force can be used upon it, it constantly keeps, and such as sense constantly finds in every particle of matter which has bulk enough to be perceived, and the mind finds inseparable from every particle of matter, though less than to make itself singly perceived by our senses - e.g., take a grain of wheat, divide it into two parts, each part has still *solidity*, *extension*, *figure*, and *mobility*; divide it again, and it retains still the same qualities; and so divide it on until the parts become insensible, they must retain still each of them all those qualities (II.VIII.9, AW 333a).

Here, I worry that Locke's examples undermine his claims.
If we divide the grain of wheat in half, it has half the extension.
Thus, extension seems unstable.
The change in the taste of an almond upon mashing was supposed to show that taste is a secondary quality.
So, why doesn't the change in extension of the wheat show that extension is a secondary quality?
Locke's claim is that any divisions will not remove extension, or solidity, or shape, even if it alters those qualities.
These properties of the wheat contrast with the way objects lose all color in the dark, and the way that the wax can lose its odor and flavor.
The wheat still has a size and a shape, but, with enough division, the primary qualities may lose shape.
Do electrons have shape?
Certainly, the solidity of an object will change after enough division.
I think that Locke was being bit sloppy here, but there may be a better explanation.
In any case, I set the worry aside to look at the ramifications of the primary/secondary distinction.

VII. The Primary/Secondary Distinction, the Resemblance Hypothesis, and Empiricism

Locke presents the primary/secondary distinction in defense of his claim that we can justify our beliefs without appeal to innate ideas.
Putting skepticism aside, Descartes's strongest argument against the veridicality of sense experience relies on his examples of the wax and the sun in support of his rejection of the Resemblance Hypothesis.
While the primary/secondary distinction preceded even Descartes, Locke's use of the distinction in the service of his empiricism, and arguments in its support, are the reasons why we tend to attribute the distinction to Locke.
The primary/secondary distinction allows Locke to defend a weakened version of the Resemblance Hypothesis.

Locke accepts the Resemblance Hypothesis, for primary qualities only.

> The *ideas of primary qualities* of bodies *are resemblances* of them and their patterns do really exist in the bodies themselves, but the *ideas produced* in us *by* these *secondary qualities have no resemblance* of them at all. There is nothing like our *ideas* existing in the bodies themselves (II.VIII.15, AW 334a).

Our ideas of extension resemble extension in the world.

For example, I have an idea that this piece of paper is 11 inches long.
So, the paper really is 11 inches long.
My idea of the motion of a car resembles the real motion of that car.
The car really is moving.
My ideas of secondary qualities do not resemble anything in an object.

On the basis of my ideas of primary qualities, then, I can justify significant conclusions about the world (i.e. the new science) without appealing to innate ideas.

Note that Locke and Descartes do not disagree substantially about the nature of the physical world.
We should expect this, since both Descartes and Locke were writing in support of modern science.
Descartes believes that the essential characteristic of physical objects is extension, whereas Locke believes that extension is just one of several primary qualities.
They disagree more strongly about how we know about those properties.
Their disagreement is epistemological, not metaphysical.

The metaphysical upshot of the primary/secondary distinction, then, is that the world is nothing but particles in motion, and that the sense qualities of objects are not really in the world.
Lemons are not really yellow, or sour.
They are made of particles (atoms or corpuscles) that appear yellow or sour to normal human senses.
These minute particles unite in varying ways.
Depending on how they unite, they affect us in different ways.
Their arrangement determines how we experience an object.
The lemon can take on other appearances, in other circumstances, to other observers, who will all agree on the size and shape of the lemon.
We might say that the lemon has a 'dispositional property' which makes us see it as yellow.
But the dispositional property is not yellowness, which is, properly speaking, a property only of my experience.
We have ideas which arise from the interaction between our senses and the material world.
The material world exists independently of us, and has its primary qualities truly, but depends on us for sensory (secondary) properties.

Here's Galileo again on the primary/secondary distinction:

> ...that external bodies, to excite in us these tastes, these odours, and these sounds, demand other than size, figure, number, and slow or rapid motion, I do not believe, and I judge that, if the ears, the tongue, and the nostrils were taken away, the figure, the numbers, and the motions would indeed remain, but not the odours, nor the tastes, nor the sounds, which, without the living animal, I do not believe are anything else than names (*Opere* IV, 336).

Compare Galileo's formulation to Locke's:

> Take away the sensation of them; let the eyes not see light, or colors, nor the ears hear sounds; let the palate not taste, nor the nose smell; and all colors, tastes, odors, and sounds as they are such particular *ideas* vanish and cease, and are reduced to their causes, i.e., bulk, figure, and motion of parts (II.VIII.17, AW 334b).

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Class 14 - March 3
Locke, *An Essay Concerning Human Understanding*
Book II, Chapter XXVII (AW 367-377)

I. The Mind-Body Problem

While Locke was suspected of Hobbesian materialism, he is clearly a dualist, accepting the existence of the soul and God, as well as material objects.
So, Locke, like Descartes, is saddled with a mind-body problem.
The slight metaphysical differences between Locke and Descartes do nothing to change the essential nature of the problem.
Given what Locke says about the primary qualities, we can see that bodies have several essential properties, not merely extension.
Similarly, minds are not essentially thinking; they are just the kinds of things that do think.
Still, nothing in these changes in the characterizations of each substance mitigates the problem.

Locke does not provide a Cartesian-style solution to the mind-body problem, despairing of any satisfactory account.
His discussion of mind-body interaction is humble, though, rather than skeptical.

> Supposing the sensation or idea we name whiteness be produced in us by a certain number of globules, which, having a verticity about their own centres, strike upon the retina of the eye, with a certain degree of rotation, as well as progressive swiftness; it will hence easily follow, that the more the superficial parts of any body are so ordered as to reflect the greater number of globules of light, and to give them the proper rotation, which is fit to produce this sensation of white in us, the more white will that body appear, that from an equal space sends to the retina the greater number of such corpuscles, with that peculiar sort of motion... I cannot (and I would be glad any one would make intelligible that he did), conceive how bodies without us can any ways affect our senses, but by the immediate contact of the sensible bodies themselves, as in tasting and feeling, or the impulse of some sensible particles coming from them, as in seeing, hearing, and smelling; by the different impulse of which parts, caused by their different size, figure, and motion, the variety of sensations is produced in us (IV.II.11, not in AW).

Locke describes how the communication of motion of light to the retina will impel us to see a color, without any serious metaphysical speculation about the communication of motion.
He provides no explanation of why a particular wavelength of light should correspond to a particular color, or why the vibration of the ear at should correspond to the sound it does.
Why do lemons appear yellow?
Both the moderns like Locke and contemporary neuroscientists lack an explanation of the connection between my conscious experience and its cause.
Why is it that such and such motions in the air cause me to hear a symphony?
Why is it that certain wavelengths of light cause me to see blue?

> That the size, figure, and motion of one body should cause a change in the size, figure, and motion of another body is not beyond our conception. The separation of the parts of one body upon the intrusion of another and the change from rest to motion upon impulse, these and the like seem to have some *connection* one with another. And if we knew these primary qualities of bodies, we might have reason to hope we might be able to know a great deal more of these operations of them one upon another. But our minds not being able to discover any *connection* between these primary qualities of bodies and the sensations that are produced in us by them, we

> can never be able to establish certain and undoubted rules of the consequence or *coexistence* of any secondary qualities, though we could discover the size, figure, or motion of those invisible parts which immediately produce them. We are so far from knowing what figure, size, or motion of parts produce a yellow color, a sweet taste, ro a sharp sound that we can by no means conceive how any *size, figure*, or *motion* of any particles can possibly produce in us the *idea* of any *color*, *taste*, or *sound* whatsoever; there is no conceivable *connection* between the one and the other (IV.III.13, AW 395b-396a).

If your parents are giving you a hard time about studying philosophy, since it never makes any progress, you might want to keep them away from that quote.
It's the kind of thing that gives people like me nightmares.
We haven't made any progress in the last three centuries of trying to answer that question.
That question is essentially what David Chalmers calls the hard problem of consciousness.
The easy problem is to map the brain, and to know all its functions.
Once we have done that, though, we still won't be any closer to an answer to why certain neural firings correspond to certain conscious experiences.

Locke's claim concerning our conscious experience is merely that there are lawful correspondences between physical events and some mental states.
If these lawful correspondences are possible, it seems possible for matter to think.
Moreover, it seems equally unlikely for whatever substance in which thought resides to be the seat of thought as for matter to be the seat of thought.

> We have the *ideas* of *matter* and *thinking*, but possibly shall never be able to know whether any mere material being thinks or not, it being impossible for us, by the contemplation of our own *ideas*, without revelation, to discover whether omnipotence has not given to some systems of matter fitly disposed a power to perceive and think, or else joined and fixed to matter so disposed a thinking immaterial substance - it being in respect of our notions not much more remote from our comprehension to conceive that God can, if he pleases, superadd to matter a faculty of thinking than that he should superadd to it another substance with a faculty of thinking, since we do not know in what thinking consists, nor to what sort of substances the Almighty has been pleased to give that power... (IV.III.6, AW 393b).

Locke thus draws a humble conclusion.

> *The extent of our knowledge* comes not only short of the reality of things, but even of the extent of our own *ideas* (IV.III.6, AW 393a).

The materialist and the dualist each make the error of claiming to know something that is beyond the reach of our ideas.

II. Personal Identity

The question of how to define or characterize personal identity, what identifies us or makes us the same over time, is deep and compelling.
Two standard, if limited accounts, might be called the body theory and the soul theory.

According to the body theory, which we might attribute to Hobbes, we are our bodies.
This view would be consistent with our general, contemporary preference for materialism, is that we are identical with our bodies.

The problem with that answer is that our bodies are changing all the time.
We lose skin and hair all the time (dust).
Every seven years, all the cells in our bodies are replaced.
So, if we identify ourselves with our bodies, we are not the same person we were, say, a moment ago.
(And, my son is made out of bologna and noodles.)

The problem of personal identity is related to a more general problem called the problem of material constitution.
Consider the ship of Theseus.
We can replace every plank on the ship, one at a time.
It changes its material composition completely, but remains the same ship.
We can make a new ship with the old wood, and find ourselves completely confused about what to say.
Is the ship that Theseus uses, with all new materials, his ship?
Or, is the new ship made of the old wood his ship?

The body theory is undermined by the inconstancy of material constitution.
Our bodies change quickly, and thoroughly.
Moreover, we might believe that there is a constant, underlying self, a haecceity which has the experiences, and undergoes the changes.
In that latter case, the body theory has no plausibility.

The soul theory, at which Descartes hinted, and which we can ascribe to Leibniz as well, claims that we are essentially thinking things, our souls.
According to the soul theory, the self is an immaterial substance completely distinct from our bodies.
There are two sorts of objections to the soul theory.
The first sort of objection denies that there are souls distinct from bodies.
This (usually-materialist) response argues that the soul theory must be false since there are no souls.
One argument for the first kind of response relies the problem of interaction.
If we identify ourselves with our souls, then we have a puzzle about how we interact with our bodies.

The second sort of objection to the soul theory of self, which we see in Locke's work, does not oppose the existence of souls.
Locke points out that the defender of the soul theory is committed to the independence of bodies and souls.

> Souls [are], as far as we know anything of them, in their nature, indifferent to any parcel of matter... (§II.XXVII.14, AW 372a).

Thus, the body in which the soul is placed is inconsequential.
The same soul could be put into two bodies.

> If the *identity* of soul alone makes the same man, and there be nothing in the nature of matter why the same individual spirit may not be united to different bodies, it will be possible that those men living in distant ages, and of different tempers, may have been the same man. This way of speaking must be, from a very strange use of the word *man*, applied to an *idea* out of which body and shape are excluded (II.XXVII.6, AW 369a).

Imagine that a soul had two different incarnations.
We wouldn't say that there were only one person.

> Suppose it to be the same soul that was in *Nestor* or *Thersites* at the siege of *Troy*...which it may

> have been, as well as it is now the soul of any other man. But he now having no consciousness of any of the actions of either of *Nestor* or *Thersites*, does or can he conceive himself the same person with either of them? Can he be concerned in either of their actions, attribute them to himself, or think them his own more than the actions of any other men that ever existed? Thus, this consciousness not reaching to any of the actions of either of those men, he is no more one self with either of them than if the soul or immaterial spirit that now informs him had been created and began to exist, when it began to inform his present body... (II.XXVII.14, AW 372a).

The soul is not identical to the self, Locke says, since there can be more than one self using the same soul.
Moreover, Locke argues that the problem works in the other direction, too.
Locke believes that it is possible for the same self to be transferred between souls, as we will see when we get to Locke's positive account of the self.

So, we can distinguish between two different types of objections to the soul theory, one which accepts the existence of souls and one which rejects them.
On either objection, the soul theory of self meets counter-intuitive consequences.
To avoid these unfortunate consequences, Locke provides a different account of self.
Locke's account is both controversial and revolutionary.

III. Identity and Sortals

One of Locke's lasting contributions to the literature on personal identity is his observation that identity generally is relative to a sortal, to a kind of thing.
We can not know what our identity is until we know what kind of thing we are.
There are three main types of things for Locke, as for Descartes: God, finite minds (souls), and bodies.
These categories are too coarse to help us identify our selves.

> We must consider what is meant by Socrates, or the same individual *man*. First, it must be either the same individual, immaterial, thinking substance; in short the same numerical soul, and nothing else. Secondly, or the same animal, without any regard to an immaterial soul. Thirdly, or the same immaterial spirit united to the same animal (II.XXVII.21, AW 374a).

Let's say that my daughter re-forms her plasticine sculpture of a horse into the shape of a house.
The lump of plasticine is the same lump, but it is a different statue.
The ship of Theseus may be the same ship while being a different material object.
We can not know how to identify something unless we know what kind of thing it is.
The same mass of matter may be a different statue while being the same toy.
So, we can not know what our identity is until we know what kind of thing we are.

We might, for example, think that we are a biological kind of thing.
Locke takes 'man' to refer to a type of animal.

> The idea in our minds, of which the sound "man" in our mouths is the sign, is nothing else but of an animal of such a certain form (II.XXVII.8, AW 369b).

An animal is not merely its matter.
The matter remains after the animal's death while the animal itself does not.
The principles of identity of the sort 'man' are biological.
Biological criteria are not strictly material.
The identity of a man is determined functionally, by its organization and not by its matter.

> The identity of the same *man* consists...in nothing but a participation of the same continued life, by constantly fleeting particles of matter, in succession vitally united to the same organized body (II.XXVII.6, AW 369a).

Note that a body theorist of the self could make this kind of appeal to a biological sortal.
The body theorist could say that we are men, material objects with a certain sort of functional organization.

But, according to Locke, the sort man can not serve as the sort of our selves.
A man is identified by the functional organization of the body; it is a biological thing.
But, 'person' and 'self' are forensic, or moral, terms used for practical purposes of ascribing responsibility.
One can see an argument for the distinction between (biological) humans and (moral) persons clearly when we consider the question of whether aliens, or sentient machines, could be persons.
Since such a case is possible, our personhood must not be identical with our biology.

In addition, Locke's account arises in part from the worry, raised by Robert Boyle, about the resurrection of bodies in the presence of cannibals.
Imagine that some portion of one person's body is eaten by another person, and so becomes part of both of them.
It is a puzzle to determine into whose body that portion of matter will go at the resurrection.
I'm not sure how much Locke's rejection of the body theory and his claim that 'man' is the proper sortal for personal identity are responses to Boyle's worry.
But, Boyle's puzzle seems to have had some influence on Locke.

We are looking for a criterion for identity for personhood: what makes us the same people over time.
It's not sameness of body.
It's not sameness of soul.

IV. The Consciousness Theory

For Locke, what makes the same person over time, is consciousness, and, especially, connection through memory, which Locke calls consciousness extending backwards.
Locke's view is sometimes labeled the psychological continuity theory, and sometimes the memory theory.
I'll call it the consciousness theory.

> [A person] is a thinking intelligent being, that has reason and reflection, and can consider itself as itself, the same thinking thing in different times and places; which it does only by that consciousness which is inseparable from thinking, and, as it seems to me, essential to it... (II.XXVII.9, AW 370a).

Locke argues for the consciousness theory from premises similar to those that Descartes invoked for the soul theory.
In thinking about ourselves, we think about our thoughts.
For Descartes, consciousness is the essential characteristic of mental life, and what distinguishes us from (other) animals.
Locke denies Descartes's conclusion that we are our souls.
But, he maintains an emphasis on conscious thought.

> Since consciousness always accompanies thinking, and it is that which makes every one to be what he calls self, and thereby distinguishes himself from all other thinking things, in this alone consists personal identity (II.XXVII.9, AW 370a).

Locke's view is called the psychological-continuity theory because of its claim that continued consciousness is a mark of sameness of self.
We know of continued consciousness through memory.
So, memory is also essential to the criteria for identifying ourselves over time.

> For as far as any intelligent being can repeat the idea of any past action with the same consciousness it had of it at first, and with the same consciousness it has of any present action; so far it is the same personal self (II.XXVII.10, AW 370b).

Locke's argument for the consciousness theory also invokes a series of thought experiments.
He considers a prince who transfers his consciousness to a cobbler.
Though he inhabits a different human being, Locke argues, it is the same prince in the pauper's body.

Locke also considers the case of a day and night man, a single man who has one consciousness in the day and one in the night, like Jekyll and Hyde.
In this case, Locke says, we are tempted to say that there are two people in one biological man.

Locke's solution to the problem of personal identity helps explain his objection to the soul theory.
The soul theory posits that sameness of soul, taken as a substance, suffices for sameness of person.
Locke considers a case in which consciousness varies but substance remains.
If the soul theory were correct, then we should have the same person.
But, Locke says that we have two different people, and so the soul theory is wrong.

> If the same consciousness...can be transferred from one thinking substance to another, it will be possible that two thinking substances may make but one person. For the same consciousness being preserved, whether in the same or different substances, the personal identity is preserved (II.XXVII.13, AW 371b).

Locke's consciousness theory leads to some counter-intuitive consequences.
There are gaps in both our conscious experience and in our memory.
Every time we sleep, we lose consciousness.
Some experiences are forgotten.
If consciousness and psychological continuity are required for personal identity, then every time we sleep or lose a memory, we lose our identity.

Thomas Reid expresses this worry in a case called the Brave Soldier.
An old general remembers being a brave officer.
The brave soldier remembers an experience from his childhood, being flogged for robbing an orchard.
But, the old general does not remember being flogged.
According to the transitive property of identity, the old general is surely the same person as the child.
But according to Locke's theory, it seems, the old general is not the same person as the child.
The old general cannot remember being flogged as a child.
Reid's concern expands, since our consciousness is not a constant, but a stream of changing experiences.
Since our conscious experiences change constantly, it looks like Locke's theory entails that we are constantly changing, too.

Reid's worries point out some counterintuitive consequences of the consciousness theory.

Perhaps our conscious experience, ever flowing, does not support any kind of sameness of an individual over time.

The soul theory of self posits a constant haecceity, a thing underlying our experiences.
Locke's consciousness theory attempts to maintain a consistent thing, the self, without positing a particular substance called the self.
Another option, which we will see in Hume's work, is to give up the notion of a self in response to the constant changes of both material constitution and conscious experience.

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Spring 2011 Russell Marcus

Class 15 - March 8
Locke, *An Essay Concerning Human Understanding*
Book III (AW 377-386)

I. Meanings of Words

Our final topic in studying Locke concerns language.
Locke believes that words stand for ideas in our minds.
This claim is controversial, though, because we ordinarily take many words to stand for objects outside of our minds.
We normally take 'this table' to refer to the table, not to my idea of the table.
Locke holds what we can call a representational theory of mind on which ideas are like pictures in the mind.
Terms stand for ideas, which somehow correspond to objects like chairs, people, or even circles.

Here is an argument for Locke's claim, drawn from the first two chapters of Book III, which are not reprinted in Ariew and Watkins.

LL
- LL1. Society depends on our ability to communicate our ideas, so words must be able to stand for ideas.
- LL2. Since my ideas precede my communication, words must refer to my ideas before they could refer to anything else.
- LL3. If words refer both to my ideas and to something else (e.g. your idea, or an external object), then they would be ambiguous.
- LL4. But, words are not ordinarily ambiguous.
- LL5. So, words ordinarily do not stand for something other than my ideas.
- LLC. So, words stand for my ideas.

Locke claims that while names refer to our own ideas, we just suppose them to refer to other people's ideas, or for external objects.

> [It is] perverting the use of words, and bring[ing] unavoidable obscurity and confusion into their signification, whenever we make them stand for anything but those ideas we have in our own minds (§III.II.5).

While particular terms correspond to simple ideas, there are too many particular things for them all to have particular names.
So we have to use general terms.

1. Human capacity is limited (III.IIII.2, AW 377a).
2. You don't have names for my ideas and I don't have names for yours (III.IIII.3, AW 377a-b).
3. Science depends on generality (III.IIII.4, AW 377b).

Thus, we use both particular names, for particular ideas when it is useful.
And we use general terms for communication and for science.

II. General Terms and Abstract Ideas

General terms are the foundation not only for empirical science, but for formal sciences like mathematics and logic that motivated (in part) the rationalists to posit innate ideas.
We get knowledge of mathematical objects, which we do not experience, by a process of abstraction.
We see doughnuts and frisbees, for examples, and focus only on their common shape to arrive at the idea of a circle.
We leave out other properties, form an abstract idea, and coin a general term to stand for it.

Abstraction is required in other areas, as well.
We experience extended things, but not extension itself.
Any ideas of extension, size, or shape must arise from abstraction.

Let us consider this process of abstraction in a bit more detail.
We start with our sense experiences, of several chairs, for example.
We notice that they have common properties: backs, seats, legs.
We give a name to whatever has these common properties.
This name, 'chair', is abstract, in the sense that it doesn't refer to a particular chair.
Instead, it is a general term which applies to any chair.
The same process yields 'table'.

We can consider the commonalities among tables and chairs, and sofas and desks.
This yields an even more general term, 'furniture'.
We have abstracted again.

The same process which yields 'chair' gives us other terms like 'house' and 'apartment building'.
We can abstract again to get 'domicile'.
Similarly, we arrive at names like 'animal', and 'person'.
All of the objects we have considered are extended.
We can abstract again, and arrive at a term, 'extension'.
Similarly, we get the terms 'motion' and 'substance'.

Ideas of bodies and motion are the foundations of physical science.
A scientist uses 'motion', for example, when he asserts '$v = \Delta s/\Delta t$', that velocity is equal to the change in displacement over time.
The laws of physical science include unavoidable uses of general terms.

Lastly, we can abstract to the term, 'physical object'.
A progression of abstraction leads us from particular terms for individual sensations to general terms for bodies.

In sum, we have a term 'bodies'.
The term stands for an abstract idea, 'bodies'.
An idea is a representation of an external object.
The term 'bodies', which we have constructed to stand for an abstract idea, refers to bodies, which are physical objects.

To account for mathematics, we abstract as well, from frisbees and pizzas to circles, and from collections of objects to numbers.
Both the use of general terms and our ability to remember the distinct parts of a proof are essential to mathematics.

> If...the perception that the same *ideas* will eternally have the same habitudes and relations is not a sufficient ground of knowledge, there could be no knowledge of general propositions in mathematics, for no mathematical demonstration would be any other than particular (IV.I.9, AW 388b).

The abstract generality of mathematical claims supports their certainty.
We abstract the triangularity of triangular-shaped drawings from their specific properties: the chalk, the slight curve in one side, the location on the board.
We ignore some properties and focus on others, like the triangularity.
General terms, and the abstract ideas to which they refer, apply to particular objects, but only to certain aspects of those objects.

> [A general] *idea* [of man] is made, not by any new addition, but only...by leaving out the shape, and some other properties signified by the name *man*, and retaining only a body, with life, sense, and spontaneous motion, comprehended under the name *animal* (III.IIII.8, AW 378a).

When we leave out the particular elements of our ideas and focus only on the mathematical elements, we can attain perfect generality.
This generality yields the certainty of mathematics, since mathematical claims are only about our abstract ideas, and not about the external world.

> [The mathematician] is certain all his knowledge concerning such *ideas* is real knowledge, because intending things no further than they agree with his *ideas*, he is sure what he knows concerning those figures, when they have barely an *ideal existence* in his mind, will hold true of them also when they have real existence in matter, his consideration being barely of those figures which are the same, wherever or however they exist (IV.IV.6, AW 404b).

Furthermore, ethical ideas are, like mathematical ones, based on abstractions and thus liable to certainty, as I noted earlier.

> For certainty being but the perception of the agreement or disagreement of our *ideas*; and demonstration nothing but the perception of such agreement, by the intervention of other *ideas* or mediums, our moral *ideas*, as well as mathematical, being archetypes themselves, and so adequate and complete *ideas*; all the agreement or disagreement which we shall find in them will produce real knowledge, as well as in mathematical figures (IV.IV.7, AW 404b).

III. Nominalism

'Nominalism' is the claim that some words are merely names and do not denote real objects or properties.
We are all nominalists about fictional objects, like the Easter Bunny.
Some people are nominalists about numbers.
Locke is a nominalist about color and other secondary properties.

Locke is also a nominalist about the referents of abstract ideas.
General terms refer to abstract ideas, but abstract ideas are not real.

> Universality does not belong to things themselves, which are all of them particular in their existence, even those words and *ideas* which in their signification are general. When therefore we quit particulars, the generals that rest are only creatures of our own making, their general nature being nothing but the capacity they are put into by the understanding of signifying or

> representing many particulars. For the signification they have is nothing but a relation that, by the mind of man, is added to them (III.IIII.11, AW 379a).

Similarly, Locke does not have much to say, positively, about essences.
Since we do not have sense experience of the essence of an object, there is little to be said.
Mainly, he says that the essence of a thing is that which makes it what it is.

> The real internal, but generally, in substances, unknown constitution of things on which their discoverable qualities depend, may be called their *essence* (III.III.15, AW 380a).

To arrive at an idea of essence, we must generalize from particular sensation, and form an abstract idea.
But, strictly speaking, essences, being abstract ideas, are not real, either.

> That which is *essential* belongs to it as a condition, by which it is of this or that sort; but take away the consideration of its being ranked under the name of some abstract *idea*, and then there is nothing necessary to it, nothing inseparable from it (III.VI.6, AW 383b).

Again, Locke is a nominalist about essences.

Still, for all his nominalism, we are not supposed to think that Locke denigrates mathematical or moral knowledge.

> All the discourses of the mathematicians about the squaring of a circle, conic sections, or any other part of mathematics, *do not concern* the *existence* of any of those figures, but their demonstrations, which depend on their *ideas*, are the same, whether there is any square or circle existing in the world or not. In the same manner the truth and certainty of *moral* discourses abstract from the lives of men and the existence of those virtues in the world of which they treat (IV.IV.8, AW 405a).

In contrast, our knowledge of the external world, the causes of our sensations and the laws that govern physical interactions, contains deep mysteries, inexplicable absent something like a rationalist's principle of sufficient reason.

> I think not only that it becomes the modesty of philosophy not to pronounce magisterially where we want that evidence that can produce knowledge, but also that it is of use to us to discern how far our knowledge does reach, for the state we are at present in, not being that of vision, we must in many things content ourselves with faith and probability (IV.III.6, AW 394a).

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Questions to Prepare for the Midterm

Descartes

1. What does Descartes want to raze to the ground? What is his goal?
4. How does Descartes come to doubt all of what his senses tell him?
6. Of what does Descartes think might be certain even if he is dreaming?
7. What makes Descartes doubt the truth of mathematics?
8. "But eventually I am forced to admit that there is nothing among the things I once believed to be true which it is not permissible to doubt - and not out of frivolity or lack of forethought, but for valid and considered reasons" (AW 42b). Explain what these three reasons are.
10. What is the first thing that Descartes claims he can not doubt? Why can't he doubt it?
14. How does Descartes argue that he perceives what the wax is through the mind alone?
19. What general rule does Descartes accept as a criterion for knowledge? How does he arrive at this rule?
23. "Nothing is more obvious than the judgment that this thing is sending its likeness rather than something else into me" (AW 49a). Explain.
26. How does the example of the sun contravene the claim in Question 23?
28. On the basis of what evidence does Descartes claim that there is more reality in a cause than in its effect? What does this general principle allow Descartes to conclude?
38. How does the idea of God arise in us?
42. What potential problem does Descartes find in supposing God not to be a deceiver? How does he arrive at this problem?
46. How does the difference between the will and the intellect cause error? Describe each faculty and its function.
54. How does Descartes argue that we do not acquire our geometric ideas from our senses?
56. "Thus it is no less contradictory to think of God... lacking existence... than it is to think of a mountain without a valley" (AW 59b) Why not? Be specific.
68. "[M]y ability clearly and distinctly to understand one thing without another suffices to make me certain that the one thing is different from the other..." (AW 64a). Explain. What does this mean about the relationship between the mind and the body?
71. What is Descartes's argument that physical objects exist?
79. How does the divisibility of the body show it to be distinct from the mind?
88. What two characteristics distinguish persons from animals?
89. How does Descartes argue for the immortality of the soul?

Hobbes

1. How do thoughts originate? Be specific.
2. What is the relationship between inertia and memory?
4. Explain the analogy of the sequence of thought to water on a table.
10. Why are terms like 'wisdom', 'fear', 'cruelty' and 'justice' useless, or even dangerous, in philosophy?

Spinoza

22. Distinguish substances, modes, and accidents.
24. How does Spinoza argue that there can be only one substance of any particular nature?
28. Characterize Spinoza's conception of God. How is it different from ordinary conceptions?
32. "Particular things are nothing but affections of the attributes of God, that is, modes wherein the attributes of God find expression in a definite and determinate way" (Proposition 25). Explain.
34. How does Spinoza conclude that nothing in nature is contingent? Consider his characterizations of 'contingent', 'necessary', and 'impossible' in Proposition 33.
39. Explain Proposition 7: The order and connection of ideas is the same as the order and connection of things. Does Descartes agree?
50. What are the three kinds of knowledge? How do they differ?
51. How does Spinoza account for falsity? Why is such an account both difficult and important, for him?
52. How are will and intellect the same thing? Distinguish Spinoza's solution to the problem of error from Descartes's solution.
55. Distinguish passive and active states of the mind. How does this distinction help explain human freedom?

Leibniz

1. What are monads? How do we know that there are monads?
3. Are monads all alike? Explain.
5. How does Leibniz argue that machines (bodies) can not think?
7. "The present is pregnant with the future" (§22). Explain.
9. Describe Leibniz's two basic principles of philosophy. (The brief selection *Primary Truths*, AW 265-268) will be helpful.)
14. How does Leibniz argue that this is the best of all possible worlds?
21. How does Leibniz's view of the mind (soul)/body distinction differ from that of Descartes? How does Leibniz account for the difference?
22. How do rational souls (minds) differ from ordinary souls?
26. What conditions are required for true predication? (Consider explicit and virtual containment.)
31. How do Leibniz's claims about monads undermine the possibility of human freedom? How does the distinction between certainty and necessity help him account for free will? Consider the Caesar example.
37. What are final and efficient causes? How does Leibniz try to rectify them?
43. How does absolute time differ from relative time? Characterize each.
44. How does absolute space differ from relative space? Characterize each. What is the difference between place and space?
45. What is the relation between absolute space and absolute motion?
49. Describe Newton's bucket experiment. What does it show, and how?
54. For Leibniz, what does it mean that space and time are "merely relative" (LIII.4)?
55. How does Leibniz use the principle of sufficient reason to object to absolute space? How does he use that principle to object to absolute time?

Locke

5. What is general assent? Why does it not prove that there are innate ideas?
6. How does the example of children show that there are no innate ideas?
12. Describe and differentiate the two sources of ideas.
22. What are the primary qualities? (Provide a description and a list.)
23. What are the secondary qualities? (Provide a description and a list.)
25. How do we get ideas of secondary qualities?
26. "The ideas of primary qualities of bodies are resemblances of them, and their patterns do really exist in the bodies themselves, but the ideas produced in us by these secondary qualities have no resemblance of them at all." (II.VIII.15) Explain.
28. "Take away the sensation of them; let not the eyes see light or colors, nor the ears hear sounds; let the palate not taste, nor the nose smell, and all colours, tastes, odours, and sounds, as they are such particular ideas, vanish and cease, and are reduced to their causes, i.e. bulk, figure, and motion of parts." (§17) Explain.
29. How does the example of the porphyry support the primary/secondary distinction?
30. How does Locke's discussion of the water support his primary/secondary distinction?
31. How does Locke demonstrate that figure is a primary quality?
34. What is the difference between a mass of matter and the plant or animal made of that matter?
37. What is the relationship between consciousness and personal identity? Consider the role of memory.
46. How are general words made? For what do they stand?
63. In what two ways do philosophers err about the relationship between mind and body? What error do both positions share?
65. How are we ignorant of the connection between primary and secondary qualities?
70. Are mathematical claims certain? What are the objects of these claims?

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Midterm

Instructions: Provide a well-written response to **eight** of the following fourteen questions. Each question is worth ten points.

1. How does Descartes come to doubt all of what his senses tell him?
2. "Nothing is more obvious than the judgment that this thing is sending its likeness rather than something else into me" (Descartes). Explain. How does the example of the sun contravene this claim?
3. How does Descartes argue that we do not acquire our geometric ideas from our senses?
4. "[M]y ability clearly and distinctly to understand one thing without another suffices to make me certain that the one thing is different from the other..." (Descartes). Explain. What does this mean about the relationship between the mind and the body?
5. Explain Hobbes's analogy of the sequence of thought to water on a table.
6. How does Spinoza argue that there can be only one substance of any particular nature?
7. What are Spinoza's three kinds of knowledge? How do they differ?
8. What are Leibniz's monads? Are monads all alike? Explain.
9. "The present is pregnant with the future" (Leibniz). Explain.
10. Describe Leibniz's two basic principles of philosophy (sufficient reason and contradiction).
11. How does absolute space differ from relative space? Characterize each. What is the difference between place and space?
12. What is general assent? Why does it not prove that there are innate ideas?
13. "Take away the sensation of them; let not the eyes see light or colors, nor the ears hear sounds; let the palate not taste, nor the nose smell, and all colours, tastes, odours, and sounds, as they are such particular ideas, vanish and cease, and are reduced to their causes, i.e. bulk, figure, and motion of parts" (Locke). Explain.
14. What, for Locke, is the relationship between consciousness and personal identity? Consider the role of memory.

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Spring 2011 Russell Marcus
Tuesdays, Thursdays: 9am - 10:15am rmarcus1@hamilton.edu

Second Paper Assignment

1. Your second paper is due on April 26, at 9am. It should be double spaced, approximately five to eight pages (1250 to 2400 words) in a reasonable font, such as 11 point Times, with reasonable (e.g. one-inch) margins.

2. The topic of your second paper may be any topic in the material we have covered from Spinoza, Leibniz, Locke, Berkeley, or Hume. I expect that you will compare and contrast the work of at least two philosophers; one of them may be Descartes. See the reverse for more specific topics.

3. Your paper must have a thesis in which you defend a specific argument, conclusion, or view.

4. Avoid history and biography. Focus on the arguments.

5. Observe basic rules of grammar and spelling. Avoid jargon. Write simply, and clearly. Proofread your paper. Ask a good writer to read and comment on your paper.

6. Two important, idiosyncratic formatting guidelines:
   Do not right justify (i.e. fully justify) your paper.
   Paginate.

7. Any citation method which allows me easily to trace your sources is acceptable. References to pages in the Ariew and Watkins collection may be indicated, in line: "Few men think, yet all will have opinions" (Berkeley, AW 478). Other sources require a list of references at the end of the paper, along with in-line citations. Internet sources must include a live URL. I must be able to trace the source.

8. Violations of academic integrity, like plagiarism, can and will lead to failing grades. Remember to acknowledge any assistance you have had on your paper, including assistance from the Writing Center. **The Hamilton College Honor Code will be enforced**.

See the First Paper Assignment for some general guidelines for writing a philosophy paper.
Links to excellent advice for writing philosophy papers are also available on the course website.

Paper Topics

Here are some themes we have studied across philosophers:

1. What are the fundamental substances of the world? How many substances, or kinds of substances, are there?
2. Does God exist? If so, how do we know?
3. Is there a material world? If so, what is it like?
4. What is the nature of mind? What is the relationship between minds and bodies?
5. What is the self?
6. Is our will free?
7. Are there innate ideas? If so, what are they? If not, do we know the claims that those who defend innate ideas say that we do? If so, how?
8. What are abstract ideas? Do we have abstract ideas?
9. What are the proper methods of science? Can we know scientific laws?
10. Are space and time absolute or relational?
11. Are mathematical claims necessary? How do we know them? What are they about?

Some of these topics are more appropriate for some philosophers than for others. On the nature of self, for example, I would expect that you would discuss Locke and Hume. On innate ideas, I would expect that you would discuss Descartes and Locke. On the freedom of the will, Descartes, Spinoza, Leibniz, and Hume are all relevant; for this topic, I would expect you to discuss at least three philosophers.

For whatever topic you choose, **present a thesis of your own, formed by consideration of the work of the philosophers you will discuss**. You may defend one philosopher's position against the criticisms of another. You may present a thesis critical of more than one philosopher.

For more specific paper topics, Tlumak provides excellent suggestions at the end of each chapter.
I encourage you to talk with me about your paper in advance.

You must meet with me to clear your topic if you are planning to diverge from those above.

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Reading Guide #5
George Berkeley, from *A Treatise Concerning the Principles of Human Knowledge*
George Berkeley, from *Three Dialogues between Hylas and Philonous*

These questions are provided to assist you in your reading. I encourage you first to read the material through, then go back to answer the questions. You are not expected to hand in written answers. You are expected to have responses ready for class discussion. Page numbers refer to the Ariew and Watkins collection.

Principles, Part I, §1-33 (AW 447-453)

1. What are the three types of ideas?
2. What is an object, like an apple, for Berkeley?
3. What exists, besides ideas?
4. How does Berkeley argue that the essence of unthinking things is their being perceived?
5. What contradiction arises from the belief that sensible objects have an independent existence?
6. How does the notion of the independent existence of material objects depend on the doctrine of abstract ideas?
7. What kind of abstraction does Berkeley say we can perform? What can't we do, as regards abstraction?
8. Can an object which I don't perceive exist? Explain.
9. How does Berkeley argue that there can be no material substratum for our ideas?
10. Why can't our ideas of objects resemble material substance? How does this show the primary/ secondary distinction to be unhelpful?
11. "In short, extension, figure, and motion, abstracted from all other qualities, are inconceivable" (§10, AW 449a). Explain. What does this show?
12. How does Berkeley argue that number does not exist without the mind?
13. Explain Berkeley's argument against the primary qualities from the relativity of perceptions.
14. What problem does Berkeley find in the argument that matter supports extension?
15. How is the supposition of external bodies unnecessary?
16. "In short, if there were external bodies, it is impossible we should ever come to know it; and if there were not, we might have the very same reasons to think there were that we have now" (§20, AW 451a). Explain.
17. Why doesn't thinking of an unperceived object refute Berkeley?
18. How are ideas passive? How does Berkeley show this? What does this demonstrate? What, then, causes ideas and their changes?
19. Describe the differences among will, understanding, and spirit. How does Berkeley argue that there are no ideas of spirits? (See also §135 et seq.)
20. Explain the argument for the existence of a higher power in §29 (AW 453a).
21. What are laws of nature, according to Berkeley? Be specific. How do we learn them? Why are they useful?
22. Distinguish real things and images.

Three Dialogues, Dialogue 1 (AW 454-474)

23. What does Philonous claim does not exist?
24. How does Hylas first define 'skeptic'? Why does Philonous claim to be no skeptic?
25. How do Hylas and Philonous define 'sensible things'? How are they different from their causes?
26. How is material substance senseless? Why can't pain be a property of material substance?
27. How does Philonous argue that heat and cold can not be properties of a material substance?
28. Explain Hylas's distinction between qualities as they appear to us and qualities as they exist in external objects. Why does Philonous reply, "I say it is nothing to the purpose" (AW 460b)?
29. Why isn't sugar sweet?
30. What are Hylas's two senses of 'sound'. Why does Philonous respond that real sounds are never heard?
31. How does a microscope help Philonous show that colors are not in external objects?
32. "Colors, sounds, tastes, in a word, all those termed 'secondary qualities,' have certainly no existence without the mind. But by this acknowledgment I must not be supposed to derogate anything from the reality of matter or external objects..." (AW 464b). Explain. Who, besides Hylas, holds this view?
33. How does Philonous plan to argue against the primary qualities?
34. How does the example of the mite show the relativity of extension?
35. What happens as we approach or recede from an object? What does this show, for Philonous?
36. How does a microscope serve to show that the appearance of figure can change?
37. What is the relation between motion and time? How is time measured? What does this mean for motion?
38. How does Philonous argue for the relativity of solidity?
39. Why does Philonous suppose that it is harder to believe that the primary qualities lack real existence?
40. Distinguish visible extension from absolute extension. Does this distinction save the primary qualities?
41. Why does Philonous agree to concede to Hylas if we can form abstract ideas of extension and motion?
42. In what way do mathematicians abstract? Does this process get us to Locke's abstract ideas?
43. "Consequently, the very same arguments which you admitted as conclusive against the secondary qualities are... against the primary, too" (AW 468a). Explain.
44. Explain Hylas's distinction between object and sensation. How does Philonous show that Hylas's notion of a sensation is incoherent?
45. What does Hylas mean by 'material substratum'? Why does he conclude that it exists?
46. What is wrong with supposing that corporeal substance is the substratum of extension? (Consider the spreading argument.)
47. "My arguments... nowhere tended to prove that the secondary qualities did not subsist each alone by itself, but that they were not *at all* without the mind" (AW 471b). Explain.
48. How does Philonous convince Hylas that he can not conceive of a tree existing without any minds?
49. How does Philonous show that distance is not suggested by sight?
50. Explain Hylas's Julius Caesar example. How does Philonous show that it leads to the claim that real things are not perceivable?
51. Why, according to Philonous, is it implausible that our ideas could be resemblances of stable, permanent material objects?
52. How does Philonous argue that materialism leads to skepticism?

Principles, Introduction (AW 438-446)

53. Are the paradoxes and difficulties of our understanding the fault of our senses? Explain.
54. What "abuse of language" is a chief part of philosophical confusion?
55. How do we, supposedly, arrive at abstract ideas?
56. "But then whatever hand or eye I imagine, it must have some particular shape and color" (§10, AW 441a). Explain. How is this an argument against abstract ideas?
57. In what sense can we form abstract ideas? What are the limits to this capacity?
58. Does our ability to understand and use general propositions entail an ability to form abstract ideas?
59. How does an idea become general? What is the purpose of these general terms?
60. How does the notion of an abstract, general idea lead to a contradiction?
61. Do we need abstract ideas for communication or the advancement of knowledge?
62. Do we need abstract ideas to account for geometric reasoning? Explain.
63. How does the presupposition that each word stands for one thing lead to the doctrine of abstract ideas? What alternative account of names does Berkeley defend?
64. How does Berkeley criticize Locke's account of the purpose of language?
65. How does Berkeley plan to avoid abusing language?

Principles, §86-100 (Handout)

66. How does materialism lead to skepticism? How does idealism avoid skepticism?
67. Do we have ideas of ourselves? Explain.
68. Are ideas real? Explain. (See also *Second Dialogue*, AW 483.)
69. How does materialism lead to atheism?
70. What are the two layers of abstraction, §99, which lead to materialism?

Three Dialogues, Dialogue 2 (AW 474-484)

71. How does Philonous argue that the brain can not be the cause, or occasion, of our ideas?
72. "Men commonly believe that all things are known or perceived by God, because they believe the being of a God; whereas I, on the other side, immediately and necessarily conclude the being of a God, because all sensible things must be perceived by him" (AW 477a). Explain. (See also *Principles* §146 et seq.)
73. Why does Philonous criticize Hylas's definition of matter, understood as the cause of our ideas, as playing with words?
74. Can matter be an instrument? Explain. Can matter be an occasion?
75. Do we need matter to explain our perceptions? Explain.
76. Do we have ideas of matter in general? Explain.
77. Does the idea of matter lead to a contradiction? Explain.

Principles, §101-156 (Handout)

78. How does natural science lead to skepticism?
79. "I do not perceive that anything is signified [by 'gravitational attraction'] besides the effect itself" (§103). Explain.
80. How do scientists (natural philosophers) make progress?
81. Are there counter-examples to the law of gravity? Explain.
82. Describe the four conclusions Berkeley draws from his philosophy for natural science in §107.
83. How does Berkeley argue against absolute space? How does he criticize Newton's conclusions from the rotating bucket experiment?
84. According to Berkeley, are mathematical theorems true? Are there numbers? Explain.
85. How does Berkeley attempt to show that matter is not infinitely divisible? What does this mean for geometry?
86. "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" (§127). Explain. How does this indicate the basic error of the notion of infinite divisibility, for Berkeley?
87. What problem arises from the supposition of infinite divisibility?
88. For Berkeley, is it a reparable defect that we can not have ideas of our selves (our spirits)? What is the self?
89. How does Berkeley argue for the immortality of the soul?
90. How do we know about the existence of other spirits (people)? How is this knowledge different from our knowledge of ideas?
91. What does uniformity in nature show? What do blemishes in nature show?

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Class 17 - March 29
Berkeley's *Principles*, §1-§33 (AW 447-453)
Three Dialogues, First Dialogue (AW 454-474)

I. Empiricism and the External World

Empiricists like Hobbes and Locke claim that all knowledge comes from sense experience.
Their concepts of sense experience are unsophisticated.
When we discussed Hobbes, we called his view the stamp theory of perception.
It is as if the external world stamps a copy of itself on our minds.
Like Hobbes, Locke believes that sense experience creates ideas, internal representations of an external world.
It is of these internal representations that we have direct knowledge.

A problem arises for such empiricists when we notice that on their view, we experience only our sensations, not the causes of our sensations.
So, we have no knowledge of what causes our sensations, i.e. objects in the supposedly material world.
The empiricist depicts us as isolated from the external world behind a veil of ideas.

> 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? (Berkeley, *Principles*, §86).

Descartes, recognizing the limitations of sense experience in this crude form, argues that we can judge that there is an external world, and what it is like, with our minds.
Such a judgment extends beyond experience, and so is unavailable to the empiricist.
Locke says that our ideas of primary qualities of objects resemble real qualities of those objects.
So we have some knowledge of the external world in that way.
But, as Berkeley observes, to assert that there is a resemblance between two things, we have to be able to perceive both of them, and compare those perceptions.
Furthermore, Locke admits that the real objects are not available to our senses, that the secondary qualities arise from the interaction between our sensory apparatus and the insensible portions of matter. (See Locke's *Essay*, §II.VIII.15).
If we are going to adhere to the strict principle that all knowledge arises from sense experience, then both Descartes's argument for knowledge of the external world and Locke's argument are off limits.
The empiricist is stuck with only our sensations, our perceptions, and not their causes.

In response to this problem, Berkeley, taking a metaphysical cue from Leibniz, argues that there are no material objects.
He starts with a commitment to empiricist principles.

> It is indeed an opinion strangely prevailing among men that houses, mountains, rivers, and, in a word, sensible objects have an existence, natural or real, distinct from their being perceived by the understanding... What are the aforementioned objects but the things we perceive by sense? And what do we perceive besides our own ideas or sensations? (*Principles*, §4, AW 447a)

Berkeley concludes, a mere five sections later, that there is no material world.

> By matter...we are to understand an inert, senseless substance, in which extension, figure, and motion do actually subsist. But it is evident from what we have already shown that extension, figure, and motion are only ideas existing in the mind, and that an idea can be like nothing but another idea, and that consequently neither they nor their archetypes can exist in an unperceiving substance. Hence it is plain that the very notion of what is called matter, or corporeal substance, involves a contradiction in it (*Principles*, §9, AW 448b).

For Berkeley, there are only ideas and their perceivers.

II. Three Main Topics for Our Study of Berkeley's Work

1. Three arguments for idealism
2. Arguments against abstract ideas
3. Accounts of mathematics and science

Berkeley's work is mainly found in his *Principles* (i.e. *A Treatise Concerning the Principles of Human Knowledge*), which was not well-received at the time (1710), and his *Three Dialogues Between Hylas and Philonous* (1713), which was Berkeley's attempt to present a popular version of his work.
In the *Three Dialogues*, Hylas (man of matter) presents Locke's materialism and Philonous (lover of mind) is Berkeley's mouthpiece.
We will read the first two dialogues, but I prefer the earlier exposition in the *Principles*.
Ariew and Watkins only present the Introduction and the first thirty-four (of 156) sections of the *Principles*.
In addition to the sections printed in AW, I have assigned §86 to the end of the *Principles*, and made copies available on the course website.
I have also posted §34-§84, in which Berkeley presents objections and replies, and which is a good source of paper topics.
The *Three Dialogues* are fun, and contain more useful exposition of a few points, but both works cover the same material.

III. Metaphysics, Epistemology, and Methods

Putting Spinoza's pantheist, weirdo-monism aside, there are three positions concerning the existence of minds and bodies: materialism, dualism, and idealism.
For the materialist, like Hobbes, everything, including minds, is material.
Even ideas are merely motions of matter in the brain.
For the dualist, some things are mental and some things are physical.
Descartes and Locke are both dualists.
Lastly, for the idealists like Leibniz and Berkeley, everything is mental.

Note that these metaphysical positions are independent of epistemology.
Locke and Descartes agree on dualism, despite their disagreement over epistemology.
Berkeley disagrees with Hobbes about metaphysics, though he mainly agrees about epistemology.

The beginning of Berkeley's Introduction may be taken as criticism of Descartes's work, and is in the spirit of Locke's criticism of innate ideas.

> No sooner do we depart from sense and instinct to follow the light of a superior principle, to reason, meditate, and reflect on the nature of things, but a thousand scruples spring up in our minds concerning those things which before we seemed fully to comprehend. Prejudices and errors of sense do from all parts discover themselves to our view; and, endeavoring to correct these by reason, we are insensibly drawn into uncouth paradoxes, difficulties, and inconsistencies, which multiply and grow upon us as we advance in speculation, till at length, having wandered through many intricate mazes, we find ourselves just where we were, or, which is worse, sit down in a forlorn skepticism (*Principles*, Introduction §1).

Berkeley and Locke agree on methodology: one should avoid innate ideas and account for all knowledge on the basis of sense experience.
Compare the following quotes from Locke and Berkeley:

> If by this inquiry into the nature of the understanding, I can discover the powers thereof; how far they reach; to what things they are in any degree proportionate; and where they fail us, I suppose it may be of use to prevail with the busy mind of man to be more cautious in meddling with things exceeding its comprehension; to stop when it is at the utmost extent of its tether; and to sit down in a quiet ignorance of those things which, upon examination, are found to be beyond the reach of our capacities... The discoveries we can make with this ought to satisfy us; and we shall then use our understandings right, when we entertain all objects in that way and proportion that they are suited to our faculties, and upon those grounds they are capable of being proposed to us; and not peremptorily or intemperately require demonstration, and demand certainty, where probability only is to be had, and which is sufficient to govern all our concernments. If we will disbelieve everything, because we cannot certainly know all things, we shall do much as wisely as he who would not use his legs, but sit still and perish, because he had no wings to fly (Locke, *Essay*, Introduction §4-§5, AW 317a-318a).

> It is said the faculties we have are few, and those designed by nature for the support and comfort of life, and not to penetrate into the inward essence and constitution of things...But, perhaps, we may be too partial to ourselves in placing the fault originally in our faculties, and not rather in the wrong use we make of them...We should believe that God has dealt more bountifully with the sons of men than to give them a strong desire for that knowledge which he had placed quite out of their reach...I am inclined to think that the far greater part, if not all, of those difficulties which have hitherto amused philosophers and blocked up the way to knowledge, are entirely owing to ourselves - that we have first raised a dust and then complain we cannot see (Berkeley, *Principles*, Introduction §2-3, AW 439a-b).

While Both Locke and Berkeley think that we can gain a great deal of knowledge on the basis of sense experience, Locke accepts that certain questions are unanswerable.
Berkeley believes that Locke's limitations arise from his materialism.
Materialism, and the materialist element of dualism, leads to skepticism.
But this skepticism is unjustified, and avoidable if one abandons materialism for idealism.

IV. Three Arguments for Idealism

Descartes, Locke, and Berkeley all agree that secondary properties, like color, exist only in the mind.
Berkeley extends the point, arguing that even the primary qualities are only in the mind.
Berkeley wants to show that they too are only perceptions, that they are essentially mental.
Berkeley's idealism is often summarized, as he writes in §3 of the *Principles*, that for objects, their *esse* is *percipi*.
'*Esse* is *percipi*' means 'being is being perceived'.
In fact, for Berkeley, there are perceptions, and perceivers.
But, we perceive only our perceptions, not what is behind them, under them, or causing them.
Since we can have no perception of a material world, Berkeley concludes that there is no reason to believe in one.
There is no extra-mental reality.

Berkeley provides three arguments to show that primary qualities are in the mind:

1. From the sensibility of objects;
2. From the relativity of perceptions; and
3. A reductive argument.

V. The Argument from the Sensibility of Objects

Berkeley's argument for idealism from the sensibility of objects is an argument from the concept of 'sensible object'.

D1. Objects are sensible things.
D2. Sensible things are things with sensible qualities.
D3. The sensible qualities are the secondary qualities.
D4. Those secondary qualities are strictly mental properties.
DC. So, objects are strictly mental, i.e. there is no physical world.

Notice that the argument, as it stands, is not valid.
To conclude that objects are strictly mental, we need a stronger premise than D2.
Replacing D2 with D2* would make the argument valid.

D2*. Sensible things are things that have no properties other than their sensible qualities.

The dispute between Hylas and Philonous in the *Three Dialogues* seems, at times, to rely on Berkeley's insistence on D2*, when Hylas has agreed only to D2.
D2* certainly seems to be Berkeley's claim.

> The table I write on, I say, exists; that is, I see it and feel it; and if I were out of my study I should say it existed - meaning by that that if I was in my study I might perceive it, or that some other spirit actually does perceive it. There was an odor; that is, it was smelled; there was a sound, that is to say, it was heard; a color or figure, and it was perceived by sight or touch. This is all that I can understand by these and the like expressions. For as to what is said of the absolute existence of unthinking things without any relation to their being perceived that seems perfectly unintelligible. Their *esse* is *percipi*, nor is it possible that they should have any existence out of

> the minds or thinking things which perceive them (*Principles* §3, AW 447a).

Berkeley makes the definition more explicit in the *Three Dialogues*.

> This point then is agreed between us - that *sensible things are those only which are immediately perceived by sense* (First Dialogue, AW 457b).

Remember, the empiricist claim is that all we know must originally come in through the senses.
Berkeley's claim is that to impute further qualities to the sensible objects, qualities beyond their sense properties, is to claim that our knowledge extends beyond what we can perceive.
Such an extension would be an unjustifiable inference.

VI. Berkeley's Arguments from the Relativity of Perceptions

We have seen the form of Berkeley's arguments from the relativity of perceptions in Locke's defense of the primary/secondary distinction.
I attributed two general principles, with some corollaries, to Locke.

> LP1: If one perceives an object as having two (or more) incompatible ideas, then those ideas do not represent real properties of the object.
> LP1C1: Even if a change in us entails the change in the perceived quality, the ideas which change can not be veridical.
> LP1C2: Qualities that appear different to different observers are not veridical.
> LP2: If an idea of an object is the same under all conditions, that idea is veridical.
> LP2C: If every observer receives the same idea from an object, then that idea is veridical.

From these principles, Locke argues that some ideas are of primary qualities, and resemble real properties of external objects, while other ideas are secondary qualities, and do not resemble anything in external objects.
Berkeley uses the same Lockean principles against the primary/secondary distinction in *Principles* §14-§15, and, more explicitly, in the first of the *Three Dialogues*.

> *Philonous*: Have you not acknowledged that no real inherent property of any object can be changed without some change in the thing itself?
> *Hylas*: I have (First Dialogue, AW 465b)

Remember, the disagreement between Berkeley and Locke is over metaphysics, not methodology.

Berkeley's argument against the primary/secondary distinction comes in two stages in *Three Dialogues*.
In the first stage, Berkeley echoes Locke's arguments against the veridicality of the secondary qualities.
There is nothing particularly new in this portion of the dialogue, AW 458a to AW 464b.
At the end of the first stage, Hylas is espousing precisely Locke's view.

> Colors, sounds, tastes, in a word, all those termed *secondary qualities*, have certainly no existence without the mind. But by this acknowledgment I must not be supposed to derogate anything from the reality of matter or external objects... (First Dialogue, AW 464b).

In the second stage of his argument against the primary/secondary distinction, Berkeley shows that, for

each supposedly primary quality, it is really a secondary quality.

> Why may we not as well argue that figure and extension are not patterns or resemblances of qualities existing in matter, because to the same eye at different stations, or eyes of a different texture at the same station, they appear various and cannot, therefore, be the images of anything settled and determinate without the mind? (*Principles* §14, AW 449b).

Each of Berkeley's arguments against the primary qualities show that LP2 and LP2C are not fulfilled.
There are no properties that do not vary with the perceiver.
He proceeds by example, for all the primary properties: number, extension, shape, motion, and solidity.

For the argument for the relativity of number, consider what number we might give to a deck of cards.
It is 52 cards, 4 suits, 13 ranks, 1 deck.

> The same thing bears a different denomination of number as the mind views it with different respects. Thus, the same extension is one, or three, or thirty-six, according as the mind considers it with reference to a yard, a foot, or an inch. Number is so visibly relative and dependent on men's understanding that it is strange to think how anyone should give it an absolute existence without the mind (*Principles* §12, AW 449b).

The number correctly applied to the object varies as we think of the object in different ways.
It may be a property of a concept, rather than of an object.

To show that extension is relative to the perceiver, consider a tiny insect (the mite) and a giant.
What appears large to the mite can appear tiny to us, and minuscule to the giant.
The size of an object is relative to perceiver, just as the color or taste is.
I appear large to the mite, but to a giant, I appear small.
Thus extension is a secondary property, too.

The argument against extension is of utmost importance, since extension is the most plausible primary quality.
For Descartes, it's the only primary quality.
Let's take a moment to consider a possible objection to the argument.
If there is an objective fact about my extension which is not relative to the perceiver, then Berkeley's argument fails.
Thus, one response to Berkeley's argument about extension is that there is something on which the mite, the giant, and I can agree: I am six feet tall.
The correspondence between a scale of measurement and an object is not relative to the perceiver.
Appeals to measuring tools to provide objective facts about primary qualities, like extension, though, are insufficient.
Scales of measurement themselves are relative to a perceiver.
A yard was at one time defined as the distance between the end of the king's finger and the tip of his nose.
We have more objective measures now, but even these do not solve the problem.
A standard meter bar, against which all other meters can be measured, has been maintained by the International Bureau of Weights and Measures at Sevres, outside of Paris, France, since the 1790s.
Problems with changes in temperature and pressure led to less variable standards.
For a while, the meter was defined as 1,650,763.73 wavelengths of orange-red light emitted from a krypton-86 lamp.

Even more precisely, since 1983, the meter has been defined as the distance traveled by light in a vacuum in 1/299,792,458 of a second, since the speed of light is, according to our best scientific theories, a constant.
But consider if we awoke tomorrow and found that everything had doubled in size, and the speed of light doubled too.
We would have no way of discovering this fact.
Dilations and restrictions could happen all of the time, without us knowing!
We settle our scales relative to useful sizes and distances.
The inch for a mite is smaller than our inch, which is smaller again than the giant's inch.

To show that shape is relative to a perceiver, consider what we see under a microscope.

> *Philonous*: Is it not the very same reasoning to conclude there is no extension or figure in an object because to one eye it shall seem little, smooth, and round, when at the same time it appears to the other, great, uneven, and angular?
> *Hylas*: The very same. But does this latter fact ever happen?
> *Philonous*: You may at any time make the experiment by looking with one eye bare and with the other through a microscope (First Dialogue, AW 465b).

Edges that appear straight to the naked eye will appear jagged when magnified.

Here is another consideration for the relativity of our perceptions of shape that I think works in Berkeley's favor.
Consider our perception of a rectangular object, like a table.
If we were to stand directly over the table, we would receive a roughly rectangular image in our field of vision.
But, ordinarily, we are not placed in such a way as to receive a rectangular image, even if we perceive the table as rectangular.
Everyone in a room perceives the desk at the front as rectangular, even though we all have different retinal images of the shape of the desk, different trapezoidal impressions.
The shape is never really seen as a rectangle, although we all infer that it is that shape.
What we really get from the senses about the shape is relative to the perceiver.

The argument for the relativity of our perceptions of motion relies on an argument for the relativity of our perceptions of time, since motion is change in place over time.
Our perception of time varies with the succession of our ideas.
If our ideas proceed more quickly, a motion will appear slower.

> *Philonous*: Is it not possible ideas should succeed one another twice as fast in your mind as they do in mine or in that of some spirit of another kind?
> *Hylas*: I admit it.
> *Philonous*: Consequently, the same body may to another seem to perform its motion over any space in half the time that it does to you. And...it is possible one and the same body shall be really moved the same way at once, both very swift and very slow (First Dialogue, AW 466a).

Note that just as we can not rely on an external measurement of extension, since we have to agree on a standard unit measure, we can not rely on an external measurement of time.

Berkeley's argument for the relativity of solidity to the perceiver takes solidity to be resistance to touch.
A strong person will find something soft that a weaker person will find hard.
This is even more plausible if we consider giants and mites again.

Berkeley thus has considered all of Locke's primary qualities as we experience them.
He has shown that these perceptions vary in the same way that perceptions of the secondary qualities do.
All qualities are secondary qualities.
We have no veridical ideas of primary qualities representing a material world.

VII. Berkeley's Reductive Argument Against the Primary Qualities

Berkeley provides a last, direct, argument that the primary qualities reduce to secondary properties.

> If it is certain that those original [primary] qualities are inseparably united with the other sensible qualities and not, even in thought, capable of being abstracted from them, it plainly follows that they exist only in the mind. But I desire anyone to reflect and try whether he can, by any abstraction of thought, conceive the extension and motion of a body without all other sensible qualities. For my own part, I see evidently that it is not in my power to frame an idea of a body extended and moved, but I must in addition give it some color or other sensible quality which is acknowledged to exist only in the mind. In short, extension, figure, and motion, abstracted from all other qualities, are inconceivable. Where, therefore, the other sensible qualities are, these must be also, namely, in the mind and nowhere else (*Principles* §10, AW 449a).

Here is a version of Berkeley's reductive argument:

> R1. You can not have an idea of a primary quality without ideas of secondary qualities which accompany it.
> R2. So, wherever the secondary qualities are, the primary are.
> R3. Secondary qualities are only in the mind.
> RC. So, the primary qualities are mental, too.

To repeat, Berkeley considers as objects those things that we see, hear, smell, touch, and taste.

> *Philonous*: Sensible things are all immediately perceivable; and those things which are immediately perceivable are ideas; and these exist only in the mind. This much you have, if I am not mistaken, long since agreed to (Second Dialogue, AW 475b).

The *esse* of such objects is to be perceived.
There is no reason to posit anything beyond such objects, aside from their cause, i.e. God.

> *Philonous*: Since, therefore, it is impossible even for the mind to disunite the ideas of extension and motion from all other sensible qualities, does it not follow that where the one exists, there necessarily the other exists likewise?
> *Hylas*: It should seem so.
> *Philonous*: Consequently, the very same arguments which you admitted as conclusive against the secondary qualities are without any further application of force against the primary too (First Dialogue, AW 468a).

Locke thinks that our ideas of primary qualities resemble properties of material objects.
The inference to an intermediate cause of our ideas (i.e. physical objects) is, for Berkeley, illegitimate.
There is no primary/secondary distinction, since all qualities are, strictly speaking, secondary.

Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2011 Russell Marcus

Class 18 - March 31
Berkeley's *Principles*, Introduction, (AW 438-446); §86-§100 (handout)
Three Dialogues, Second Dialogue (AW 475-484)

I. Substrata, Occasions, and Other Attempts to Infer a Material World

We saw three arguments that Berkeley provides to show that primary qualities are in the mind:

1. From the sensibility of objects
2. From the relativity of perceptions
3. A reductive argument

Despite the strength of these arguments, in the *Three Dialogues*, Hylas is resistant to giving up materialism.
He insists, as many of us naturally do, that there must be some external, material object, with some real primary qualities, to support or cause the ideas that we have.

> *Hylas*: I conclude it exists, because qualities cannot be conceived to exist without a support (First Dialogue, AW 469b).

For example, Hylas grants Philonous that hard and soft are relative to the perceiver, but insists that the causes of these qualities are not relative.
Hylas makes several attempts to characterize an intermediate cause of our perceptions, using several different names.

IC1. Absolute extension (AW 467a)
IC2. Passive object of an active sensation (AW 468a)
IC3. Material substratum (AW 469b)
IC4. External object (as opposed to immediately perceived idea; Caesar example) (AW 472b)
IC5. Causes or occasions in the brain (AW 475a-b)
IC6. Matter, as whatever causes my ideas (AW 479a)
IC7. Instrument (AW 480a)

Philonous responds, in all cases, that such causes are not perceived, and thus that they are not sensible objects.
Absolute extension, IC1, is a general idea, and can neither exist in a particular object nor in our minds.
Our minds are always passive, when sensing, so that the passive object, IC2, is the sensation itself, not an external object.
The material substratum, IC3, is either itself perceivable (as when we think of it as spreading) or imperceivable, in which case it can not be the object of sensation.
The external object, IC4, is not perceived, but inferred using reason or reflection.
The brain itself, IC5, is not (generally) the sensible object in question.
Moreover, taking motion in the brain to be the cause of my ideas leads to the puzzle, that Locke noticed, about why particular conscious experiences are correlated with particular motions in material objects.

> *Philonous*: This way of explaining things...could never have satisfied any reasonable man. What connection is there between a motion in the nerves and the sensations of sound or color in the mind? Or how is it possible these should be the effect of that? (Second Dialogue, AW 476a).

Locke responded skeptically to the problem of explaining the correlations between conscious experiences and their material causes.
Berkeley denies the acceptability of such skepticism, and so denies the existence of material causes.

Perhaps the most interesting of the characterizations that Berkeley ascribes to Hylas, IC6 and IC7, employ a functional definition of matter.

> *Hylas*: I find myself affected with various ideas of which I know I am not the cause; neither are they the cause of themselves or of one another, or capable of subsisting by themselves, as being altogether inactive, fleeting, dependent beings. They have therefore some cause distinct from me and them, of which I pretend to know no more than that it is *the cause of my ideas*. And this thing, whatever it is, I call matter (Second Dialogue, AW 479a).

I call this characterization a functional definition since it defines matter as whatever causes my ideas.
It gives no positive characterization of matter.
It only says that matter is whatever functions as the cause of my ideas.
Philonous responds that only God can be taken as the true cause of my ideas, and that an all-powerful God could have no use for an intermediate instrument.
Here is a similar section, in the *Principles*.

> Though we do the utmost we can to secure the belief of *matter*, though, when reason forsakes us, we endeavor to support our opinion on the bare possibility of the thing, and though we indulge ourselves in the full scope of an imagination not regulated by reason to make out that poor *possibility*, yet the upshot of all is that there are certain *unknown ideas* in the mind of God; for this, if anything, is all that I conceive to be meant by *occasion* with regard to God. And this at the bottom is no longer contending for the *thing*, but for the *name*. Whether therefore there are such ideas in the mind of God, and whether they may be called by the name *matter*, I shall not dispute. But, if you stick to the notion of an unthinking substance or support of extension, motion, and other sensible qualities, then to me it is most evidently impossible there should be any such thing, since it is a plain repugnancy that those qualities should exist in or be supported by an unperceiving substance (*Principles*, §§75-6).

Descartes, in the Sixth Meditation, had rejected the possibility of a Berkeleyan universe.

> There clearly is in me a passive faculty of sensing, that is, a faculty for receiving and knowing the ideas of sensible things; but I could not use it unless there also existed, either in me or in something else, a certain active faculty of producing or bringing about these ideas...[I]t is in some substance different from me, containing either formally or eminently all the reality that exists objectively in the ideas produced by that faculty...[T]his substance is either a body, that is a corporeal nature, which contains formally all that is contained objectively in the ideas, or else it is God, or some other creature more noble than a body, which contains eminently all that is contained objectively in the ideas. But since God is not a deceiver, it is patently obvious that he does not send me these ideas either immediately by himself, or even through the mediation of some creature that contains the objective reality of these ideas not formally but only eminently. For since God has given me no faculty whatsoever for making this determination, but instead has

> given me a great inclination to believe that these ideas issue from corporeal things, I fail to see how God could be understood not to be a deceiver, if these ideas were to issue from a source other than corporeal things. And consequently corporeal things exist (Descartes, *Meditations* AT VII.79-80, AW 64b).

Against Descartes, Berkeley could argue for idealism from a Leibnizian Principle of Sufficient Reason.

> BAD1. God does not do anything without sufficient reason.
> BAD2. God either created physical objects or did not create them.
> BAD3. We do not need physical objects in order to have all of our experiences, since God can implant them in our minds directly.
> BAD4. So, there is no good reason for God to have created physical objects, in addition to minds.
> BADC. So, God did not create physical objects. God creates our ideas directly, instead of taking the detour through physical objects.

Berkeley does not present this argument himself, though it is implicit in his work.
He does insist on BAD3.

> In short, if there were external bodies, it is impossible we should ever come to know it; and if there were not, we might have the very same reasons to think there were that we have now (*Principles* §20, AW 451a).

Descartes says that an argument like BAD is clearly and distinctly unsound.
It is worth a moment to consider what Descartes's precise objection to it could be.
Perhaps Descartes would deny the inference from BAD3 to BAD4.
Instead, he could claim that while the reason is obscure, the clarity and distinctness of my perception of the existence of material objects is sufficient evidence for the existence of a good reason.

I leave it to you to adjudicate the debate between Berkeley and Descartes.
The question of whether we can infer the existence of material objects on the basis of our sense perception is a point of disagreement between Berkeley and Locke.
Berkeley is showing that the claim that material objects exist must be an inference, not a perception.
Locke's description of our experiences of primary and secondary qualities makes explicit the danger of relying on such an inference.

> The *ideas of primary qualities* of bodies *are resemblances* of them and their patterns do really exist in the bodies themselves, but the *ideas produced* in us *by* these *secondary qualities have no resemblance* of them at all. There is nothing like our *ideas* existing in the bodies themselves. They are, in the bodies we denominate from them, only a power to produce those sensations in us. And what is sweet, blue, or warm in *idea* is but the certain bulk, figure, and motion of the *insensible parts in the bodies themselves* which we call so (Locke, *Essay* §II.VIII.15, AW 334a, emphasis in last line added).

Berkeley is taking advantage of the apparent contradiction between saying, on the one hand, that all knowledge comes from sense experience and, on the other, that we have knowledge of insensible objects.
If we are empiricists, says Berkeley, we can have no experience, no sensation, of insensible parts.
Still, even though Locke and Berkeley reject innate ideas, they have to admit that we have some ability to reason or infer.
For Locke, our ability to reason is just a natural, psychological capacity to compare, contrast, and

abstract.
Locke can argue that the inference to material objects is thus the legitimate result of an ordinary psychological process.

If Berkeley's denial of the existence of a material world were based solely, as he sometimes implies, on our inability to know about such a world, his idealism would be poorly motivated.
But, Berkeley's idealism is more forcefully motivated by his objections to Locke's psychology.
To block Locke's appeal to a psychological argument for a belief in materialism, Berkeley attacks his claims about our mental capacities.
In particular, he claims that Locke's doctrine of abstract ideas is the source of a skeptical, atheistic materialism.

II. 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 'bodies' stands for an abstract idea of bodies, 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'.
Berkeley argues that we can not form an abstract idea of body.
The term 'bodies' stands for no idea at all.
Thus, there is no reason to claim that there are any bodies.

There are two kinds of processes which might be called abstraction, and which Berkeley thinks lead to the false 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 to the *Principles*, 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.
For Berkeley as for Locke, our ordinary ideas of objects are actually collections of independent particular sensations.
The independence of our sensations, recall, supported Locke's response to Molyneux's problem of whether a blind person, given sight, could discriminate by vision the shapes of those objects whose differences he/she knows by touch.
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 perceivable.
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 independence of the separate ideas of sensation.
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.
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 claims 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.
An idea of a triangle would be of one particular kind of triangle, not all kinds of triangles.
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.
But an idea of a chair could have only one kind of coloring.
A single idea of all kinds of colorings 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.
Berkeley concludes that Locke's claim that we have a psychological capacity A2 is false.

According to Berkeley, there are two particular kinds of misuses of abstraction.

> 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)

Hylas proposes that mathematicians use abstract ideas.
Similarly, Berkeley, in the *Principles*, considers whether scientists use abstract ideas.
In both cases, we need terms like 'triangle' and 'motion' which stand as universals which refer to various different objects or properties.
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).

So Berkeley says that we can use general terms, if we wish.
We should be careful not to be misled into thinking that such terms correspond to some things.
Since we can not abstract, we can not have ideas of material objects.
Only particulars, single discrete sensations, exist.

Locke is a nominalist about secondary qualities: terms for color, for example, refer only to my ideas and not to real qualities of external objects.
Berkeley extends Locke's nominalism to all terms for 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 terms 'apple' and 'chair' and 'red' are convenient labels, but do not indicate the existence of any apple or chair or color beyond my current experiences.
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.

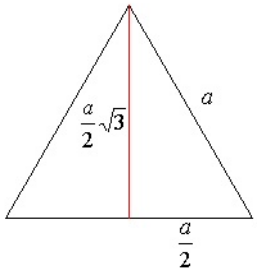
Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2011 Russell Marcus

Class 19 - April 5
Berkeley's *De Motu* (AW 504-508)
Principles, §101 - §156 (handout)

I. Empiricism and Mathematics

Berkeley claims that the root of Locke's materialist 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.
Snow and its whiteness are the truthmakers for 'snow is 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' account of our knowledge of the physical world may seem implausible, since it impugns the role of the senses.
For example, Leibniz's opposition to transeunt causation and his denial of the reality of bodies entail that our knowledge of physical laws is neither acquired from experience nor robust.
The rationalists' accounts of our knowledge of mathematics may be more plausible.
Descartes and Leibniz put these accounts in terms of innate ideas.
In contemporary philosophy, we refer instead to pure reason.
Both terms are supposed to indicate a capacity for acquiring and justifying beliefs which is more substantial and robust than mere psychological associations, which vary with the person.
Locke rejects innate ideas and pure reason, and produces a more intuitively-satisfying sensory account of our knowledge of the physical world.
But Locke's account of mathematics, which relies on the doctrine of abstraction, is less plausible.
For Locke, mathematics is certain, but does not concern real things.
He denies 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 by making mathematical objects individual, personal,

and psychological rather than universal.
Strictly speaking, for Locke, everyone's mathematical theorems are about their own mathematical ideas.

Here is another way to put the problem for Locke.
Recall that Descartes parses 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 gives.
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.

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

You might think that Berkeley could, like Locke, 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.
But 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.

> 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).

The posits of mathematical objects rely on the same process of abstraction which led us to the error of positing physical objects.
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 subtlety 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 both because of Descartes's claim that matter is infinitely divisible and because the calculus of Newton and Leibniz depends 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, we divide a finite area into infinitely many infinitesimally-small segments, and add them up.
Thus, the calculus involves infinite divisibility.
The application of calculus to problems in the real world, to science, seems to carry with it support for Descartes's view that extension is infinitely divisible.

In contrast, from Berkeley's idealism and his claims that things are just objects of our perception, it is a short step to the claim that there is a smallest perceivable extension.
Despite the fact that the real world is just a world of ideas, it is not, for Berkeley, infinitely divisible.
Berkeley calls the smallest possible 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.

According to Berkeley's account, there are limits to the divisibility of objects and their extensions.

> 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.
We can divide the 10,000 kilometers from here to Southern Chile into 10,000 kilometer-length segments.
But, on a small map, the inch or two between Clinton and Tierra del Fuego is not divisible into 10,000 parts.
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.

III. 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 laws of motion, and believe that our knowledge is justified by appeal to a process of abstraction, then we can argue for the legitimacy of that process.
Thus, it is important for Berkeley to block the inference by denying that 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.
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 of nature, insofar as we understand them to be uniformities in our perceptions.
But we can not know the causal connections, since they are not the objects of any perceptions.
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 leaves 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.

IV. God, Me, and the Resemblance Hypothesis

To this point in our discussion of Berkeley's work, God has played a very small role.
The arguments against the primary/secondary distinction and abstract ideas do not depend on the existence of God.
Our appeals to God in interpreting Berkeley's work have mainly been limited to invoking an ultimate cause of our perceptions.
Insofar as we have circumscribed the role of God in Berkeley's work, we have taken Berkeley's writings to be philosophical rather than theological.
But, Berkeley was an Anglican bishop, and God does play a significant role in his world view.

Given Berkeley's strict empiricism, one might wonder how Berkeley could defend any knowledge of God.
We have no idea (or image or impression) of God.
Similarly, we have no ideas of our selves or of other persons.
Still, Berkeley allows for beliefs in the existence of our selves, other persons, and God, despite having no ideas of any of them.
Despite his opposition to Lockean abstraction and other psychological processes which would ground belief in the material world, Berkeley allows for some kinds of inferences beyond the evidence of our sense perception.
Let's start with our beliefs in the existence of other persons.
There is no universally accepted argument for the existence of other minds.
Berkeley claims that we can infer the existence of other minds from their effects on us.

> From what has been said, it is plain that we cannot know the existence of other spirits otherwise than by their operations, or the ideas by them excited in us. I perceive several motions, changes,

> and combinations of ideas, that inform me there are certain particular agents, like myself, which accompany them and concur in their production. Hence, the knowledge I have of other spirits is not immediate, as is the knowledge of my ideas; but depending on the intervention of ideas, by me referred to agents or spirits distinct from myself, as effects or concomitant signs (*Principles* §145).

The problem of other minds is perennially troubling, and nothing Berkeley says here resolves it.
How do we know that the things we call other people are not craftily constructed robots?
How do we know that the effects Berkeley mentions are really originating in a thinking thing?

Some philosophers say that every one's problem is no one's problem.
But the problem seems even worse for Berkeley than for most others.
Even our own existence is an illegitimate inference.
Berkeley agrees that we have no idea of ourselves.

> A spirit is one simple, undivided, active being; as it perceives ideas it is called the *understanding*, and as it produces or otherwise operates about them it is called the *will*. Hence there can be no idea formed of a soul or spirit; for all ideas whatever, being passive and inert (see §25), they cannot represent unto us, by way of image or likeness, that which acts... The words *will*, *soul*, *spirit* do not stand for different ideas or, in truth, for any idea at all, but for something which is very different from ideas, and which, being an agent, cannot be like or represented by any idea whatsoever - though it must be admitted at the same time that we have some notion of soul, spirit, and the operations of the mind, such as willing, loving, hating, inasmuch as we know or understand the meaning of those words (*Principles* §27, AW 452b).

Thus Berkeley distinguishes ideas, which are images, from notions, which can be conceptual, if not abstract.
Notions can be devised by inference, as Locke claimed that ideas of reflection were formed.
From such notions, we can infer the existence of other persons.

> In a large sense, indeed, we may be said to have an idea or rather a notion of *spirit*; that is, we understand the meaning of the word, otherwise we could not affirm or deny anything of it. Moreover, as we conceive the ideas that are in the minds of other spirits by means of our own, which we suppose to be resemblances of them; so we know other spirits by means of our own soul, which in that sense is the image or idea of them; it having a like respect to other spirits that blueness or heat by me perceived has to those ideas perceived by another (*Principles* §140).

Notice that Berkeley is accepting a modified version of the resemblance hypothesis, one that is very different from the one that Descartes rejected and Locke partially accepted.
Locke used the resemblance hypothesis as support for his claim that material objects cause our ideas.
Obviously, Berkeley does not follow Locke in this way.

Consider two different refinements of the resemblance hypothesis.

> RH1. My ideas resemble material objects.
> RH2. My ideas resemble their causes.

Berkeley rejects RH1, but accepts RH2.
Ideas can only resemble other ideas.

> But, you say, though the ideas themselves do not exist without the mind, yet there may be things like them of which they are copies or resemblances, which things exist without the mind in an unthinking substance. I answer, an idea can be like nothing but an idea; a color or figure can be like nothing but another color or figure (*Principles*, §8, AW 448b).

So, my ideas resemble, we presume, the ideas in the minds of other persons.
And, they resemble their causes, which are ideas in the mind of God.
Indeed, it is from the need to infer a cause of my ideas that we can infer the existence of God.

> When in broad daylight I open my eyes, it is not in my power to choose whether I shall see or not, or to determine what particular objects shall present themselves to my view; and so likewise as to the hearing and other senses- the ideas imprinted on them are not creatures of my will. There is, therefore, some other will or spirit that produces them (*Principles* §29, AW 453a).

Similarly, the long passage about the beauty of the world in the Second Dialogue (AW 476a-b) is intended as a premise in an inference to the existence of God.

> *Philonous*: Men commonly believe that all things are known or perceived by God because they believe the being of a God, whereas I, on the other side, immediately and necessarily conclude the being of a God because all sensible things must be perceived by him (Second Dialogue, AW 477a).

Berkeley thus claims that we can know of our selves, other persons, and God, despite having no ideas of the objects of our knowledge.

> A human spirit or person is not perceived by sense, as not being an idea; when therefore we see the color, size, figure, and motions of a man, we perceive only certain sensations or ideas excited in our own minds; and these being exhibited to our view in sundry distinct collections, serve to mark out unto us the existence of finite and created spirits like ourselves. Hence it is plain we do not see a man, if by *man* is meant that which lives, moves, perceives, and thinks as we do, but only such a certain collection of ideas as directs us to think there is a distinct principle of thought and motion, like to ourselves, accompanying and represented by it. And after the same manner we see God; all the difference is that, whereas some one finite and narrow assemblage of ideas denotes a particular human mind, whithersoever we direct our view, we do at all times and in all places perceive manifest tokens of the divinity: everything we see, hear, feel, or anywise perceive by sense, being a sign or effect of the power of God; as is our perception of those very motions which are produced by men (*Principles* §148).

Our ability to infer affords us knowledge of the existence of God.
Yet, according to Berkeley, inference cannot yield knowledge of a material world.
One might reasonably worry that Berkeley chooses arbitrarily between legitimate and illegitimate invocations of an ability to infer.
I'll put this worry aside to return to a methodological concern with which we began.
Locke, seeing the limits of sense experience to yield knowledge, accepted some skepticism, some humility.
Berkeley prefers to reject Locke's materialism to combat skepticism, and what he sees as a consequent atheism.

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 the problem I mentioned at the beginning of the first set of notes on Berkeley.

> 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 principle 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.
The metaphor of peering into the mind of God can not be taken literally, though, since the same problem about experiencing sensations and not their causes arises here.

> "Philosophers, however, should abstain from metaphors" (*On Motion*, §3, AW 504b).

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 concerning persistence; I do not know who wrote it.

> 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.

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Reading Guide #6

David Hume, *An Enquiry Concerning Human Understanding* (AW 533-600)
A Treatise of Human Nature, Book I, Part 4, §6 (AW 525-532)

These questions are provided to assist you in your reading. I encourage you first to read the material through, then go back to answer the questions. You are not expected to hand in written answers. You are expected to have responses ready for class discussion. Page numbers refer to the Ariew and Watkins collection.

Enquiry, §I-§IV (AW 533-548)

1. What are the two types of philosopher? What is the general opinion of each?
2. What is Hume's goal, in the *Enquiry*?
3. Distinguish ideas from impressions. How do ideas arise?
4. "What was never seen or heard of, may yet be conceived, nor is anything beyond the power of thought except what implies an absolute contradiction" (§II, AW 539b). Explain.
5. How does Hume argue that all ideas are derived from impressions?
6. Describe the case of the missing shade of blue. What is the relevance of that case to Hume's claims about impressions?
7. How can we determine, according to Hume, whether a philosophical term is meaningless?
8. Explain each of the three principles of connection among ideas.
9. Distinguish relations of ideas from matters of fact. How do we learn propositions that are solely concerned with relations of ideas?
10. How does Hume argue that the contrary of every matter of fact is still possible?
11. What evidence do we use to explain knowledge of matters of fact? What relation helps us get this evidence?
12. How do we learn to connect specific causes with their effects? How can we not learn this, according to Hume?
13. How does Hume argue that effects can not be discovered by examining their causes?
14. What are the goals of science, the "utmost effort of human reason" (§IV.1, AW 544a)?
15. "Thus the observation of human blindness and weakness is the result of all philosophy..." (§IV.1, AW 544b). Explain. Why does Hume make this conclusion?
16. "These two propositions are far from being the same, *I have found that such an object has always been attended with such an effect*, and *I foresee, that other objects, which are, in appearance, similar, will be attended with similar effects*" (§IV.2, AW 546a). Explain.
17. What do inferences about the future presuppose, as their foundation? Why can't experience establish this premise?
18. Why are our attempts to learn the nature of bodies in vain?
19. How does Hume's example of a child pulling his hand away from a fire help show that it is not reason which leads us to infer that the future will resemble the past?

Enquiry, §V-§IX (AW 548-576)

20. Would a person suddenly brought into the world recognize causal connections? Explain.
21. What is the role of custom, or habit, in our understanding of cause and effect? Does Hume explain the cause of this cause?
22. "The conclusions which [reason] draws from considering one circle are the same which it would form upon surveying all the circles in the universe. But no man, having seen only one body move after being impelled by another, could infer that every body will move after a like impulse" (§V.1, AW 549b-550a). How does Hume explain this difference? What does it show?
23. How does Hume argue against the distinction between reason and experience? (See footnote 9.)
24. What distinguishes belief from imagination?
25. "Here, then, is a kind of pre-established harmony between the course of nature and the succession of our ideas..." (§V.2, AW 554b). Explain how this harmony arises.
26. How does our mind connect like effects with like causes?
27. Hume says that there is no such thing as chance, but that there is probability. Explain the difference.
28. How do we respond when a general cause and effect rule fails to apply in a particular instance? Do we assume that nature is irregular?
29. "[W]hen we transfer the past to the future, in order to determine the effect, which will result from any cause, we transfer all the different events, in the same proportion as they have appeared in the past..." (§VI, AW 556a-b). Explain.
30. What are the differences between mathematics and reasoning concerning matters of fact, which Hume calls the moral sciences?
31. How does Hume propose to examine the ideas of power and necessary connection? Why?
32. Does Hume think we find connections between causes and effects by examining objects? What can we learn that way?
33. Can we discover the ideas of power and necessary connection by reflecting on our own powers? Can we get the ideas of force or energy this way?
34. Distinguish causes from occasions. Why do some philosophers prefer accounts of natural phenomena in terms of occasions? How do such accounts rob nature of power? How does Hume evaluate such accounts?
35. Distinguish conjunction from connection. Of which do we have knowledge?
36. Why do we call some objects causes and others effects? What gives us the feeling that there is a connection between the two?
37. How does Hume define 'cause'?
38. "From the observation of several parallel instances, philosophers form a maxim that the connection between all causes and effects is equally necessary, and that its seeming uncertainty in some instances proceeds from the secret opposition of contrary causes" (§VIII.1, AW 567b). Explain.
39. Regarding their determinacy, how do human actions differ from physical interactions?
40. How does Hume define liberty? How does this definition make the debate over free will merely verbal?
41. Is liberty the opposite of necessity or constraint? Explain.
42. According to Hume, when are actions deemed blameworthy or praiseworthy? How can a necessary act be the object of praise or blame?
43. Do Hume's definitions of necessity and liberty make God morally responsible for my actions instead of me?
44. Describe the role of analogy in science.
45. Do animals reason to the conclusion that nature is uniform in operation? Do humans?

Enquiry, §X-§XII (AW 576-600)

46. Is human testimony generally reliable?
47. What is a miracle? Why should testimony of miracles not be convincing?
48. Explain Hume's different responses to the eight-days-of-darkness case and the resurrection-of-Elizabeth case.
49. What argument for God's existence do Epicurus's critics advance?
50. "When we infer any particular cause from an effect, we must proportion the one to the other, and can never be allowed to ascribe to the cause any qualities, but what are exactly sufficient to produce the effect" (§XI, AW 588a). Explain.
51. Does Hume believe that we can behave morally without believing in God? Explain.
52. "While we argue from the course of nature, and infer a particular intelligent cause, which first bestowed, and still preserves order in the universe, we embrace a principle, which is both uncertain and useless" (§XI, AW 590b). Explain.
53. Why can we infer beyond the original effects in the case of human action? What makes the case of God different?
54. How does Hume criticize causal arguments for God's existence?
55. Why is Cartesian doubt incurable?
56. What is the proper role of a moderate skepticism? (See also §XII.3, AW 598b et seq.)
57. What kind of evidence against the senses does Hume dismiss? How does he dismiss it?
58. Why do we believe in an external universe, according to Hume?
59. Can experience verify the existence of a physical world?
60. "To have recourse to the veracity of the Supreme Being in order to prove the veracity of our senses is surely making very unexpected circuit" (§XII.1, AW 595a). Explain.
61. Can we prove the existence of an external world? Explain.
62. How does the concept of infinite divisibility appear paradoxical?
63. "The great subverter of Pyrrhonism or the excessive principles of scepticism, is action, and employment, and the occupations of common life" (§XII.2, AW 597b). Explain.
64. What's wrong with extreme philosophical skepticism?
65. What kinds of propositions can we know by mere reasoning?
66. "When we run over libraries, persuaded of these principles, what havoc must we make?" (§XII.3, AW 600b).

Treatise, Book I, Part IV, §6 (AW 525-532)

67. Do we have an idea of our selves? What do we think about when we think about our selves?
68. What is the self? How is the self an examplar of diversity?
69. How does the continuity of an object depend on the proportion of its changes? How do gradual changes affect identity?
70. "Every distinct perception which enters into the composition of the mind is a distinct existence and is different and distinguishable and separable from every other perception, either contemporary or successive" (AW 529b). Explain. What does this mean for personal identity?
71. What is the relation between identity and resemblance, contiguity, and causation?
72. How does Hume criticize accounts of identity which rely on memory?

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Class 20: April 8
David Hume, *An Enquiry Concerning Human Understanding*, §I - §IV (AW 533-548)

I. Introduction

Consider the following seven propositions.

P1. It is sunny outside right now.
P2. It snowed in February.
P3. Shakespeare wrote *The Tragedy of Macbeth*.
P4. 2 + 2 = 4.
P5. I exist.
P6. Objects near the surface of the Earth accelerate toward the center of the Earth at 9.8 m/s^2.
P7. The sun will rise tomorrow.

Accounts of our knowledge of these propositions may differ.
Our account of our belief about P1 appeals to occurrent sense experience.
Our accounts of our beliefs about P6 and P7 appeal to scientific theories.
The last four all present difficulties for empiricists, who may even deny them.

Consider mathematical claims like P4.
Many empiricists are nominalists or fictionalists about mathematical terms.
In contemporary philosophy, fictionalism is the claim that mathematical objects are merely convenient fictions.
For the fictionalist, existential mathematical claims (propositions which claim that there are mathematical objects, like 'there is a prime number between four and six') are false.
Fictionalists allow that conditional mathematical claims (like 'if two is rational, then there is a pair of whole numbers whose ratio is two and which have no common factor') are true, but only vacuously so.
Any conditional with a false antecedent is true, according to classical logic.

Berkeley was a nominalist about both mathematical terms and scientific laws, claiming that are illegitimate abstractions from particular ideas.
Laws, for Berkeley, are provided by God for convenience, but with exceptions, or miracles.
Regularities among experiences, as physical laws expressed using abstract ideas, are not real.

Hume agrees with Berkeley about the illegitimacy of abstraction from sense perception.

> The idea of extension...is wholly dependent on the sensible ideas or the ideas of secondary qualities. Nothing can save us from this conclusion but the asserting that the ideas of those primary qualities are attained by *abstraction*; an opinion which, if we examine it accurately, we shall find to be unintelligible, and even absurd (*Enquiry*, §XII.1, AW 595b).

Hume agrees with both Locke and Berkeley on their empiricist methodology.
All three philosophers, generally labeled the British Empiricists, agree that we are immediately aware of only our ideas, not an external world of objects.
That external world, as well as any laws governing or applying in the world, and any mathematical principles, is perceived only mediately, or inferred.

Locke claimed knowledge of the external world, science, and mathematics on the basis of a modified resemblance hypothesis, and a principle of abstraction.
Berkeley denied Locke's resemblance hypothesis and doctrine of abstract ideas, and asserted idealism: there is no material world, we have only a practical knowledge of general scientific regularities which are at all times subject to God's will, and mathematical principles are fundamentally flawed by their reliance on abstraction.
Despite his affinities with Berkeley's premises, Hume's conclusions are skeptical, rather than idealistic.
He agrees with Berkeley that our conclusions about the material world are unjustified.

> The mind never has anything present to it but the perceptions and cannot possibly reach any experience of their connection with objects. The supposition of such a connection is, therefore, *without any foundation in reasoning* (*Enquiry*, §XII.1, AW 595a, emphasis added).

Instead of embracing idealism, Hume returns to and extends Locke's skepticism.
For Locke, skepticism is mainly an expression of humility.
For Hume, skepticism is a philosophy.

Hume's main focus is on the laws of nature, and the ways in which we formulate predictive scientific theories on the basis of our experience.
The philosophers of the scientific revolution sought to provide a philosophical foundation for science.
The methods of science focused on induction.
Induction is the derivation of a general law from particular cases.
We see lots of objects moving, and stopping, and we generate hypotheses about why this happens.
We see that in events E_1, E_2, E_3.... a law applies.
We conclude that in all similar cases, this law must apply.
Induction is contrasted with deduction, in which we infer a particular case from a general rule or law.

The achievements of the new science centered on the discovery of universal scientific laws, especially Newton's three laws of motion.

> L1: Inertia: an object in motion will remain in motion, an object at rest will remain at rest, unless acted on by an unbalanced force.
> L2: The force produced by an object is equal to the product of its mass and its acceleration.
> L3: For every action there is an equal and opposite reaction.

Laws of motion are generalizations from experimental evidence.
The phenomena, the E_n, are sensory experiences.

Hume argues that while we base our knowledge of laws in principles of induction over sense experiences, our beliefs in such principles are unjustified.
This skeptical claim is called the problem of induction.
Thus, unlike Berkeley, Hume turns not toward God to insure our knowledge, but away from certainty.
Hume claims that universal scientific claims are unknown, and unknowable.

> In vain do you pretend to have learned the nature of bodies from your past experience. Their secret nature and, consequently, all their effects and influence may change without any change in their sensible qualities (*Enquiry*, §IV.2, AW 547b).

Even our knowledge of our own selves is impugned by Hume's philosophy, as we will see.

So why should we believe in empiricism?
Berkeley assumes empiricism.
Locke argues against innate ideas, defending empiricism on Ockhamist grounds.
Hume has a more direct argument, from reflection on our psychology.

> HE1. All our beliefs about the world are either directly derived from sense impressions, or are the result of reasoning about cause and effect relations.
> HE2. All our beliefs about cause and effect relations are based on experience, not reason.
> HEC. So, all beliefs about the world are based on experience.

Hume's goal, then, is a lot like Locke's.
We start with a modest appraisal of our experience and our psychological capacities.
We will examine the nature of our psychology, and see what conclusions are warranted.
And, we will humbly avoid making unsupported claims.
The major difference between Hume and Locke is the severity with which Hume invokes his empiricist limitations, and his consequent skepticism, and atheism.

Indeed, while Hume was something of a prodigy, publishing the *Treatise* in 1739 when he was 27, he was never able to work in a university.
He published the *Treatise*, with its skeptical conclusions about religion, anonymously.
He suppressed his most thorough attacks on causal arguments for the existence of God, the *Dialogues Concerning Natural Religion*, through his lifetime; they were only published posthumously.
Still, Hume's atheism was widely known and ridicule and his proposed university appointments were blocked by the Scottish clergy twice.
The portly Hume is rumored (Virginia Woolf cites the story in *To The Lighthouse*) to have gotten stuck in a bog; he was rescued only after capitulating his views, and reciting the Lord's prayer.

Hume was unsatisfied with the reaction to his *Treatise*, stating that it fell stillborn from the press.
We are mainly going to focus on his later, more-streamlined presentation of his views, in the *Enquiry Concerning Human Understanding*, published in 1748.

We will focus centrally on Hume's problem of induction, but also related topics:

1. Causation and Induction
2. The Bundle Theory of the Self
3. Free Will and Compatibilism

There's a saying that when a philosopher meets a dilemma, s/he makes a distinction.
Nowhere is this method more prominent than in Hume's work.

II. The Contents of the Mind: Ideas and Impressions

Hume divides the contents of the mind into ideas and impressions.

> We may divide all the perceptions of the mind into two classes or species, which are distinguished by their different degrees of force and vivacity. The less forcible and lively are commonly denominated thoughts or ideas. The other species want a name in our language, and in most others; I suppose, because it was not requisite for any but philosophical purposes to rank

> them under a general term or appellation. Let us, therefore, use a little freedom and call them impressions, employing that word in a sense somewhat different from the usual. By the term *impression*, then, I mean all our more lively perceptions, when we hear, or see, or feel, or love, or hate, or desire, or will. And impressions are distinguished from ideas, which are the less lively perceptions, of which we are conscious, when we reflect on any of those sensations or movements above mentioned (*Enquiry*, §II, AW 539a).

An impression is a sensation, a vibrant idea, like a hand on a burning stove, or the sound of a voice, or what you are looking at right now.
An idea is the thought of that burning sensation ten minutes later.
The mind has simple ideas and complex ones.
Simple ideas are derived directly from impressions.
We can also have original ideas, ones that we construct ourselves, like those of unicorns.
These are complex ideas, made up of combinations of simple ideas.

So far, Hume's epistemology is like Locke's, and Berkeley's.
Hume does admit of a limited exception to the general rule that all the contents of the mind are simple or complex ideas, or impressions.
We might be able to fill in a missing shade of blue.

> Suppose...a person to have enjoyed his sight for thirty years, and to have become perfectly acquainted with colors of all kinds except one particular shade of blue, for instance, which it never has been his fortune to meet with. Let all the different shades of that color, except that single one, be placed before him, descending gradually from the deepest to the lightest; it is plain that he will perceive a blank, where that shade is wanting, and will be sensible that there is a greater distance in that place between the contiguous color than in any other. Now I ask whether it be possible for him, from his own imagination, to supply this deficiency, and raise up to himself the idea of that particular shade, though it had never been conveyed to him by his senses? I believe there are few but will be of opinion that he can; and this may serve as a proof that the simple ideas are not always, in every instance, derived from the correspondent impressions; though this instance is so singular, that it is scarcely worth our observing, and does not merit that for it alone we should alter our general maxim (*Enquiry*, §II, AW 540b).

The point of Hume's claim about the missing shade of blue has been much debated.
I believe that Hume wants to defend his empiricism, not as an absolute dogma, but as the conclusion of reasonable observations about our psychological capacities.
He develops a rule that all knowledge must trace back to original impressions.
He uses that rule to limit speculative claims.

> When we entertain, therefore, any suspicion that a philosophical term is employed without any meaning or idea (as is but too frequent), we need but enquire, *From what impression is that supposed idea derived?* And if it be impossible to assign any, this will serve to confirm our suspicion. By bringing ideas into so clear a light we may reasonably hope to remove all dispute, which may arise, concerning their nature and reality (*Enquiry*, §II, AW 540b-541a).

But, Hume is willing to entertain exceptions to his rule, since he does not take the rule to be infallible, placed in our minds by a benevolent God.
The missing shade of blue is just one such exception.
It is not the kind of exception that will found the rationalist's projects.

It is just a small thing, not the introduction of innate ideas.
I therefore take Hume at his word; we need not alter his general maxim.
All knowledge, more or less, must trace back to initial impressions.
Further, this tracing back must proceed along the lines of ordinary psychological connections among ideas.

> There appear to be only three principles of connection among ideas, namely, *resemblance*, *contiguity* in time or place, and *cause* or *effect*. That these principles serve to connect ideas will not, I believe, be much doubted. A picture naturally leads our thoughts to the original. The mention of one apartment in a building naturally introduces an enquiry or discourse concerning the others; and if we think of a wound, we can scarcely forbear reflecting on the pain which follows it. But that this enumeration is complete, and that there are no other principles of association except these, may be difficult to prove to the satisfaction of the reader, or even to a man's own satisfaction. All we can do, in such cases, is to run over several instances, and examine carefully the principle which binds the different thoughts to each other, never stopping till we render the principle as general as possible. The more instances we examine, and the more care we employ, the more assurance shall we acquire, that the enumeration, which we form from the whole, is complete and entire (*Enquiry*, §III, AW 541b).

These three principles of connection among ideas, resemblance, contiguity, and cause and effect, appear throughout the *Enquiry* as the foundation for all reasoning.
Experience, in the guise of sense impression, and reasoning, in the guise of the psychological connections among ideas, work together to produce our beliefs.
There is no clear line between the two.

> Notwithstanding that this distinction [between experience and reason] is thus universally received, both in the active and speculative scenes of life, I shall not scruple to pronounce that it is, at bottom, erroneous, at least, superficial (*Enquiry*, §V.1, fn 9; AW 550a).

Hume's three principles replace Locke's broader class of reflections, including the doctrine of abstract ideas.

III. Psychological Capacities and Abstract Ideas

Locke introduces the doctrine of abstract ideas as a way to replace the rationalists's posit of innate ideas with an appeal to psychological capacities.
Berkeley denies the doctrine of abstract ideas, and argues that the belief in the existence of the material world is based on mistaken reliance on the doctrine of abstract ideas.
Concomitantly, Berkeley suggests that we ban general terms from our most austere, respectable language.
Instead, he claims that we can use particular terms generally, without pretending to form 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 (Berkeley, *Principles* Introduction §11, AW 442a).

Hume agrees that there can be no abstract objects or abstract ideas.

> It is a principle generally received in philosophy that everything in nature is individual and that it is utterly absurd to suppose a triangle really existent which has no precise proportion of sides and angles. If this, therefore, be absurd in *fact and reality*, it must also be absurd in *idea*, since nothing of which we can form a clear and distinct idea is absurd and impossible (*Treatise* I.1.7, p 5).

Given the picture theory of ideas, we do have some psychological capacities to alter the ideas of sensation, and to create new ones.
We can combine parts of our ideas, as when we think of a centaur.
We can consider some portions of an idea apart from others, as when we think about the door of a building, and not the walls or roof or windows.
But, we can not form an abstract general idea, like the idea of a triangle, without thinking of a particular triangle, or like the idea of 250,737 without thinking of a particular symbol to stand for that number.

Given their rejection of Locke's doctrine of abstract ideas, Berkeley and Hume are faced with a new problem to account for our use of general ideas without admitting a psychological capacity for abstraction.
Locke designed the doctrine of abstract ideas in order to account for our ability to speak generally, to use one term to stand for many.
We obviously use terms like 'chicken' to stand for many chickens, even if we only ever encounter individual chickens.

An ability to speak generally is fundamental to mathematics and empirical science, where universal claims are ubiquitous.
While taking particulars to stand for other particulars avoids a commitment to abstract ideas, it may not succeed in supporting knowledge of those universal claims.
Berkeley argues that we have no knowledge of general laws, like those of empirical science and mathematics.

> The theories, therefore, in arithmetic...can be supposed to have nothing at all for their object. Hence we may see how entirely the science of numbers is subordinate to practice and how jejune and trifling it becomes when considered as a matter of mere speculation (Berkeley, *Principles* §120).

Hume, in contrast to Berkeley, explains how our particular ideas can support universal claims, by functioning as general ideas while remaining particular.

> The image in the mind is only that of a particular object, though the application of it in our reasoning be the same as if it were universal (*Treatise* I.1.7, p 5).

In order to make our particular idea function as a general one, Hume claims, we re-purpose the idea, which is a psychological capacity different from abstraction.

> A particular idea becomes general by being annexed to a general term, that is, to a term which, from a customary conjunction, has a relation to many other particular ideas and readily recalls them in the imagination (*Treatise* I.1.7, p 6).

Hume believes that unlike Locke's doctrine of abstract ideas, this capacity to annex a particular idea to a general term is psychologically defensible.
We can take objects to be of the same sort if they have any properties in common.
All (Euclidean) triangles have their angle sums in common, so they are the same sort of triangles.
But they do not have their side lengths in common, so they are not all scalene, etc.

Hume defends our ability to re-purpose individual ideas by providing examples.

> The most proper method, in my opinion, of giving a satisfactory explication of this act of the mind is by producing other instances which are analogous to it and other principles which facilitate its operation (*Treatise* I.1.7, p 6).

We use symbols, like numerical inscriptions.
One particular idea or word can lead us to think of many different ones, as when the first notes of a song give us the whole tune.
We can recall different component aspects of a general term, depending on the appropriate context.
These psychological capacities may be unexplained or inexplicable, but they are also undeniable.

> Nothing is more admirable than the readiness with which the imagination suggests its ideas and presents them at the very instant in which they become necessary or useful (*Treatise* I.1.7, pp 6-7).

He explains general terms as arising from habits of use.

> If ideas be particular in their nature and at the same time finite in their number, it is only by custom they can become general in their representation and contain an infinite number of other ideas under them (*Treatise* I.1.7, p 7).

Thus, Berkeley and Hume differ on the lesson to be learned from the failure of Locke's doctrine.
Berkeley denies the existence of mathematical objects and the truth of physical laws.
Hume bases our knowledge of mathematics on the principle of contradiction and our bare psychological capacities.
But, he has deep concerns about our knowledge of science.

IV. Matters of Fact and Relations of Ideas

The empiricist, as we have seen, is faced with difficulties justifying mathematical knowledge, since mathematical beliefs do not seem to arise directly from sense experience.
Locke claimed that our knowledge of mathematics (and moral claims) could be certain, even if there were no mathematical objects, since it concerns only relations among our ideas.
Hume maintains Locke's approach.
He divides human reasoning into matters of fact, which are what we would now call empirical claims, and which include the claims of science; and relations of ideas, which are of mathematics and logic.

> All the objects of human reason or enquiry may naturally be divided into two kinds, namely, *relations of ideas*, and *matters of fact*. Of the first kind are the sciences of geometry, algebra, and arithmetic; and in short, every affirmation which is either intuitively or demonstratively certain. *That the square of the hypothenuse is equal to the square of the two sides* is a proposition which expresses a relation between these figures. *That three times five is equal to the half of thirty* expresses a relation between these numbers. Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe. Though there never were a circle or triangle in nature, the truths demonstrated by Euclid would for ever retain their certainty and evidence (*Enquiry*, §IV.1, AW 542a).

Matters of fact are a posteriori, contingent.
Relations of ideas are a priori, necessary, and deductive.

The basic tool for discovering whether a given statement is a relation of ideas is the principle of contradiction.

> What never was seen, or heard of, may yet be conceived, nor is any thing beyond the power of thought except what implies an absolute contradiction (*Enquiry*, §II, AW 539b).

The principle of contradiction says that if a statement entails a contradiction, then it is necessarily false.
We use the principle of contradiction in proofs by *reductio ad absurdum*, or indirect proof.
We know the mathematical claims that Hume cites because their negations are self-contradictory.
Further, Hume believes that a statements can be known to be necessarily true only if its negation entails a contradiction.
Hume argues that many claims that have been accepted as certainly true, like statements of the laws of nature or of the existence and goodness of God, can not be so, since their negations are not contradictory.

> The only objects of the abstract sciences or of demonstration are quantity and number...All other inquiries of men regard only matter of fact and existence and these are evidently incapable of demonstration. Whatever *is* may *not be*. No negation of a fact can involve a contradiction (*Enquiry* XII.3, AW 599b).

Some non-mathematical claims (e.g. 'all bachelors are unmarried') can be relations of ideas, as well.
But, such claims will depend on definitions.

> To convince us of this proposition, *that where there is no property, there can be no injustice*, it is only necessary to define the terms and explain injustice to be a violation of property. This proposition is, indeed, nothing but a more imperfect definition. It is the same case with all those pretended syllogistical reasonings which may be found in every other branch of learning, except the sciences of quantity and number; and these may safely, I think, be pronounced the only proper objects of knowledge and demonstration (*Enquiry*, §XII.3, AW 599b).

In other words, the principle of contradiction is both sufficient and necessary for justifying our knowledge of all necessary truths, including those of mathematics.

> We are possessed of a precise standard by which we can judge of the equality and proportion of numbers and, according as they correspond or not to that standard, we determine their relations without any possibility of error (*Treatise* I.3.1, p 8).

Unfortunately, the principle of contradiction, by itself, can not do all the work.
We need auxiliary tools to frame an hypothesis, and to determine whether a statement is in fact a contradiction.
In the nineteenth and twentieth centuries, logicians following Frege developed a syntactic test for contradiction, by developing a formal language in which contradictions could be represented.
A contradiction is any statement of the form $\alpha \bullet \sim\alpha$.
While Hume and the other moderns did not have this criterion, they of course understood that to assert any sentence and its negation was a contradiction.
But, the account of how to know whether one sentence was a negation of another had yet to be developed.
Both Locke and Hume thus appeal to our psychological ability to recognize contradictions.
They also appeal to our ability to recognize identities, statements whose negations are contradictions.

Thus, there are actually two tools for determining whether a statement is a relation of ideas.

> RI1. The principle of contradiction.
> RI2. The imagination's ability to recognize similarity and difference.

Leibniz also appeals to these abilities in order to explain our knowledge of mathematics.
He calls an ability to recognize identities intuitive knowledge.
Leibniz's account of our knowledge of mathematics appeals to either intuitive or symbolic knowledge of the axioms, along with a weaker class, adequate knowledge, of how theorems are derived from axioms.
Locke appeals to what he calls intuitive and demonstrative knowledge.
Intuitive knowledge is RI2.

> If we will reflect on our own ways of thinking, we shall find that sometimes the mind perceives the agreement or disagreement of two *ideas* immediately by themselves, without the intervention of any other. And this, I think, we may call *intuitive knowledge* (Locke, *Essay* §IV.II. 1, AW 389a).

Hume makes similar claims.

> Only four [philosophical relations], depending solely upon ideas, can be the objects of knowledge and certainty. These four are *resemblance*, *contrariety*, *degrees in quality*, and *proportions in quantity or number*. Three of these relations are discoverable at first sight and fall more properly under the province of intuition than demonstration (*Treatise* I.III.1, p 7).

Demonstrative knowledge uses RI1, and, more broadly, proofs.

> When the mind cannot so bring its *ideas* together, as by their immediate comparison and as it were juxtaposition or application one to another, to perceive their agreement or disagreement, it is inclined, by the intervention of other *ideas* (one or more, as it happens) to discover the agreement or disagreement which it searches; and this is that which we call *reasoning* (Locke, *Essay* IV.II.2, AW 389b).

In other words, for both Leibniz and Locke and Hume, we have both intuitive knowledge or immediate apprehension of some basic principles, and derivative knowledge of more complex statements.
Leibniz claimed that intuitive knowledge could not be explained by sense experience.
Locke and Hume, believing it to be just the result of a natural psychological ability to recognize similarities, differences, and contradictions, argue that this ability is acceptable to empiricists, and includes no appeal to innate ideas.

Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2011 Russell Marcus

Class 21: April 12
David Hume, *An Enquiry Concerning Human Understanding*, §V - §VII (AW 548-564)

I. Laws of Nature

Let's return to claims P1-P7.

P1. It is chilly outside right now.
P2. It snowed in February.
P3. Shakespeare wrote *The Tragedy of Macbeth*.
P4. 2 + 2 = 4.
P5. I exist.
P6. Objects near the surface of the Earth accelerate toward the center of the Earth at 9.8 m/s^2.
P7. The sun will rise tomorrow.

P1-P3 state matters of fact.
Hume claims that such assertions can be traced back to original impressions, and for these three propositions, Hume's claim seems plausible.
The tracing turns out to be trickier than Hume thought, though.
The project was pursued in the 20th century by logical positivists, like Rudolph Carnap, whose *Logical Structure of the World* attempted to use contemporary logical tools to carry out Hume's project.
Nevertheless, we will not pursue worries about these claims, and accept personal experience and testimony as reliable evidence.
P4 states a mathematical fact, and is thus a relation of ideas.
We will grant that mathematical theorems follow from self-evident axioms using unassailable logical tools, including the principle of contradiction.
P5, our knowledge of ourselves, leads to a complication to which we shall return, in our next class.

For now, let's look at P6 and P7, and indeed L1-L3, Newton's three laws of motion.

L1: Inertia: an object in motion will remain in motion, an object at rest will remain at rest, unless acted on by an unbalanced force.
L2: The force produced by an object is equal to the product of its mass and its acceleration.
L3: For every action there is an equal and opposite reaction.

They all refer to physical laws.
While the sun does not actually rise, we use the sentence as shorthand for lawlike claims about the rotation of the Earth on its axis.
None of these claims are relations of ideas, since their denials do not lead to a contradiction.
If the Earth had a different diameter, the acceleration due to gravity at its surface would be different.
Similarly, if the physical laws were slightly changed, gravitational force could be different.
The denial of P6 is not contradictory in any obvious way.
Similarly, 'The sun will not rise tomorrow' is possibly true, so it is not a relation of ideas.
We can not discover that denials of laws of nature are false by mere process of thought, as we can with relations of ideas.

The course of nature may change, and...an object seemingly like those which we have

> experienced, may be attended with different or contrary effects. May I not clearly and distinctly conceive that a body, falling from the clouds, and which in all other respects resembles snow, has yet the taste of salt or feeling of fire? Is there any more intelligible proposition tat to affirm that all the trees will flourish in December and January and decay in May and June? Now, whatever is intelligible and can be distinctly conceived implies no contradiction and can never be proved false by any demonstrative argument or abstract reasoning *a priori* (*Enquiry*, §IV.2, AW 546a-b).

Thus it seems difficult to defend any claims about the laws of nature.
We do not have any experience of the future, so they can not be confirmed by experience.
If they are matters of fact, they have to be traceable back to original sense impressions.
But, when they pronounce on future events, we go beyond our experiences of the past, inductively, and project into the future.
Those claims about the future are unfounded.
We thus can have no knowledge that the sun will rise tomorrow.

II. Cause and Effect

Scientific laws are generally taken to describe the causal structure of the universe.
But we have no sense impressions of many terms used, including 'gravity', 'force', 'mass', and 'energy'.
We have experience only of events, not their causes.

> The effect is totally different from the cause, and consequently can never be discovered in it. Motion in the second billiard ball is a quite distinct event from motion in the first, nor is there anything in the one to suggest the smallest hint of the other. A stone or piece of metal raised into the air and left without any support immediately falls. But to consider the matter *a priori*, is there anything we discover in this situation which can beget the idea of a downward rather than an upward or any other motion in the stone or metal?...When I see, for instance, a billiard ball moving in a straight line towards another, even suppose motion in the second ball should by accident be suggested to me as the result of their contact or impulse, may I not conceive that a hundred different events might as well follow from that cause? May not the first ball return in a straight line or leap off from the second in any line or direction? All these suppositions are consistent and conceivable (*Enquiry*, §IV.1, AW 543b-544a).

Hume asks us to consider our inability to know the properties of novel objects, like the cohesion of marble.
The secret powers, the connections between events, are hidden from us.

> Let an object be presented to a man of ever so strong natural reason and abilities; if that object is entirely new to him, he will not be able, by the most accurate examination of its sensible qualities, to discover any of its causes of effects. Adam, though his rational faculties are supposed entirely perfect at the very first, could not have inferred from the fluidity and transparency of water that it would suffocate him, or from the light and warmth of fire that it would consume him (*Enquiry*, §IV.1, AW 543a).

When we perform inductions, and pronounce on the laws connecting events, we go beyond the evidence of our experience.
We pretend that we see connections among events,
But, in fact, all we ever see are conjunctions.

> We only learn by experience the frequent conjunction of objects, without being ever able to comprehend anything like connection between them (*Enquiry*, §VII.1, AW 560b).

All our beliefs about the world are based on experience.
Experience only tells us what was, not what has to be.
This follows from the fact that we have no access to the causes.
Laws of nature reduce disparate phenomena to simple statements.
But, such reductions require insight into the causal structure of the world, which we do not have.
Thus we can not establish the truth of laws of nature, despite our best efforts.

> The utmost effort of human reason is to reduce the principles productive of natural phenomena to a greater simplicity and to resolve the many particular effects into a few general causes by means of reasonings from analogy, experience, and observation. But as to the causes of these general causes, we should in vain attempt their discovery, nor shall we ever be able to satisfy ourselves by any particular explication of them. These ultimate springs and principles are totally shut up from human curiosity and inquiry...Thus the observation of human blindness and weakness is the result of all philosophy and meets us at every turn in spite of our endeavors to elude or avoid it (*Enquiry*, §IV.1, AW 544a-b).

We have no knowledge of both particular and general claims about laws of nature.
We do not know Newton's laws.
We do not know that the sun will rise tomorrow.
The problem is not that there might be a big explosion.
Such an event would be consistent with physical laws.
The problem is that the laws could suddenly shift, from what we think they are.

III. The Problem of Induction

Our inability to know physical laws is generally known as the problem of induction.
Induction is how you know about unobserved phenomena, including predictions about the future.
The problem, then, lies in how to determine when causes are similar.
How do we get knowledge of the unobserved?

Hume argues that induction relies on analogy.
We have to consider when cases are similar, in order to know when we can assimilate particular experiences and when a law applies.

> All our reasonings concerning matters of fact are founded on a species of analogy which leads us to expect from any cause the same events which we have observed to result from similar causes. Where the causes are entirely similar, the analogy is perfect, and the inference drawn from it is regarded as certain and conclusive. Nor does any man ever entertain a doubt where he sees a piece of iron that it will have weight and cohesion of parts as in all other instances which have ever fallen under his observation. But where the objects have not so exact a similarity, the analogy is less perfect and the inference is less conclusive, though still it has some force in proportion to the degree of similarity and resemblance. The anatomical observations formed upon one animal are, by this species of reasoning, extended to all animals; and it is certain that, when the circulation of the blood, for instance, is clearly proved to have place in one creature, as a frog, or fish, it forms a strong presumption that the same principle has place in all (*Enquiry*, §IX, AW

575a).

The question we have to ask, in all cases, is when to expect uniformities to extend beyond our observation, as Bertrand Russell points out.

> Domestic animals expect food when they see the person who usually feeds them. We know that all these rather crude expectations of uniformity are liable to be misleading. The man who has fed the chicken every day throughout its life at last wrings its neck instead, showing that more refined views as to the uniformity of nature would have been useful to the chicken (*Problems of Philosophy*, p 63).

Here is a version of Hume's skeptical argument about induction.

PI
- PI1. Our beliefs about future events and unobserved objects are matters of fact.
- PI2. Beliefs about matters of fact are based on experience.
- PI3. Experience tells us how things were, not how they will be; it tells us only about actually observed phenomena.
- PIC. So, our beliefs about the future and the unobserved are unknown.

PI1 is a definition.
PI2 is the basic principle of empiricism.
Scientific generalizations which do not limit themselves to past observations go beyond sense evidence.
Descartes, for example, argued that innate principles can allow us to make the inductive leap.
An appeal to innate principles will not work for Hume, obviously.
We can not go beyond the evidence of our senses.
PI3 is the result of Hume's observations about causation.

> When we infer any particular cause from an effect, we must proportion the one to the other and can never be allowed to ascribe to the cause any qualities but what are exactly sufficient to produce the effect...If the cause assigned for any effect is not sufficient to produce it, we must either reject that cause or add to it such qualities as will give it a just proportion to the effect. but if we ascribe to it further qualities or affirm it capable of producing other effects, we can only indulge the license of conjecture and arbitrarily suppose the existence of qualities and energies without reason or authority (*Enquiry*, §XI, AW 588a).

Here is a specific version of the problem of induction.

B
- B1. I have seen one billiard ball strike another many times.
- B2. Each time the ball which was struck has moved, motion was transferred.
- BC. So, the struck ball will move this time.

Notice that BC does not follow deductively from B1 and B2.
B is an invalid argument.
An argument is valid if it is impossible for the premises to be true and the conclusion to be false.
You can see that B is invalid if you consider what would happen if the laws of physics shift.
The conclusion could be false, while the premises remain true.

An additional premise could make B a valid inference
Consider the principle of the uniformity of nature (PUN).

PUN The future will resemble the past.

If we add PUN as a third premise, then the conclusion will follow.

B* B1. I have seen one billiard ball strike another many times.
B2. Each time the ball which was struck has moved, motion was transferred.
B3. The future will resemble the past.
BC. So, the struck ball will move this time.

The problem with B* is that we have no basis for believing PUN.
All inductive inference presupposes it, but it can not justify itself;

> All inferences from experience suppose as their foundation that the future will resemble the past and that similar powers will be conjoined with similar sensible qualities. If there is any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless and give rise to no inference or conclusion. It is impossible, therefore, that any arguments from experience can prove this resemblance of the past to the future, since all these arguments are founded on the supposition of that resemblance (*Enquiry*, §IV.2, AW 547b).

If we had knowledge of cause and effect relations, of the connections among events, we could tie them together to yield PUN.
We would know what the hidden springs are by experience.
But, we only have knowledge of constant conjunction.
So, all scientific generalizations which do not limit themselves to observed evidence are unjustified.
Physical laws like Newtonian gravitation, or the gas laws, go beyond experimental evidence.
Even the existence of a material world is a scientific hypothesis generated by experience.

> It is a question of fact whether the perceptions of the senses are produced by external objects resembling them; how shall this question be determined? By experience, surely as all other questions of a like nature. But here experience is and must be entirely silent. The mind never has anything present to it but the perceptions and cannot possibly reach any experience of their connection with objects. The supposition of such a connection is, therefore, without any foundation in reasoning (*Enquiry*, §XII.1, AW 595a).

Hume thus rejects any possibility of using the standard account of truth, neatly encapsulated by Aristotle, and often called the correspondence theory.

> To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, and of what is not that it is not, is true (Aristotle, *Metaphysics* 1011b25).

For a statement to be correspondence-true, the world has to agree with what is said of the world.
But, we can only know one side of the equation.
Hume agrees with Berkeley that the primary/secondary distinction provides no assistance in assuring ourselves of the existence of an external world.
But, Hume rejects recourse to God's goodness to secure the veracity of our sense perception.
The God hypothesis goes beyond legitimate inference, goes beyond the data.

The laws of nature and even the existence of the external world are beyond our ability to know.

Philosophers, as we have seen, speculate broadly about the world and its laws.
Hume insists that such speculation is unfounded.
He proposes that philosophy be rid of such speculation.

> When we run over libraries, persuaded of these principles, what havoc must we make? If we take in hand any volume - of divinity or school metaphysics, for instance - let us ask, D*oes it contain any abstract reasoning concerning quantity or number?* No. *Does it contain any experimental reasoning concerning matter of fact and existence?* No. Commit it then to the flames, for it can contain nothing but sophistry and illusion (*Enquiry*, §XII.3, AW 600b).

IV. More Problems of Induction

Hume's skepticism is centered on the problem of induction, which persists, in extended fashion, in contemporary philosophy.
We can identify three problems that might be called problems of induction.

The first might be called the weak problem of induction.

> WI We have limited intelligence and experience.

There is not enough evidence to draw the conclusions that we draw.
Scientific theories are generally under-determined by the evidence.
Often there are two or more competing yet equally well-supported theories about the world.
Such theories agree on all the empirical evidence we have gathered.
Even if we presume that physical laws will be uniform and stable, we don't know which theory to use.
If we were smarter or had more time, we could solve the problem of WI by gathering more evidence.

WI is not Hume's problem of induction.
It is just a problem of limitations on evidence.
It is not really a philosophical problem.

The second problem might be called the strong problem of induction.

> SI Even given all possible evidence from the past, we can not know that the laws of nature will not shift radically and unexpectedly.

SI is Hume's problem.
Despite Hume's complaints about inductive processes, we do make successful predictions.
We presume that the laws of nature will remain uniform and stable, even if that assumption is unjustified.
Hume's problem of induction is thus a puzzle.
A third problem of induction, often called the new riddle of induction, extends the puzzle.
The new riddle gets its name from Nelson Goodman's *Fact, Fiction, and Forecast.*
You know what it means for an object to be green.
Consider the property called 'grue'.
An object is grue if it is green until 1/1/2020, when it suddenly turns blue.
How can you tell if a plant is green or grue?
All evidence for its being green is also evidence for its being grue.
Green things and grue things are exactly alike until 2020.

NRI Even given that the laws of nature remain stable, we do not know which predicates are confirmed.

NRI shows that Hume's problem is not just about physical laws, but about common terms we use to describe the world, too.
For, one could construct other artificial properties, like the property of being a papod.
A papod is a piece of paper which, on 1/1/2020, turns into an Ipod.
All papods look exactly like pieces of paper right now.
There is, in principle, no way to tell them apart.

SI and NRI are among the most serious problems in philosophy, especially in the philosophy of science.
Berkeley had shown that Lockean empiricist principles led to difficulties with our beliefs in an external, material world.
Hume shows that these problems infect all of science, not merely belief in matter.
Goodman shows that the problem infects even our most common uses of language.
Berkeley thinks that we can continue to speak with the vulgar and think with the learned.
Hume shows that even the most learned beliefs are unjustified.

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Class 22: April 14
David Hume, *A Treatise of Human Nature*, Book I, Part 4, Section 6 (AW 525-532)

I. The Psychological Definition of Causation

We have looked at Hume's problem of induction and his skeptical conclusions.
Hume's skepticism is not just Locke's humility.
It is a thorough rejection of ordinary beliefs.
It is founded on his observation, perhaps inherited from Berkeley, that we are isolated from causal connections.
All we can experience are conjunctions of events, certain regularities in the past.
From those regularities we formulate laws of nature,
But we can not know that the regularity will persist.
Still, we talk about causation all the time.
We do believe that there are connections between events.
We exit through the door, not the window.
We do not really doubt that the sun will rise.

> When one particular species of event has always, in all instances, been conjoined with another, we make no longer any scruple of foretelling one upon the appearance of the other, and of employing that reasoning which can alone assure us of any matter of fact or existence. We then call the one object *cause*, the other *effect*. We suppose that there is some connection between them, some power in the one by which it infallibly produces the other and operates with the greatest certainty and strongest necessity (*Enquiry*, §VII.2, AW 563a).

If a philosopher denies a common belief, it is intellectually responsible to account for that belief.
Hume thus reinterprets ordinary talk of causal connections.
He argues that our confidence in the regularity of nature is mere unjustified habit.

> After a repetition of similar instances the mind is carried by habit upon the appearance of one event to expect its usual attendant and to believe that it will exist. This connection, therefore, which we *feel* in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression from which we form the idea of power or necessary connection...The first time a man saw the communication of motion by impulse, as by the shock of two billiard balls, he could not pronounce that the one event was *connected*, but only that it was *conjoined* with the other. After he has observed several instances of this nature, he then pronounces them to be *connected*. What alteration has happened to give rise to this new idea of *connection*? Nothing but that he now *feels* these events to be *connected* in his imagination, and can readily foretell the existence of one from the appearance of the other. When we say, therefore, that one object is connected with another, we mean only that they have acquired a connection in our thought (*Enquiry*, §VII.2, AW 563a).

When we devise, by induction, physical laws, we make a mental leap, unsupported by evidence.
Consider if a person were suddenly brought into the world.
She would have no habits, and so no beliefs about regularities or causal powers.
By experience, she would develop certain habits, certain expectations, all while never having any experiences of causal connections.

> Suppose...that he has acquired more experience and has lived so long in the world as to have observed familiar objects or events to be constantly conjoined together - what is the consequence of this experience? He immediately infers the existence of one object from the appearance of the other. Yet he has not, by all his experience, acquired any idea or knowledge of the secret power by which the one object produces the other, nor is it by any process of reasoning he is engaged to draw this inference. But still he finds himself determined to draw it. And though he should be convinced that his understanding has no part in the operation, he would nevertheless continue in the same course of thinking. There is some other principle which determines him to form such a conclusion. This principle is *custom* or *habit* (*Enquiry*, §V.1, AW 549a-b).

What she has developed is a mental capacity, not an insight.
But habit, again, gives you only conjunction, and not connection.
Similarly, we habitually suppose the existence of an external, material world, without any direct experience of it.
Remember, Hume agrees with Berkeley that we experience our sensations, and not their causes.
We have no experience of the things in themselves.
Thus, the term 'cause' refers to a mental phenomenon.

> The appearance of a cause always conveys the mind, by a customary transition, to the idea of the effect. Of this also we have experience. We may, therefore, suitably to this experience, form [a] definition of cause, and call it *an object followed by another, and whose appearance always conveys the thought to that other* (*Enquiry*, §VII.2, AW 563b).

Properly distinguished, causes are internal, rather than external.
They are not in nature, but in our minds.
Causes are psychological, rather than objective.

Berkeley, when faced with the limits of what we can know, interpreted the terms we use that seem to refer to objects as referring to our mental states.
Hume, rejecting Berkeley's idealism, assumes that there is a material world.
Still, we can not know about the laws which govern the interactions of objects in the world.
Instead of internalizing the world, Hume internalizes cause and effect.

To see how radical Hume's psychologistic claim is, it might be useful to compare his views with those of Frege, writing in 1884.
In the following quote, Frege is responding to Mill's psychologistic view of numbers, which is essentially the same as Locke's, and Hume's.

> Number is no whit more an object of psychology or a product of mental processes than, let us say, the North Sea is. The objectivity of the North Sea is not affected by the fact that it is a matter of our arbitrary choice which part of all the water on the earth's surface we mark off and elect to call the North Sea. This is no reason for deciding to investigate the North Sea by psychological methods. In the same way number, too, is something objective. If we say 'The North Sea is 10,000 square miles in extent' then neither by 'North Sea' nor by '10,000' do we refer to any state of or process in our minds: on the contrary, we assert something quite objective, which is independent of our ideas and everything of the sort (Frege, *Grundlagen*, §26).

Hume recognizes that we speak as if the world and the causal laws are objective, existing independently of us.
But, he argues that we are unjustified in believing that.
Thus, we are left as skeptics.

II. The Self

Locke argues that we can neither identify our selves with our bodies nor our souls, in a traditional sense of 'soul'.
The biological theory of personhood applies the same identity conditions to people as we do to other individual animals.
Locke provides thought experiments, including the Prince and the Cobbler, which ask us to consider the possibility of transferring consciousness among biological entities.
Most of our intuitions support the claim that the self transfers with consciousness and memory.
The person consisting of the Cobbler's body and the Prince's thoughts is the Prince and not the Cobbler.
Similar arguments, from Locke, apply to the soul theory.
Given some common views about the soul, that it exists prior to birth and after death, our personhood can be seen to be different from our soul by considering some simple thought experiments.
We can imagine two different souls inhabiting (or whatever the relation is) the same person.
Two different persons can house (or whatever) the same soul.
Instead, Locke argues that we identify with our conscious experience, linked by memory.
Locke's consciousness, or memory, theory relies on psychological continuity to identify a person over time.

Hume worries that the common notion of self outruns our memories.
There are experiences which I call mine that I do not remember.

> Memory does not so much *produce* as *discover* personal identity by showing us the relation of cause and effect among our different perceptions. It will be incumbent on those who affirm that memory produces entirely our personal identity to give a reason why we can thus extend our identity beyond our memory (*Treatise* I.4.6, AW 530b).

Berkeley worries that given Locke's constraints on our capacities to acquire beliefs, we have no sense of self.
We sense our bodies, but they are always changing, while the self remains constant.
We never sense our selves.
Thus, we have no idea of the self, which Berkeley identified with the soul, or of God.

> There can be no idea formed of a soul or spirit; for all ideas whatever, being passive and inert... they cannot represent unto us, by way of image or likeness, that which acts...The words *will*, *soul*, *spirit* do not stand for different ideas or, in truth, for any idea at all, but for something which is very different from ideas, and which, being an agent, cannot be like or represented by any idea whatsoever - though it must be admitted at the same time that we have some notion of soul, spirit, and the operations of the mind, such as willing, loving, hating, inasmuch as we know or understand the meaning of those words (Berkeley, *Principles* §27, AW 452b).

Berkeley abandoned, for these special cases, his strict policy of never admitting an object that was not first in the senses.
He claims that we have notions of the self and God, even if we do not have ideas of them.
We posit the self in order to unify our experiences; we posit God as the source of all the ideas.
Esse is *percipi* or *percipere*; to exist is either to be perceived or to perceive.

Hume agrees with Berkeley that we have no impression, and thus no idea, of the self.
But, where Berkeley relaxed his epistemic standards and allowed for notions in addition to ideas, Hume stands his ground.
Since we have no idea of the self, we have no reason to believe in any such thing.

> If any impression gives rise to the idea of self, that impression must continue invariably the same through the whole course of our lives, since self is supposed to exist after that manner. But there is no impression constant and invariable. Pain and pleasure, grief and joy, passions and sensations succeed each other and never all exist at the same time. It cannot, therefore, be from any of these impressions or from any other that the idea of self is derived, and, consequently, there is no such idea (*Treatise* I.4.6, AW 526a).

If what we mean by the self is some constant substance or property which persists through time, there is no such thing.
There is no underlying, unifying object which we can call the self.
There are just perceptions.

> When I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception and never can observe anything but the perception (Hume 349a-b).

Since Hume denies that there is a self, we can call Hume's theory of self the no-self theory of self.

Whenever a philosophers denies the existence of some thing that people commonly believe exists, s/he has to provide some account of our ordinary beliefs.
If I were to tell you that there is no Santa Claus, I would have to explain to you how the properties you think belong to Santa Claus really belong to other people: your parents bring you presents, a neighbor puts on the Santa suit for the party, the department store hires people to dress as Santa at the mall.
When Berkeley argues that there is no external world, he has to account for our ordinary beliefs in material objects.
Berkeley did that by showing that our ideas of objects could, strictly speaking, be interpreted as about our own sensations; we mis-perceive the world as material.
So, when Hume argues that there is no self, he has to provide some account of our ordinary beliefs in the self.
We can evaluate his no-self theory of the self both on the plausibility of his argument for the theory and on the plausibility of his account of our ordinary experiences.

III. The Bundle Theory

Hume's claim that there is no self relies on his premise that the self must be precisely identical over time.
That claim seems too strong.
As we age, and acquire more experiences, we have different properties.
Even having lunch or shifting our bodies slightly to the left changes our relations to the world without changing our ordinary conceptions of our selves.
The biological theory of the self accommodates these changes by relying on the functional organization of the body as a criterion for identity over time.
Another way of looking at the biological theory would be to see the self as a collection of loosely-related individual instances of selves, each just a moment of time wide.
The self over time would be a bundle of related biological entities.

Hume's account of our ordinary conception of self is similar to this functional view.
Hume argues that we never see a self.
But, we do have experiences.
So, whatever we call ourselves must be related to our series of experiences.
Our experiences are joined by a variety of psychological connections among our ideas: resemblance, contiguity, and cause and effect.
These psychological connections govern all of our thoughts.
They do not connect our ideas in some underlying substance.
These psychological capacities merely conjoin our experiences over time.
Even memory, for Locke the essential characteristic of the self, merely demonstrates such conjunctions.
The ordinary notion of self which we are pursuing outruns our memories: there are experiences which I call mine that I do not remember.
For Locke, we needed connections among our memories, an underlying haecceity.
For Hume, there is only a series of loosely-related conjunctions of experiences.

Instead of being a paradigm of unity, Hume thus argues that the self is an exemplar of diversity.
Just as Berkeley argued that the apple is just a bundle of independent sense experiences, its taste independent from its roundness and its crunch, we are just a collection of various, independent experiences.
As far as we know, even the world itself is just a loose collection of events, unconnected by causal laws.
Everything is particular, and all the particulars are independent.

> Every distinct perception which enters into the composition of the mind is a distinct existence and is different and distinguishable and separable from every other perception, either contemporary or successive (AW 529b).

Even the self is dissolved.

> When we attribute identity, in an improper sense, to variable or interrupted objects, our mistake is not confined to the expression, but is commonly attended with a fiction, either of something invariable and uninterrupted, or of something mysterious and inexplicable, or at least with a propensity to such fictions. What will suffice to prove this hypothesis to the satisfaction of every fair enquirer, is to show from daily experience and observation, that the objects, which are variable or interrupted, and yet are supposed to continue the same, are such only as consist of a succession of parts, connected together by resemblance, contiguity, or causation... (AW 527b).

For Hume, then, the self, as we ordinarily understand it, is just a loose bundle of experiences.
Instead of calling Hume's view the no-self theory, we can call it the bundle theory of self.
That term is a bit misleading, since it might be interpreted as claiming that there is a self which ties the bundle together.
We can have a practical interest in maintaining a notion of the self over time.
But, the bundle theorist argues that the claim that there is a self underlying the experiences, some haecceity, is, strictly speaking, false.
There is no I, beyond the experiences.

Hume's claim that there is no self is similar to the Buddhist view.
There is no I, beyond the experiences.
On the Hume-Buddha view, Descartes's claim that the cogito yields the existence of a thinker is too strong.
There is just thought.

Hume was not fully satisfied with his account, his destruction, of personal identity, as you can see in his Appendix, AW 531-2.
He did not return to the topic in the *Enquiry*.
It might have been too skeptical a conclusion even for Hume.

Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2010 Russell Marcus

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Hume, *An Enquiry Concerning Human Understanding*, VIII-IX (AW 564-576); XII (AW593-600)

I. Two Humes

We have seen two aspects of Hume's work.
The skeptical Hume argues that we have no knowledge of the future or unobserved, and no knowledge of the self.
The naturalist Hume presumes our beliefs in universal scientific laws, and explains them in terms of our natural psychological capacities.
But, to explain is not to justify, and the problem of induction persists.
The next two topics, miracles and free will, will start from the naturalist assumptions.

II. Hume, Berkeley, Laws of Nature and Miracles

Philosophy, like politics, often makes strange bedfellows.
We have been noting the deep similarities between the Anglican bishop, Berkeley, and the Scottish skeptic and agnostic, Hume.
Both Hume and Berkeley deny that we know laws of nature, but for different reasons.
Berkeley thinks that there are some general regularities in nature.
These regularities ensure that human beings can be productive and safe, and so demonstrate the goodness of God.
Berkeley also thinks that there are exceptions to these regularities, blemishes in nature.
These blemishes, exceptions to the laws of nature, are miracles, and Berkeley is determined to leave room for them.

> It cannot be denied that God, or the intelligence that sustains and rules the ordinary course of things, might if He were minded to produce a miracle, cause all the motions on the dial-plate of a watch, though nobody had ever made the movements and put them in it (Berkeley, *Principles* §62; see also §84).

Consider the supposed miracle, in the book of Joshua, in which God makes the sun stand still so that Joshua can complete his killing before dark:

> And it came to pass, as they fled from before Israel, and were in the going down to Bethhoron, that the Lord cast down great stones from heaven upon them unto Azekah, and they died: they were more which died with hailstones than they whom the children of Israel slew with the sword. Then spake Joshua to the Lord in the day when the Lord delivered up the Amorites before the children of Israel, and he said in the sight of Israel, Sun, stand thou still upon Gibeon; and thou, Moon, in the valley of Ajalon. And the sun stood still, and the moon stayed, until the people had avenged themselves upon their enemies. Is not this written in the book of Jasher? So the sun stood still in the midst of heaven, and hasted not to go down about a whole day. And there was no day like that before it or after it, that the Lord hearkened unto the voice of a man: for the Lord fought for Israel. (Joshua, 10:11-14)

In contrast to Berkeley, Hume not only denies that miracles happen, he denies that they are possible.

There can be no irregularities in nature, because the very notion of a regularity presupposes uniformity.
If there were exceptions to the laws, we wouldn't call them laws.

> Nothing is esteemed a miracle if it ever happen in the common course of nature. It is no miracle that a man, seemingly in good health, should die on a sudden, because such a kind of death, though more unusual than any other, has yet been frequently observed to happen. But it is a miracle that a dead man should come to life because that has never been observed in any age or country. There must, therefore, be a uniform experience against every miraculous event, otherwise the event would not merit that appellation. And as a uniform experience amounts to a proof, there is here a direct and full proof, from the nature of the fact, against the existence of any miracle, nor can such a proof be destroyed or the miracle rendered credible but by an opposite proof which is superior (*Enquiry*, §X, AW 579b).

A problem for Hume's argument for the impossibility of miracles arises when we have nearly uniform experiences, and one small irregularity.
If we experience an anomaly, though, an event inconsistent with what we think are the laws of nature, we will adjust the laws.

> When any cause fails of producing its usual effect, philosophers ascribe not this to any irregularity in nature, but suppose that some secret causes in the particular structure of parts have prevented the operation (*Enquiry*, §VI, AW 556a).

Note the tension here between Hume's claim that we have no knowledge of causal laws, on the one hand, and his insistence that there are universal regularities in nature.
Not only are there regularities, but there can be no exceptions to those regularities.
Hume argues that there is no chance in nature.
All probability arises from our ignorance of causal connections; it is epistemic, rather than objective.
As Einstein (later) said, God does not throw dice.

One way to understand how Hume's skepticism is compatible with his denial of irregularities is to remember that Hume does have a psychological account of causation.
The regularities that we find are real, even if among our ideas.
Hume is not, like Berkeley, leaving room for divine intervention.
He is taking seriously the empiricist's problem of being cut off from the external world, the veil of ideas.

III. Compatibilism

We have talked quite a bit about free will and determinism in this course so far.
Consider three broad kinds of positions on free will.

1. Libertarianism: our will is free
2. Determinism: our will is not free, but determined
3. Compatibilism: we are both free and determined

Note that 'libertarianism' in this context has nothing to do with the political position of the same name.
Also note that libertarianism and determinism are both what we call incompatibilist positions.

The problem of free will arises since we have reasons to believe both that we are free (our conscious

experience feels free) and that we are determined (either by God's will or deterministic laws of physics, or both).
Descartes was a libertarian, attributing our ability to err to our freedom.
To avoid determinism, the libertarian tries to show that the future is not fixed.
We might do that by appealing, say, to the indeterminacy of quantum physics.
But, quantum indeterminacy does not seem to rise to the macro level.
Moreover, the deterministic-seeming laws of physics do not suffer from the random indeterminacies we find at the quantum level.
Indeed, if they did, not only would the future seem undetermined, it would seem chaotic.
Our freedom does not seem to consist of random moments inconsistent with the laws.
Our freedom is rooted in our ability to choose among various options.

Given our feeling of freedom, the determinist tries to show that our belief in our free will is illusory.
Appearances of free will may be due to a lack of understanding of the laws and the initial conditions.
Or, they can be attributed to the inability of a finite mind to comprehend the infinitude of God.
Spinoza was a determinist, and claimed that freedom was an illusion.

Determinism seems troubling, and not just because of the unpleasant thought that I don't have the freedom I appear to have.
Determinism seems to undermine our ordinary notions of moral responsibility.
Ordinarily, we think that we are morally responsible only for behavior that we could have avoided; we are not responsible when we have no ability to do otherwise.
So, I am not personally responsible for, say, ending global warming, since I can not personally end it.
I am certainly not responsible for, say, tidying up the surface of Jupiter, or for preventing the great Chicago fire of 1871, since the laws of physics prevent me from doing anything about them.
On the other hand, since I could have contributed, in some way, to the relief of suffering and misery in the Sudan, say by contributing to a charity that provided food and water to refugees, I may be responsible for doing so.
But, if determinism is true and entails that I can never do otherwise than what I do, it seems that I can never be morally responsible for any of my actions.
Intuitively, we do think people are morally responsible for some of their actions.
So, determinism clashes with these intuitions.
This is a puzzle.

Leibniz also subscribed to determinism, but tried to make it compatible with free will.
I did not introduce the term 'compatibilism' at that point.
But, it's worth using now, as we look at Hume, who is another compatibilist.
Compatibilism is the view that determinism is not opposed to free will.

As we saw in the discussion of miracles, Hume accepts that there are strictly deterministic laws, that there is no chance in nature.

> It is universally allowed that matter, in all its operations, is actuated by a necessary force and that every natural effect is so precisely determined by the energy of its cause that no other effect, in such particular circumstances, could possibly have resulted from it (*Enquiry*, §VIII.1, AW 565b).

Hume pursues this deterministic line of reasoning through to human actions.
People do not generally surprise us with their actions.
When they do, it is due to our own ignorance, rather than any unpredictability, in principle, in their

behavior.

> The philosopher, if he is consistent, must apply the same reasoning to the actions and volitions of intelligent agents. The most irregular and unexpected resolutions of men may frequently be accounted for by those who know every particular circumstance of their character and situation (*Enquiry*, §VIII.1, 568a).

Given Hume's determinism, or what he calls necessity, it seems odd that he could also hold that we have free will, which he calls liberty.
For, as we have seen, free will seems directly opposed to determinism.
Hume claims that the dispute between libertarians and determinists is mainly verbal, since the freedom that we really care about is not in fact opposed to determinism.

Hume's claim is that 'freedom' is ambiguous.
In one sense, 'freedom' is opposed to 'determinism', or 'necessity'.
In that sense, the debate over free will lives on.
But, Hume claims, freedom in that sense is not even desirable.
If our actions were free, in the sense of undetermined, we would have no reasons for acting at all.
Our acts would be random, and chaotic.
Worse for the traditional libertarian, since our actions do not proceed determined from our will, we seem to be blameless.
We only hold people responsible for their actions when they are done intentionally, by a conscious agent.
We do not hold the lion morally culpable for killing the wildebeest.
Similarly, we should not blame the person whose actions, even if bad, are undetermined.

> The actions themselves may be blamable; they may be contrary to all the rules of morality and religion. But the person is not answerable for them and, as they proceeded from nothing in him that is durable and constant and leave nothing of that nature behind them, it is impossible he can, upon their account, become the object of punishment or vengeance. According to the principle, therefore, which denies necessity, and consequently causes, a man is as pure and untainted after having committed the most horrid crime as at the first moment of his birth, nor is his character any way concerned in his actions, since they are not derived from it, and the wickedness of the one can never be used as a proof of the depravity of the other (*Enquiry*, §VIII.2, 572b).

Hume has thus turned the table on the determinist.
We were worried, before, that determinism prevents ascriptions of moral responsibility.
Hume has argued that free will, in the sense opposed to determinism, also prevents ascriptions of moral responsibility.
Thus, we should look for a different sense of 'freedom'.

In its proper sense, Hume claims, 'freedom' should be contrasted with 'constraint'.
That is, an action is done freely when it is done without external constraint: if I am not dragged, pushed, or held at gunpoint to perform an action.

> For what is meant by liberty when applied to voluntary actions? We cannot surely mean that actions have so little connection with motives, inclinations, and circumstances that one does not follow with a certain degree of uniformity from the other and that one affords no inference by which we can conclude the existence of the other. For these are plain and acknowledged matters of fact. By liberty, then, we can only mean *a power of acting or not acting according to the*

> *determinations of the will* - that is, if we choose to remain at rest, we may; if we choose to move, we also may. Now this hypothetical liberty is universally allowed to belong to everyone who is not a prisoner and in chains (*Enquiry*, §VIII.1, AW 571a).

According to Hume, then, if I do something only because I could not have done otherwise, I do not do it freely.
I do not return to the ground when I jump in the air of my free will; I could not have done otherwise in that case.
More importantly, if I pay my taxes because I am afraid of being fined or imprisoned, or if I refrain from cheating only out of fear of punishment, or if I am forced by threat to do any action I do not wish to perform, I do not act freely.
On the other hand, if I want to pay taxes, since I approve of their uses in building and maintaining roads, schools and armed forces; or if I refrain from cheating because I do not wish to cheat, then I am acting in accordance with my will, freely.
Consequently, we can hold people morally responsible for those acts they perform freely, in Hume's sense, and not for those they perform under constraint.

Hume, by focusing on a sense of 'freedom' that is not opposed to determinism not only makes free will compatible with determinism.
He also makes both the acceptance of both free will and determinism compatible with ascriptions of moral responsibility.
He allows us an account of moral responsibility which aligns with our belief that we are responsible only for that which we choose.
Hume's definition is consistent with the doctrine that ought implies can, that our moral responsibilities do not exceed our powers.
Everyone should be happy.

IV. Worries About Compatibilism

The reflective determinist will be unsatisfied with Hume's definition of 'freedom'.
Hume fails to take into account any constraints on our will.
The determinist, that is, can pursue the question of whether we are free or determined by asking whether we are free to choose what we choose, or whether we are constrained.
If our thoughts are themselves the products of physical processes, mainly brain processes along with their inputs (from perception), then the same problem of determinism recurs with regard to our will.
Our will itself seems to be determined.
Our actions may be in accord with our will, but we are prevented from willing freely.

If our wills are constrained, then there is a deep sense in which we are not free, even if we are not under external constraint.
We excuse children from legal responsibility, because we think that they are not free to choose otherwise, even when they are not constrained by an external force.
Similarly, we excuse people with various mental illnesses, when we believe that the illness prevents a free choice, again even in the absence of external constraints.
We do not make such excuses for ordinary adults, who we suppose to be free.
But, the differences between adults, on the one hand, and children and people with dementia, on the other, may not be as significant as is ordinarily assumed.
As psychology progresses, we find an increasing number of phenomena considered to be mental illnesses.

Mental disorders are standardly listed by the American Psychiatric Association in the Diagnostics and Standards Manual, or DSM, the fifth edition of which is currently being prepared.
Since the original DSM was produced in 1952, the number of disorders listed has tripled, and the size of the manual has increased seven-fold.
Some characteristics, like homosexuality, have been removed from the DSM, but the overwhelming trend is toward greater diagnoses of disorders.
There is actually quite an interesting controversy over the methods being used to develop the DSM-V.
As a result of increased diagnoses of mental disorders, more of our actions are seen as the result of mental predispositions than as the result of free choice.
Neuroscientific progress and advances in genetics have also increased the number of phenomena for which scientific theories can account in the absence of any role for free will.
Presumably, such scientific progress will include, eventually, substantial predictive power.
If psychological theories turn out not to be predictive, they will be abandoned by scientists.
Advances in fMRI technology have allowed machines to begin to read our thoughts by scanning our brains.
It would be difficult to maintain, as the compatibilist does, that we are free, if a computer could predict our behavior.
Scientific advances seem to provide a challenge to the compatibilist.
We reduce our ascriptions of moral responsibility when a subject's actions can be predicted.
The absence of free will implied by the predictability of our actions seems to excuse.
And, that is the essence of incompatibilism.

The following considerations, which we discussed earlier in the term, may help illuminate Hume's view of free will.
Harry Frankfurt presents a contemporary version of Hume's compatibilism.
Frankfurt begins by noting that we are inclined to endorse the following principle of alternate possibilities (PAP):

> PAP A person's act is free if and only if that person could have done otherwise.

On PAP, if determinism is true and incompatible with free will, no one ever could have done otherwise.
No one ever acts freely.
And, thus, no one can be morally responsible in a deterministic universe.
Frankfurt argues that one can be morally responsible even if one could not have done otherwise.
He presents the example of $Jones_4$, which seems to provide a counterexample to PAP.

> Suppose someone — Black, let us say — wants $Jones_4$ to perform a certain action. Black is prepared to go to considerable lengths to get his way, but he prefers to avoid showing his hand unnecessarily. So he waits until $Jones_4$ is about to make up his mind what to do, and does nothing unless it is clear to him (Black is an excellent judge of such things) that $Jones_4$ is going to decide to do something other than what he wants him to do. If it does become clear that $Jones_4$ is going to decide to do something else, Black takes effective steps to ensure that $Jones_4$ decides to do, and that he does do, what he wants him to do... Now suppose that Black never has to show his hand because $Jones_4$, for reasons of his own, decides to perform and does perform the very action Black wants him to perform. In that case, it seems clear, $Jones_4$ will bear precisely the same moral responsibility for what he does as he would have borne if Black had not been ready to take steps to ensure that he do it. It would be quite unreasonable to excuse $Jones_4$ for his action...on the basis of the fact that he could not have done otherwise. This fact played no role at all in leading him to act as he did... Indeed, everything happened just as it would have happened

> without Black's presence in the situation and without his readiness to intrude into it (Harry Frankfurt, "Alternate Possibilities and Moral Responsibility," 835-6).

So, $Jones_4$ could not have done otherwise, since Black was prepared to force him to act.
But $Jones_4$ still bears moral responsibility.
Note that Black, in this example, is a stand-in for the laws of physics.
He is what ensures that $Jones_4$ could not do otherwise.
While Black was not impelling $Jones_4$ to act, he was ensuring that $Jones_4$ could not have done otherwise.
Yet, $Jones_4$ was responsible for his action.
Thus, PAP is false.
Frankfurt has shown PAP to be false without impugning the more plausible claim that moral responsibility is excluded by coercion.
If we are truly coerced, we are not morally culpable for our actions.
But, there are cases, like that of $Jones_4$, in which we can not do otherwise, and yet we are morally responsible.

Hume and Frankfurt thus show that moral responsibility is compatible with determinism.
That's useful for both the determinist and the compatibilist, both of whom accept that we can not do other that what we do.
But, it does not settle the question of whether we have free will, in the sense opposed to determinism.
That is, the compatibilist recovers moral responsibility while avoiding the metaphysical question about freedom.

V. Conclusions on Hume

The empiricists of the modern era believed that they could limit the extravagant speculations of the continental rationalists by paying close attention to our epistemic capacities.
As early as Hobbes, we saw attention paid to psychological matters, especially the principles governing the connections of our ideas.
Hobbes's analogy of the water on the table was meant to illuminate the way in which our thoughts are connected.
Locke claimed that our ideas of reflection were those produced by memory, comparison, augmentation, and abstraction.
Hume claims that the connections among ideas are exhausted by the three categories of resemblance, contiguity, and cause and effect relations.
Philosophy of mind throughout the modern era is characterized by a representational theory, in which we apprehend only our ideas, which may or may not stand for objects external to us.
The representational theory may be contrasted with Aristotle's theory of direct perception, in which we are immediately acquainted with the external world.
For all of the moderns, our experience of the world is mediated by our ideas.
The representational theory leads to the Lockean veil of ideas; we are cut off from the external world.
The empiricists, who all agreed with Locke that the contents of the mind have to arise in sense experience, thought of ideas as pictures in the mind, like a movie in which the external world is duplicated.
But even Descartes held the representational theory.
The lasting importance of Descartes's work, for the theory of mind, is that he separated thought from sensation; our ideas need not be sense impressions.
That is the point of the chiliagon example in the Fifth Meditation, for instance: we know about the

chiliagon without having anything like a clear and distinct sense idea of it.
Indeed, it is helpful to think of Descartes's criterion as clear and distinct conception, rather then perception.

Both Berkeley and Hume may be read, in retrospect, as reductio arguments on the representational theory of mind, though of course they did not think of their work in that way.
Berkeley shows that this theory of mind, coupled with our sensory apparatus, gives us no reason to believe in a material world.
Hume, as we have seen, shows that the combination gives us no reason to believe that we have knowledge of the laws of nature.

Hume recommends a practical response to the skeptical problem.
We have no evidence for our beliefs in laws governing an external world, but we proceed as if the world exists as we perceive it.
The philosopher who seeks universal truths will be frustrated.
But we can just ignore the skeptical questions.

> The abstruse philosophy, being founded on a turn of mind which cannot enter into business and action, vanishes when the philosopher leaves the shade and comes into open day, nor can its principles easily retain any influence over our conduct and behavior. The feelings of our heart, the agitation of our passions, the vehemence of our affections, dissipate all its conclusions and reduce the profound philosopher to a mere plebeian (*Enquiry*, §I, AW 534a-b).

Berkeley decried skepticism as an immoral philosophy.
Hume denies that skepticism leads to immorality.
As we saw in the discussion of free will, Hume thinks that moral responsibility is consistent with his claims.
Hume sees skepticism as practically defeasible.

> The great subverter of *Pyrrhonism*, or the excessive principles of skepticism, is action, and employment, and the occupations of common life. These principles may flourish and triumph in the schools, where it is indeed difficult, if not impossible, to refute them. But as soon as they leave the shade an by the presence of the real objects which actuate our passions and sentiments are put in opposition to the more powerful principles of our nature, they vanish like smoke and leave the most determined skeptic in the same condition as other mortals (*Enquiry*, §XII.2, AW 597b).

Extreme skepticism is self-refuting.

> The Cartesian doubt...were it ever possible to be attained by any human creature (as plainly it is not) would be entirely incurable and no reasoning could ever bring us to a state of assurance and conviction upon any subject (*Enquiry*, §XII.1, AW 593a).

> A Pyrrhonian cannot expect that his philosophy will have any constant influence on the mind or, if it had, that its influence would be beneficial to society. On the contrary, he must acknowledge, if he will acknowledge anything, that all human life must perish were his principles universally and steadily to prevail. All discourse, all action would immediately cease, and men remain in a total lethargy until the necessities of nature, unsatisfied, put an end to their miserable existence (*Enquiry*, §XII.2, AW 598a).

Hume's skepticism is a philosophical position, not a practical one.
We leave through the door, rather than through the window, despite the fact that we have no justification for our actions.

Despite such claims, Hume's work has long been deemed excessively skeptical.
Some contemporary research on Hume minimizes the importance of skepticism to his greater goals.
Many philosophers see him as the intellectual ancestor of today's naturalists.
Instead of arguing for skepticism, we can see Hume as trying to develop a science of human nature, of psychology, using the success of physical science as a paradigm.
This view of Hume's work, while not obviously the best interpretation of his words, has been fruitful.

In contemporary philosophy of mind, substantial attention has been paid to the nature of ideas, and to the language of thought.
If you are interested in such questions, you should pursue courses in the philosophy of mind and in the philosophy of language (hint hint).
But, the modern era has one last gasp.
Kant thinks that he can find his way through the haze by adopting a transcendental method of arguing.

VI. Postscript on Humean Supervenience

In my discussions of personal identity and induction, I mentioned that according to Hume, as far as we know, the world might be completely disconnected, rather than unified by causal laws.
Questions about the nature of the laws, and the deep structure of the world, persist in contemporary philosophy.
There is a view, called Humean Supervenience (HS), defended in the twentieth century by David Lewis, on which the laws of nature are not real properties of the world.
The world is just the loose conjunction of events that is all we can know about the world.

> All there is to the world is a vast mosaic of local matters of particular fact, just one little thing and then another (Lewis, 1986).

HS derives, of course, from Hume's work.

> All events seem entirely loose and separate. One event follows another, but we never can observe any tie between them. They seem *conjoined*, but never *connected* (*Enquiry*, §VII.2, AW 562b).

Hume's claim is epistemological: we experience only constant conjunction of events, not connections, and so that is all we can know about the world.
Lewis's claim is metaphysical: the world itself is just a loose connection of events.
Hume does not deny that there are causes, or necessary connections, or laws.
He just argues that we have no evidence of them.
We are ignorant of the ultimate springs and principles of nature.

Lewis's claim is that laws of nature have no metaphysical status beyond the local matters of fact to which they apply.
They are nothing more than regularities among the facts.
What the local facts are is a matter of some dispute.
Mass and position seem to be local facts, as long as we choose a frame of reference.

Motion is a relation between two local facts over time.

In contrast to HS, some philosophers defend the reality, and the governing quality, of the laws of nature.
In an example from both Saul Kripke and David Armstrong, reminiscent of Newton's bucket example, we are asked to consider two possible worlds that contain only a completely homogeneous and continuous disk, or sphere.
There is no difference discernible among the parts of the sphere, even at the most fundamental level.
In one of these worlds, the sphere is spinning.
In one of these worlds, the sphere is stationary.
We can see that there are differences between the two worlds.
But there are no differences in the facts within in the world.
There are no distinct parts to discern, since the sphere is homogeneous.
So, there are no differences between any two specific points or regions in the two worlds at any point.
The local qualities are all the same in both worlds.

In order to distinguish the two spheres, we must pick out two arbitrary regions, one on each sphere, and an arbitrary reference frame for each world, and identify the two regions.
At one moment, these regions will be (by stipulation) in the same place.
At another moment, keeping the reference frame constant, the two regions will be in different places.
This procedure will allow us to differentiate the worlds.
But, notice, it requires that we be able to identify one region in one worlds over time.
It requires us to be able to differentiate parts of the sphere over time.
This sort of persistence through time is unavailable to the defender of HS.
For, there are no local qualities, temporally local qualities, that will support this difference.
Even to formulate, say, the velocity of one region, is to talk about the change in position over time.
Only a temporally persistent object can change location over time.
We need some way to identify the object that is changing over time.
And, ex hypothesi, there are no differences among any of the parts or regions in either of the worlds!

A person with a little bit of physics and calculus might suppose that one could try to differentiate between the parts of the rotating sphere and the parts of the stationary sphere using instantaneous velocity.
Or, we could use the Lorentz transformations to note that one world is contracting a bit.
That would be smart, but it would not help us to differentiate between worlds with sphere rotating in opposite directions.
Leibniz might help, here, since he would claim that two such worlds, with no discernible difference, could not possibly exist.
To use Leibniz's strategy, though, one would have to defend the principle of sufficient reason, which no one really believes any more.

Here is another example of how HS might be insufficient, from Michael Tooley.
In Tooley's world, there are 10 particles.
So, there are 55 possible interactions.
Imagine that we have studied 54 of them, and we know the laws which govern these 54.
But, suppose conditions are such that the last pair, X and Y, never interact.
Still, if X and Y did interact, there would be some result.
There is nothing in the world to determine the nature of this interaction.
Still, it does seem like there would be some result.
Intuitively, there are laws governing their interaction, but nothing non-nomic will suit the bill.
The laws of nature do not seem to merely reduce to facts about the world.

Philosophy 203: History of Modern Western Philosophy Hamilton College
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Reading Guide #7
Immanuel Kant, *Critique of Pure Reason* (AW 717-783)

These questions are provided to assist you in your reading. I encourage you first to read the material through, then go back to answer the questions. You are not expected to hand in written answers. You are expected to have responses ready for class discussion. Page numbers refer to the Ariew and Watkins collection.

Prefaces and Introduction (AW 717-729)

1. What, according to Kant, is a critique of pure reason?
2. What is logic? How are its limitations to its benefit as a science?
3. Distinguish theoretical and practical cognition. How might reason make its object actual, in addition to determining it?
4. What characterizes mathematics and physics as secure, as opposed to contingent, sciences?
5. Does our cognition conform to objects, or do objects conform to our cognition? Explain. Consider Copernicus's revolution.
6. Can we cognize beyond the limits of possible experience? Explain.
7. Why are topics like God, freedom, and immortality inaccessible to reason? How does Kant deny knowledge in order to make room for faith?
8. Distinguish analytic and synthetic judgments. Why are experiential judgments all synthetic?
9. How is 'every effect has a cause' synthetic? How is it *a priori*?
10. How are some mathematical propositions synthetic *a priori*?
11. How are a few mathematical propositions analytic? Provide examples.
12. How are metaphysical propositions synthetic *a priori*?
13. How does Kant disagree with Hume about mathematics? How does the disagreement provide hope for mathematics?
14. What is transcendent cognition?
15. Distinguish sensibility from understanding.

Transcendental Aesthetic (AW 729-737)

16. What are intuitions? How do they differ from concepts?
17. Distinguish the matter of appearances from their form. How is the form of an intuition known *a priori*? What are the properties of pure intuitions?
18. Describe the steps from an empirical intuition to a transcendental aesthetic, from thinking of a particular object to considering the pure form of sensibility.
19. What is inner sense? What does it give us?
20. Is space an abstraction from outer experiences? How does it underlie outer experiences?
21. How is space an intuition, rather than a concept?
22. What is a transcendental exposition of a concept? How does Kant provide a transcendental exposition of space?
23. Are things-in-themselves in space? Explain.
24. How is space both real and ideal?
25. How does Kant argue that our knowledge of time cannot be obtained from experience?
26. Why is time a pure form of intuition, and not a universal concept?
27. How is a pure intuition of time a necessary condition of the possibility of cognition?

28. How is time a subjective condition of our intuition? How is it objective in regard to appearances? (I.e. how is time empirically real but transcendentally ideal?)
29. What objections arise against taking space and time to be either real in themselves or inherent in external objects?

Transcendental Analytic: Analytic of Concepts (AW 737-756)

30. "Thoughts without content are empty; intuitions without concepts are blind" (A51/B76, AW 737b). Explain.
31. What is the goal of the transcendental analytic? Why must its table of concepts be complete?
32. How do concepts rest on function?
33. How is synthesis of a manifold what first gives rise to cognition? What is pure synthesis?
34. Describe the twelve categories, the pure concepts of the understanding. Indicate the four classes of categories.
35. What is the transcendental deduction of the pure concepts of the understanding? How is it different from an empirical deduction?
36. How does Kant praise and criticize Locke regarding a deduction of pure concepts of the understanding?
37. How can appearances be given in intuition without functions of the understanding? What difficulty does this situation cause, for Kant?
38. How does Kant seek a middle path between the works of Locke and Hume?
39. "[The categories] are concepts of an object in general whereby the object's intuition is regarded as *determined* in terms of one of the *logical functions* in judging" (B128, AW 745b). Explain.
40. What is a combination of the manifold of representations? How is it missing from a merely sensible intuition?
41. How does the concept of combination carry with it the concept of the unity of a manifold?
42. Describe the principle of the synthetic unity of apperception. How is it the supreme principle of human understanding?
43. How is the transcendental unity of apperception objective? How is the empirical unity subjective?
44. Distinguish 'if I support this body, then I feel a pressure of heaviness' from 'this body is heavy'. Which is objectively valid?
45. How does Kant argue that the manifold in an intuition is necessarily subject to the categories? For what kind of being would the categories not apply?
46. How does Kant show that the categories apply only to objects of possible experience? What does this entail for mathematical objects?
47. In what way does the imagination work *a priori*? In what sense is it empirical?
48. Why do we only have cognition of ourselves as appearances?
49. How could the applicability of the categories make nature possible?
50. How are space and time as objects different from space and time as forms of intuition? How does this difference support the claim that the categories hold *a priori* for all objects of experience?
51. What is the difference between an empirical intuition and a perception? Be specific.
52. How, generally, does Kant reach the category of magnitude by abstracting from space? How does he reach the category of relation of effects and causes by abstracting from time?
53. "How can the categories determine *a priori* the combination of nature's manifold without gleaning that combination from nature?" (B163, AW 754b). Explain.
54. Are particular laws of nature derivable from the categories alone? Explain.
55. Does the deduction of the categories show merely that we are built so that we cannot think of representations without them?

Refutation of Idealism (AW 781-783)

56. Distinguish dogmatic idealism from problematic idealism. How does Kant reject dogmatic idealism?
57. How does Kant reject problematic idealism?
58. Why is the determination of my existence in time only possible through the existence of actual things?
59. Why is inner experience only meditate, not immediate as Descartes had alleged?
60. Does Kant's refutation of idealism prove the veridicality of all outer experience? Explain.

Antinomies (AW 792-804)

61. Contrast the thesis and antithesis of the first antinomy, concerning whether the universe is infinite.
62. How does Kant argue that the universe has a beginning in time? How does he argue that it does not have a beginning in time?
63. How does Kant argue that the universe is spatially bound? How does he argue that it is spatially infinite?
64. What are simples? Contrast the thesis and antithesis of the second antinomy, concerning whether there are simples.
65. How does Kant argue that there are simples? How does he argue that there are no simples?
66. How are mathematical proofs insights into the character of space?
67. How do monadists invert the relation between space and objects in space?
68. Contrast the thesis and antithesis of the third antinomy, concerning freedom.
69. How does Kant argue that we have free will (transcendental freedom)? How does he argue that our actions are all determined?
70. How would transcendental freedom make nature vanish?
71. What is the cosmological (dialectical) syllogism? How does it apply to the antinomies?
72. What false assumption underlies the first antinomy, concerning whether the universe is infinite? How does removing this assumption resolve the antinomy?
73. How does consideration of the antinomies support the transcendental ideality of appearances?

On the Ontological Argument (AW 819-823)

74. How does the difference between judgments and things help reveal a flaw in the ontological argument?
75. Is 'God exists' analytic or synthetic? Explain.
76. What is Kant's distinction between a logical predicate and a real predicate? Why is 'is omnipotent' a real predicate, while 'exists' is merely a logical predicate?
77. "A hundred real thalers do not contain the least coin more than a hundred possible thalers" (A599/B627, AW 822a). Explain. Why not?
78. How does Kant's distinction between logical and real predicates demonstrate a flaw in the ontological argument?

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Class 24: April 21
Kant's *Critique of Pure Reason*, Prefaces and Introduction (AW 717-729)

I. Approaching Kant's First Critique

There is something fundamentally anti-philosophical about the way in which we are proceeding in this course.
Good studies in philosophy, especially in the history of philosophy, usually consist of close readings of texts.
In this class, we have been trying mainly to focus on a few central topics, and look briefly at how various philosophers of the modern era think about them.
I do not mean to imply that we have not been doing philosophy.
We have looked at the texts, and analyzed the most important passages.
But our approach has been mainly from the center out.
We have been starting with the key claims, the philosophers' main conclusions, and then working backwards to evaluate the arguments in as much detail as we can see in the short time we have.

Our approach contrasts with what one might call a deductive, or synthetic, approach.
On the synthetic approach, we would start at the beginning of a work, and trace the argument carefully through a text.
We sort of took that approach to Descartes's *Meditations*, but we quickly abandoned it with the difficult arguments in Spinoza's *Ethics*, with the repeated assaults on the same material in Leibniz, and with the dense repetitiveness of Locke's *Essay*.
For Kant, after taking a bit of an overview to start, we will slow down and work carefully through as many of the difficult passages, especially in the Transcendental Deduction, as we can.

Kant's master work in metaphysics and epistemology is called the *Critique of Pure Reason*.
(A critique is not merely a criticism, though people often misuse the term.
A critique is an extended review or commentary.
See the usage note in the American Heritage Dictionary which calls many of the common uses of 'critique' pretentious jargon.)

Kant wrote three critiques late in his life.
The First Critique is devoted to the questions, "Is metaphysics possible?" and, "If so, how?"
We can see Kant's First Critique as attempting to define the limits of human knowledge.
The rationalists over-reached, claiming knowledge where none could really be had.
But the empiricists fell short, ending as skeptics or idealists.
Kant's work attempts to bridge the two approaches.
The Second Critique (*Critique of Practical Reason*) concerns moral philosophy.
The Third Critique (*Critique of Judgment*) concerns aesthetics.

The First Critique may be seen as the dying gasp of the representationalist theory of ideas that characterizes the modern period.
It certainly marks the end of the modern era.
Western philosophy for about a century after Kant mainly focused on the consequences of his so-called transcendental idealism.
Then, philosophy sort of branches into two schools.
The first school follows Nietzsche and Kierkegaard into twentieth-century philosophy and literary theory.

The second school follows Mill and Frege into the linguistic revolution and twentieth-century analytic philosophy.

Kant wrote the first edition of the First Critique, now called the A version, in 1781.
He published a second edition, now called the B version, in 1787.
Most people now read the two editions together.
Some of the B version extends and clarifies Kant's original arguments.
We will not spend time on the distinction between the two versions.
Both are presented in the Ariew and Watkins, and you can see the marginal page numbers for each.

II. Reason

Everyone we have read accepts that we have an ability to reason.
The rationalists and empiricists disagreed about the matter for reason.
The rationalists thought that the content of our judgments is provided by innate ideas and sense experiences.
They differed about the veridicality of sense experience, but not about whether we are presented with sense experience.
The empiricists thought that the content of our minds is only provided by the senses, and looked to reduce reasoning to some kinds of psychological associations among images.
Kant rejects rationalism for being dogmatic, and going beyond its true abilities.
He rejects empiricism for its skeptical conclusion.

If we take logic, as Kant does, to be the rules of reasoning in thought, then Kant's project may be seen as a logical project.
He looks in part at how reason can determine, or structure, an object.
He also examines how reason can make objects actual, through the application of pure thought.
Kant thus claims that some cognition is pure, consisting of reason acting on itself.
But, that's different from thinking that there are ideas carrying significant particular content innate in us.

III. Kant's Copernican Revolution

Aristoteleans believed that the sun, stars, and other celestial bodies circled the earth.
But, astronomical discoveries made the cycles of those bodies highly complicated.
Copernicus and others found that astronomical mathematics became tractable if we posit a moving Earth.

> Having found it difficult to make progress there when he assumed that the entire host of stars revolved around the spectator, he tried to find out whether he might not be more successful if he had the spectator revolve and the stars remain at rest (Bxvi, AW 720a).

Kant argues that Berkeley and Hume found it impossible to justify knowledge of a material world because they assumed that our cognition has to conform to objects.
They started with an assumption of a structured world independent of us and tried to account for knowledge of that world.
Berkeley became stuck in his ideas.
Hume ended up skeptical.
They could not find a way into a transcendent world.

But, Kant argues, if the objects have to conform to our cognition, then we might have *a priori* knowledge of those objects.

One way in which objects conform to our cognition is in imagination, when we fantasize.
If all of the world were merely one person's fancy, then the objects of that world would necessarily conform to that person's cognition.
Such a view of the world would be an unacceptable, subjective idealism.

In contrast, Kant defends a transcendental idealism.
In Kant's idealism, the world conforms to our cognition because we can only cognize in certain ways.
The world of things-in-themselves, or what Kant calls the noumenal world, remains, as it did for Hume, inaccessible, completely out of range of our cognition.
The noumenal world is beyond the limits of possible experience.
But any possible experience has to conform to our cognitive capacities.
The phenomenal world, the world of possible experience, is necessarily structured according to those capacities.

Our cognitive capacities come under two general headings: intuition and understanding.
Intuition (or sensibility) is our mental faculty for having something presented to us.
Understanding, which is structured according to certain basic concepts, is our mental faculty for determining, or thinking, about objects.
All objects have to be presented in intuition and determined by concepts in the understanding in order for us to think about them.
Thus, all of experience necessarily conforms to our cognition.
Logic, as the laws of thought, will help us understand our faculty of cognizing, and will thus help us understand the phenomenal world.

The distinction between the realm of objects of possible experience and that of transcendent objects helps Kant deny the legitimacy of much of the work of the continental rationalists.
For example, God is, according to Kant, outside the range of possible experience, and thus can not be an object of knowledge.

> In order to reach God, freedom, and immortality, speculative reason must use principles that in fact extend merely to objects of possible experience; and when these principles are nonetheless applied to something that cannot be an object of experience, they actually do always transform it into an appearance, and thus they declare *all practical extension* of reason to be impossible. I therefore had to deny *knowledge* in order to make room for *faith* (Bxxx, AW724a-b).

Similarly, *a priori* knowledge of a mind-independent world is impossible.

IV. The Analytic and the Synthetic

Kant asks whether metaphysics is possible.
His claim is that it is, and that it consists of synthetic *a priori* judgments.
To understand this claim, we have to contrast two distinctions, between analytic and synthetic claims and between *a priori* and empirical, or *a posteriori* claims.

For Kant, analyticity and syntheticity are characterizations of judgments, which are mental acts.

Judgments, for Kant, following Aristotle, are all of subject-predicate form.
The analytic/synthetic distinction is today generally taken to be a linguistic distinction, a difference between kinds of propositions or statements.
A proposition, roughly, is the meaning of a sentence.
Propositions may be coarsely divided into subject and predicate, just like judgments.

Whether we take analyticity and syntheticity to be properties of judgments (as Kant does) or propositions (as most contemporary philosophers do), they almost always are taken to be dependent on concepts.
Analyticity involves conceptual containment.
A judgment is analytic if the concept of the predicate is contained in the concept of the subject.
So, 'bachelors are unmarried' is analytic because the concept of a bachelor contains the concept of being unmarried.
'Bachelors are unhappy' is synthetic because the concept of a bachelor does not contain the concept of being unhappy.
It may be the case that all bachelors are unhappy, but that depends on the way the world is, and not on the way that language or concepts are.

Concepts may be taken either as mental objects (thoughts) or as abstract objects.
If we take concepts to be thoughts, then different people can not share concepts.
My thoughts are not your thoughts, even though we can think about the same thing.
I believe that it is thus preferable to take concepts as abstract objects, and to take our thoughts to be about concepts.
When I think of a concept, like the concept of a bachelor, I perform a mental act which we can call grasping the concept.
These concepts are structured, so that they can contain, or not contain, other concepts.

I won't much pursue the question of how concepts contain other concepts, or what the relation of containment is.
But, we should notice that there are at least two different notions of conceptual containment that philosophers have used.
Kant uses what Frege (in the late nineteenth century) called beams-in-the-house analyticity.
When we look at a house, if we want to see if it contains a certain structure, we merely peel back the walls, and literally see the beams.
In contrast, Frege defends a plant-in-the-seeds analyticity.
According to Frege, a statement can be analytic as long as it follows from basic axioms according to analyticity-preserving rules of inference.
One of the advantages of Frege's views over Kant's is that he can handle statements that are not in subject-predicate form.

John walks with those with whom he strolls.

Such sentences seem analytic, true in virtue of the conceptual containments of their parts.
Yet, they are not of simple subject-predicate form.
Again, I won't pursue this worry about Kant's account of analyticity; I just wanted to point it out.

V. Linguistics, Epistemology, and Metaphysics

Analyticity and syntheticity concern relations among concepts, whatever we take them to be.

The linguistic or conceptual (or even psychological) distinction between analytic and synthetic judgments is independent of the epistemological distinction between *a priori* justifications and empirical (or *a posteriori*; these are synonymous terms, as I am using them) ones.
A statement is justified empirically if we appeal in our account of how we know it to particular sense experiences.
Our belief that snow is white is empirical, since we have to see snow to justify knowledge of its whiteness.
In contrast, our belief that 3+2=5 may be justified *a priori*, as prior to, or independent, of sense experience.
We need to see snow in order to know that snow is white.
We need experiences with no particular objects in order to know that 2+3=5.

Further, no empirical experiences will undermine *a priori* claims.
When we add 2 cups of water to 3 cups of salt, and fail to come up with 5 cups of anything, we don't abandon the claim that 2 + 3 = 5.
Similarly, two chickens added to three foxes doesn't produce five animals; it just yields three fat foxes and a pile of feathers.
The arithmetic claim remains true independent of its failure to apply in some cases.

So the analytic/synthetic distinction is linguistic/conceptual; and the *a priori*/empirical distinction is epistemological.
A third distinction, between necessary and contingent claims, is metaphysical.
Some claims hold necessarily, like mathematical claims.
Other claims are merely contingent, like the claim that snow is white.
Many philosophers typically, and traditionally, considered claims to be necessary only if they are believed *a priori*.
Discussing the apriority of physical laws, Kant makes that claim explicitly.

> [Such] propositions are clearly not only necessary, and hence of *a priori* origin, but also synthetic (B18, AW 726b-727a).

As Hume argued, one can not arrive at a necessary truth from contingent experiences.
Further, one might think that all *a priori* claims must be analytic, since one reasons to the truth of an analytic claim without appeal to experience.
Similarly, one might align contingency with empirical justification and syntheticity.
A claim is contingent when it is justified by appeal to sense experience and it brings together concepts that are not necessarily related.

In particular, Hume seems to make these two claims.
Relations of ideas are necessary, justified *a priori*, and analytic.
Matters of fact are contingent, justified empirically (by tracing ideas back to initial impressions) and synthetic.
We'll put aside the necessary/contingent distinction, since Hume and Kant agree on it.
Then, we can depict Hume's claim in the following chart.
The upper-right and lower-left cells are empty.

Hume's Rubric	*A priori*	Empirical
Analytic	Relations of Ideas	--
Synthetic	--	Matters of Fact

Kant's big claim, his answer to the question of whether metaphysics is possible, is that the lower-left cell is non-empty.

Kant's Rubric	*A priori*	Empirical
Analytic	Logic / Beams in the house	--
Synthetic	Most Mathematics, Metaphysics, and Some Physics	Empirical Judgments

Kant argues that metaphysics is possible, and it consists of synthetic *a priori* judgments.
He agrees with Hume that matters of fact are all synthetic.

> Experiential judgments, as such, are one and all synthetic (A7/B11, AW 725a).

But, he disagrees that the converse holds.
There are synthetic claims that are not experiential, or empirical.

VI. The Synthetic *A Priori*

Kant's least contentious examples of synthetic claims that are not empirical are mathematical.
In particular, he claims that '7 + 5 = 12' is not analytic.

> Mathematical propositions, properly so called, are always *a priori* judgments rather than empirical ones; for they carry with them necessity, which we could never glean from experience...It is true that one might at first think that the proposition 7 + 5 = 12 is a merely analytic one that follows, by the principle of contradiction, from the concept of a sum of 7 and 5. Yet if we look more closely, we find that the concept of the sum of 7 and 5 contains nothing more than the union of the two numbers into one; but in [thinking] that union we are not thinking in any way at all what that single number is that unites the two. In thinking merely that union of 7 and 5, I have by no means already thought the concept of 12; and no matter how long I dissect my concept of such a possible sum, still I shall never find in it that 12. We must go beyond these concepts and avail ourselves of the intuition corresponding to one of the two... (B14-5, AW 726a).

Extending the claim that there are synthetic *a priori* judgments to metaphysics, Kant claims that 'every effect has a cause' is also synthetic *a priori*.
The universality of the statement entails that it is not an empirical judgment.
But, Kant claims that it is not an analytic judgment.

> In the concept of something that happens I do indeed thing an existence preceded by a time, etc., and from this one can obtain analytic judgments. But the concept of a cause lies quite outside that earlier concept and indicates something different from what happens... (A9/B13, AW 725b).

In addition to mathematics and metaphysics, Kant claims that physics also proceeds according to synthetic *a priori* principles.
The claim that some scientific propositions are synthetic *a priori* shows that Kant's conception of physics is closer to that of Galileo and Descartes than it is to that of contemporary physicists.
The science of the scientific revolution was more speculative, whereas much of contemporary science is more experimental.
While some contemporary physics is highly speculative, it is generally held that a mark of a good theory is whether it is testable, or refutable, or otherwise confirmed or contravened by experimental results.
String theory, which is a purported unifying theory for physics, has been controversial because its proponents have not been able to formulate tests for it.
Kant agrees that some portions of physics must be empirically testable.
But he also believes that certain physical principles are synthetic *a priori*.

> *Natural science contains synthetic* a priori *judgments as principles*. Let me cite as examples just a few propositions: e.g., the propositions that in all changes in the corporeal world the quantity of matter remains unchanged; or the proposition that in all communication of motion, action and reaction must always be equal to each other (B17-18, AW 726b).

Kant's last example is Newton's third law of motion.
His claim is that such laws hold necessarily, and so can not be learned from experience.

Hume agreed that universal physical laws could not be learned from experience.
From that claim, and the empiricist's belief that all knowledge comes from experience, Hume was led to skepticism.
Kant, working in the other direction, starts his reasoning by accepting that there are mathematical, metaphysical, and even physical laws that hold necessarily, that are known *a priori*.
Working backwards, he argues that our cognitive abilities must be such that they allow us to know those principles *a priori*.

> For experience would provide neither strict universality nor apodeictic certainty... (A31/B47, AW 733b).

Kant does not argue that innate ideas are built into our minds in the way that Descartes and Leibniz alleged.
Instead, he argues that there are certain cognitive structures that impose an order to our possible experience.
The mind has templates for judgments, which are imposed and can be known *a priori*.
But, against those who defend innate ideas, it does not contain judgments themselves.
If we look at our cognitive structures, turning our reason on itself, we can find the necessary structure of our reasoning, and grounds for synthetic *a priori* claims.
That process, which Kant calls transcendental reasoning, is the essence of Kant's Copernican revolution.
Kant's transcendental arguments lead to a description of our subjective conceptual framework, which nevertheless holds necessarily for all possible experience.

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Class 25: April 26
Kant's *Critique of Pure Reason*, Transcendental Aesthetic (AW 729-737)

I. Toward the Transcendental Aesthetic

Previously, I outlined the goals of Kant's *Critique of Pure Reason*.
To make room for metaphysics, he argues that, like much of mathematics and physics, it consists of synthetic *a priori* judgments.
Since these judgments are synthetic, and not analytic, they do not follow simply from conceptual analysis.
Since these judgments are *a priori*, they can not be learned from experience.
Hume's claim that we can not learn them from experience led him to skepticism.
Kant starts with the claim that we know them, and works backwards, or transcendentally, to the conditions that must obtain in order for us to have such knowledge.
Such conditions will be the necessary structures of our logic, or reasoning.

As I mentioned, we will not have time to examine all of the First Critique.
We will look at the first two parts: the transcendental aesthetic and the transcendental analytic.
These two parts correspond to two distinct functions of our psychology.
In the transcendental aesthetic, Kant discusses how objects, and the world, are given to us.
In the transcendental analytic, Kant discusses how our minds understand, or determine, that which is given.
We are presented with a world having certain properties.
Kant calls this aspect of human cognition our sensibility.
Then, we cognize that world according to certain concepts.
Kant calls this aspect of human cognition the understanding.
By examining the properties that form the foundations of all our experiences, we will find the necessary properties of our experience.
By examining the concepts that determine all our understanding, we will find the necessary properties of our thought.

II. Intuition

Let's start with a few definitions.

> The effect of an object on our capacity for representation, insofar as we are affected by the object, is *sensation*. Intuition that refers to the object through sensation is called *empirical* intuition. The undetermined object of an empirical intuition is called *appearance* (A19-20/B34, AW 729b).

Not all intuitions must be empirical.
But, in empirical intuitions we can divide the matter from the form.
The matter is what corresponds to sensation.
If I am holding a pen and looking at it, I am given some appearance in intuition.
Additionally, this appearance has certain abstract properties, a form.
The particulars of the form of this appearance are unique to my experience of the pen.
But the general properties of the form of appearances are properties of all such experiences.
All experiences take place in space and in time.
My experience of the pen is necessarily given in intuition in both space and time.

Some intuitions contain no empirical matter.
These are pure intuitions.
We can consider pure intuitions by performing what might be thought of as Lockean abstraction.
It is the kind of abstraction that Berkeley did not disallow, the consideration of some properties of an idea, rather than others.
We can consider pure intuitions by thinking about intuitions without any matter.

> If from the representation of a body I separate what the understanding thinks in it, such as substance, force, divisibility, etc., and if I similarly separate from it what belongs to sensation in it, such as impenetrability, hardness, color, etc., I am still left with something from this empirical intuition, namely, extension and shape. These belong to pure intuition, which, even if there is no actual object of the senses or of sensation, has its place in the mind *a priori*, as a mere form of sensibility (A20-1/B15, AW 730a).

Note Kant's method here
While we arrive at our consideration of pure forms of intuition by a method something like abstraction, Kant does not claim that our knowledge of space (and time) is derived from abstraction.
We are discovering that knowledge of space and time is necessarily presupposed in any empirical intuition.
The psychological process of considering abstraction is different from the transcendental argument.

III. The Intuition Installment of the Copernican Revolution

Kant claims that there are two underlying forms of all intuitions: space and time.
We represent objects as outside of us using our outer sense.
All objects outside of us are represented as extended in space; space is the form of outer sense.
We represent objects according to our inner sense as in time.
Kant argues that both space and time are, and must be, presupposed in our experiences.

> The representation of space must already be presupposed in order for certain sensations to be referred to something outside me (i.e. referred to something in a location of space other than the location in which I am)...We can never have a representation of there being no space, even though we are quite able to think of there being no objects encountered in it. Hence space must be regarded as the condition for the possibility of appearances... (A23-4/B38-9, AW 730b-731a).

Similarly, time must be presupposed for all experiences.

> Simultaneity or succession would not even enter our perception if the representation of time did not underlie them *a priori* (A30/B46, AW 733a).

Note how Kant's argument for the presupposition of space and time recalls Plato's argument for the doctrine of recollection, or *anamnesis*.
In *Phaedo* 74 et seq., Plato argues that our knowledge of equality can not come from looking at equal things.
All things are unequal in some way.
Even if we were to find some perfectly equal things, like atoms, our concept of equality could not come from our experiences with them.

Thus, we must presuppose an idea of the equal in our claims that two objects are equal, and can not learn that concept from unequal objects.
Similarly, Kant is arguing that our experiences with objects presuppose that they are given in space and time.

The argument for space and time being *a priori* forms of intuition is thus Kant's Copernican revolution applied to intuition.
The idea of a possible experience occurring outside of space or time is nonsense.
Instead of despairing of learning of space and time from experiences which presuppose it, Kant inverts his account to make space and time subjective forms of intuition.
They are ways in which we structure the world of things in themselves, not ways in which the world exists in itself.
They are properties of appearances, which are the objects of our empirical intuition.

IV. Transcendental Idealism and Empirical Realism

Taking space and time to be forms of intuition, Kant extends Hume's claims about causation.
Hume reinterpreted 'cause' as referring to a mental phenomenon.
Kant takes space and time to be forms of our intuition, rather than things in themselves.
Consequently, Kant is able to take objects in space and time to be empirically real.

> Our exposition teaches that space is *real* (i.e. objectively valid) in regard to everything that we can encounter externally as object, but teaches at the same time that space is *ideal* in regard to things when reason considers them in themselves, i.e., without taking into account the character of our sensibility. Hence we assert that space is *empirically real* (as regards all possible outer experience), despite asserting that space is *transcendentally ideal*, i.e., that it is nothing as soon as we omit [that space is] the condition of the possibility of all experience and suppose space to be something underlying things in themselves (A28/B44, AW 732b).

The twin doctrines of empirical realism and transcendental idealism are at the center of Kant's philosophy.
We can say nothing of the noumenal world of things in themselves, not even that they are in space and time.
Berkeley's empirical (or material) idealism made the mistake of denying an outer, material world on the basis of the transcendence of the noumenal world.
The rationalists, as transcendental realists, made the mistake of asserting knowledge of things in themselves.
Kant's claim is that we can have significant knowledge of an external world (of appearances) without claiming any knowledge of the noumenal world.
Space and time are properties of our representations of the world, and not the world as it is in itself.

Kant's transcendental exposition of space and time explains how we can have certainty of both geometry and pure mechanics.
Geometry is the study of the form of outer sense, of pure, *a priori* intuitions of space.
Pure mechanics is the study of the form of inner sense, time.

> Only in time can both of two contradictorily opposed determinations be met with in one thing: namely, *successively*. Hence our concept of time explains the possibility of all that synthetic *a*

> *priori* cognition which is set forth by the - quite fertile - general theory of motion (A32/B48-9, AW 734a).

Arithmetic, too, depends essentially on construing addition as successions in time.
But, constructing numbers in intuition requires the synthetic unity of apperception behind the categories of the understanding.
I'm not sure that that sentence makes any sense, but we will get to Kant's view on numbers, later.

V. From Intuition to Understanding

We saw that Kant separates two faculties of cognition: sensibility (the faculty of intuition) and understanding.
There are two pure forms of intuition, space and time, which are not things in themselves, nor properties of things in themselves, but presuppositions we must impose on all our possible experience.
The faculty of intuition is what gives us appearances.
But, appearances are just the raw data, the content, of experience.
Our intuitions are passive.
The raw data of intuition is processed in the understanding by the imposition of concepts.

> All our intuitions, as sensible, rest on our being affected; concepts, on the other hand, rest on functions. By *function* I mean the unity of the act of arranging various representations under one common representation (A68/B93, AW 738b).

This act of arranging what is given in intuition is what Kant calls synthesis of the manifold.
This synthesis is then cognized by the structured application of concepts in the understanding.
If the synthesis is empirical, then we have an ordinary empirical cognition, like the judgment that it is raining.
If the synthesis is pure, then we can arrive at pure concepts of the understanding, which are nevertheless the conditions of possible experience.
Intuition and understanding thus work together to produce experience.

> Thoughts without content are empty; intuitions without concepts are blind (A51/B76, AW 737b).

The transcendental aesthetic consists of Kant's explications of the pure intuitions of space and time.
The transcendental analytic is the much-longer explication of the categories of the understanding, how we impose our conceptual apparatus on what is given in intuition.

What is given in intuition is not necessarily structured by the understanding.
We are given appearances without any conceptual structure.
We are just given appearances in space and time.

> Appearances might possibly be of such a character that the understanding would not find them to conform at all to the conditions of its unity. Everything might then be so confused that, e.g., the sequence of appearances would offer us nothing providing us with a rule of synthesis and thus corresponding to the concept of cause and effect, so that this concept would then be quite empty, null, and without signification. But appearances would nonetheless offer objects to our intuition; for intuition in no way requires the functions of thought (A90-1/B 123, AW 744a).

In order to think about appearances, we have to cognize them.
We cognize using whatever conceptual apparatus we have.
That conceptual apparatus is subjective, in that it belongs to us individually.
But it is also objective, if not noumenal, because the world of objects is precisely the world of appearances, what is given in intuition.

Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2010 Russell Marcus

Class 26: April 28
Kant's *Critique of Pure Reason*, Transcendental Deduction (AW 737-756)

I. The Categories

The Transcendental Analytic contains Kant's transcendental derivation of the concepts we impose on appearances given in intuition.
Again, the transcendental method is to start with our cognitions and work backwards towards the conditions that much exist in order for us to have the cognition.
Kant presents what he takes to be a complete table of concepts, dividing them into four classes.
In presenting such a table, he recalls Aristotle's work on the categories.
Aristotle delimited ten categories of being

A1. substance (e.g. man, horse)
A2. quantity (e.g. four-foot)
A3. quality (e.g. white, grammatical)
A4. relation (e.g. double, larger)
A5. where (e.g. in the market)
A6. when (e.g. yesterday)
A7. being-in-a-position (e.g. is-standing)
A8. having in addition (e.g. has-hat-on)
A9. doing (e.g. cutting)
A10. being affected (e.g. suffering, passion)

For Aristotle, all language, indeed all thought, belongs to one of these categories.
When we say, or think, something, we combine instances from two or more of the categories.
If Aristotle's list were complete, we could adopt it as a fundamental theory about our thought.
If, further, this list were not merely accidentally complete, but necessarily complete, we might see it as indicating *a priori* conditions of human cognition.
Kant does not adopt Aristotle's categories uncritically, in large part because he wants to make sure that the list is complete.
For Kant, the categories will function as laws of thought, as logical.

> [The categories] are concepts of an object in general whereby the object's intuition is regarded as *determined* in terms of one of the *logical functions* in judging (B128, AW 745b).

Kant's logic is thus a psychological program.

Kant provides four conditions for the transcendental analytic.

(1) The concepts must be pure rather than empirical.
(2) They must belong not to intuition and sensibility, but to thought and the understanding.
(3) They must be elementary concepts, and must be distinguished carefully from concepts that are either derivative or composed of such elementary concepts.
(4) Our table of these concepts must be complete, and the concepts must occupy fully the whole realm of the pure understanding (A64/B89, AW 737b).

On this basis, Kant develops twelve categories in four classes:

Quantity	Relation
Unity	Inherence and Subsistence (substance)
Plurality	Causality
Totality	Community (Interaction)
Quality	Modality
Reality	Possibility and Impossibility
Negation	Existence and Non-Existence
Limitation	Necessity and Contingency

The development of these categories, in what is called the metaphysical deduction of the categories, proceeds transcendentally rather than empirically.
Hobbes, Locke, and Hume produced rudimentary results about the structure of our psychology empirically.
Hobbes discussed the train of our thoughts, dividing them into regulated and unguided mental discourse; see Chapter 3 of *Leviathan*.
Locke discussed ideas of reflection, and isolated our ability to abstract as an important psychological capacity for philosophical purposes.
For Hume, connections among ideas were either resemblance, contiguity, or cause and effect relations.
But, Hume did not insist that these categories were comprehensive.
All of these philosophers proceeded empirically, looking at our psychological processes and generalizing.

Kant insists that such empirical deductions could never yield the necessity that underlies synthetic *a priori* reasoning.

> Experience contains two quite heterogeneous elements: namely, a *matter* for cognition, taken from the senses; and a certain *form* for ordering this matter, taken from the inner source of pure intuition and thought. It is on the occasion of the impressions of the senses that pure intuition and thought are first brought into operation and produce concepts. Such exploration of our cognitive faculty's first endeavors to ascend from singular perceptions to universal concepts is doubtless highly beneficial, and we are indebted to the illustrious *Locke* for first opening up the path to it. Yet such exploration can never yield a *deduction* of the pure *a priori* concepts, which does not lie on that path at all. For in view of these concepts' later use, which is to be wholly independent of experience, they must be able to display a birth certificate quite different from that of descent from experiences (A86-7/B118-9, AW 742b-743a).

Consider causation.
In particular, consider the difference between an instance of causal connection, say a massive object falling to the surface of the Earth, and accidental conjunction, like my checking my mail and then having lunch at the diner.
The causal relation has an element that necessitates the effect.
The accidental relation has no such aspect.
I could check my mail without going to the diner.
If the world were Humean (i.e. a world of conjunction rather than connection), then all relations among events would be like that between the mail and diner.
But, in fact, Kant says, the world is full of causal connections.

> This concept [causation] definitely requires that something, A, be of such a kind that something else, B, follows from it *necessarily* and according to an *absolutely universal rule*. Although appearances do provide us with cases from which we can obtain a rule whereby something

> usually happens, they can never provide us with a rule whereby the result is *necessary* (A91/B124, AW 744a).

Kant is a little too generous here.
If we had no *a priori* knowledge of causes, I'm skeptical that we could even infer rules about things usually happening.
The entire world would seem loose, unconnected, haphazard.

Locke thought that he could abstract the requisite concepts from experience.
Hume and Berkeley showed that such abstraction was not justified on the basis of experience.
Hume agrees with Kant that an empirical deduction of our psychological capacities could never yield the necessity that we need for metaphysics and science.
Thus Hume yields to skepticism.
Kant's Copernican revolution consists of the rejection of skepticism, the embrace of synthetic *a priori* knowledge, and, consequently, the transcendental deduction of the categories.

II. The Transcendental Deduction: An Overview

We have seen that intuition presents us with bare appearances.
Kant calls the raw data of experience the manifold of representation.
These bare appearances have to be structured in order to be thought.
We impose concepts on the manifold.

To this point, we have been setting up the deduction of the pure concepts of the understanding, describing the role of the concepts, without proving either their subjective or objective validity.
Now, we have reached the deduction.
We can describe the goal of the deduction as to show that the categories necessarily apply to the manifold given in intuition.
Another way to put the goal is to show how the sensible and intellectual functions of our cognitive capacities align.

The deduction is divided into two stages.
In the first stage, §15-§21, Kant argues that the categories apply to any being with sensible intuition.
In the second stage, §24-§26, Kant argues that they apply to any being with human sensible intuition, i.e. with our sensory apparatus.

While Kant argues that the categories apply to any being with an intuition that is separate from its thought, he does not argue that any being would have to be subject to the categories.
The categories are used to unify, through synthesis, the manifold given in intuition.
They apply only to creatures whose relation with the world essentially involves representation.

> For if I were to think of an understanding that itself intuited (as, e.g., a divine understanding that did not represent given objects but through whose representation the objects would at the same time be given or produced), then in regard to such cognition the categories would have no signification whatever. The categories are only rules for an understanding whose entire faculty consists in thought, i.e. in the act of bringing to the unity of apperception the synthesis of the manifold that has been given to it from elsewhere in intuition (B145, AW 750a-b).

Kant rewrote the deduction significantly in the B version of the *Critique*.
Ariew and Watkins present only the B version, which we will follow.

Kant presents a summary of the first stage of the deduction in §20, AW 749b-750a.
James van Cleve, who compares the deduction to a tropical jungle, clears away the growth and reduces it to the following argument:

1. *The Unity Premise*: All representations of which I am conscious have the unity of apperception.
2. *The Synthesis Premise*: Representations can have such unity only if they have been synthesized.
3. *The Category Premise*: Synthesis requires the application of Kant's categories.

Conclusion: The categories apply to all representations of which I am conscious.

I'll (roughly) follow van Cleve.

III. The Transcendental Deduction: Stage One

Kant calls the imposition of concepts on the manifold of representation by the understanding combination.

> Combination is representation of the *synthetic* unity of the manifold (B131, AW 746b).

The raw appearances come to us as an unordered, unstructured, mess.
The imposition of concepts on that manifold turn that mess into an orderly thought.
Such a thought has a thinker, as an implicit component.
The implicit thinking is what Kant calls apperception.
Apperception has to unify the messy manifold into an orderly cognition.
As it does so, it presupposes a particular thinker, or apperceiver.

> For the manifold representations given in a certain intuition would not one and all be *my* representations, if they did not one and all belong to one self-consciousness (B132, AW 746b).

We proceed from a diverse manifold given in intuition to a single thought of a single, conscious person.
When we do so, we combine (either by synthesis or otherwise) the manifold.
This combination is an active function of our cognition, in contrast to the passivity of intuition.
We act on the manifold in intuition, unifying it, subjecting it to the conditions of the synthetic unity of apperception.

> The understanding is nothing more than the faculty of combining *a priori* and of bringing the manifold of a given intuition under the unity of apperception - the principle of this unity being the supreme principle in all of human cognition (B135, AW 747a-b).

Since our action is subjective, the application of the conditions of unity are subjective.
When we determine an intuition, we make it ours.
Further, an empirical unity is subjective, in that everyone's individual experiences are independent.

> The empirical unity of apperception...is only derived from the original unity under given

> conditions *in concreto*, has only subjective validity. One person will link the representation of a certain word with one thing, another with some other thing; and the unity of consciousness in what is empirical is not, as regards what is given, necessary and universally valid (B140, AW 749a).

But the unity is also objective, since it determines objects for us.
Kant contrasts 'if I support this body, then I feel a pressure of heaviness' with 'this body is heavy'.
Or consider, "These lines look like they differ in length, but they are actually the same length."
Since we have some knowledge of physical laws, we are able to make the latter claim.
But, unless the subjective unity of apperception were also objective, we could only make the former claims.
The relation among appearances is not merely arbitrary or accidental.
Even Hume marveled at the regularity in nature.
We know of causal relations.
Thus, we must be able to make objective claims about objects, not merely subjective claims.
Intuitions become objects for an individual, but they are still objects.
We can distinguish between fantasies and appearances.

Kant calls the faculty of representing the manifold imagination.
Kant's use of 'imagination' is close to Descartes's use of the term.
Imagination connects the manifold of sensible intuition.
The synthesis of the imagination can be *a priori*, in determining the form of a sensation.
But it can also be empirical, when acting on a particular sensation.

The goal of the deduction is to unite the sensible and intellectual portions of our cognition, to match intuition with understanding.
Kant argues that the categories apply to all creatures that use intuition, that represent the world.
Even my own existence is known only through the categories, only as an appearance.

> Although my own existence is not appearance (still less mere illusion), determination of my existence can occur only in conformity with the form of inner sense and according to the particular way in which the manifold that I combine is given in inner intuition (B157-8, AW 752b).

An infinite mind might, in contrast, work not by representation but by direct awareness.
That mind would have no use for the categories.
Since the categories only apply to those with some sort of intuition, any pure concepts will only apply to objects of possible experience.

In particular, mathematical propositions hold only for objects of possible experience.

> The pure concepts of the understanding, even when they are (as in mathematics) applied to *a priori* intuitions, provide cognition only insofar as these intuitions...can be applied to empirical intuitions... Consequently the categories cannot be used for cognizing things except insofar as these things are taken as objects of possible experience (B147-8, AW 751a).

IV. The Transcendental Deduction: Stage Two

In the second stage of the transcendental deduction, mainly §26, Kant shows that the categories necessarily apply to human sensibility.

> We must now explain how it is possible, through *categories*, to cognize *a priori* whatever objects *our senses may encounter* - to so cognize them as regards not the form of their intuition, but the laws of their combination - and hence, as it were, to prescribe laws to nature, and even to make nature possible (B159-60, AW 753a).

Notice the strength of Kant's claim: we make nature possible.
We do not make the noumenal world possible.
But, nature is not a property or aspect of the noumenal world.
It is a result of our structuring the raw data of experience that we are given in intuition.

We intuit the world in space and time.
But space and time, besides being forms of intuition, are also intuited themselves.
They do double duty.

> Space and time are represented *a priori* not merely as *forms* of sensible intuition, but as themselves *intuitions* (containing a manifold), and hence are represented with the determination of the *unity* of this manifold in them... (B160-1, AW 753b).

Since space and time are pure forms of intuition, they are presupposed in all experience.
Since any experience is already structured, or determined, space and time, as we experience them, are deeply embedded in those experiences.
Since any experience also presupposes the application of the categories, space and time themselves must be subject to the categories.

> When I turn the empirical intuition of a house into a perception by apprehending the intuition's manifold, then in this apprehension I presuppose the *necessary unity* of space and of outer sensible intuition as such; and I draw, as it were, the house's shape in conformity with this synthetic unity of the manifold in space. But this same unity, if I abstract from the form of space, resides in the understanding, and is the category of the synthesis of the homogeneous in an intuition as such, i.e. the category of *magnitude*. Hence the synthesis of apprehension, i.e. perception, must conform throughout to that category (B 162, AW 754a).

Kant presents a parallel example, apprehending the freezing of water, to illustrate the applicability of the categories to representations given in inner sense (time).
When I perceive the water changing states, I presuppose time, in order that I can represent change.

> This synthetic unity, as an *a priori* condition under which I combine the manifold of an *intuition as such*, is - if I abstract from the constant form of *my* inner intuition, i.e., from time - the category of cause; through this category, when I apply it to my sensibility, *everything that happens is, in terms of its relation, determined* by me *in time as such*. Therefore apprehension in such an event, and hence the event itself, is subject - as regards possible perception - to the concept of the *relation of effects and* causes; and thus it is in all other cases (B163, AW 754a).

In other words, not only do the categories apply to any intellect which receives appearances in intuition.
They apply specifically to our intuition which is sensible in the forms of outer sense (space) and inner sense (time).
Abstracting space and time, we find that the categories were presupposed.
We do not, via abstraction, create the categories.
We discover them already imposed on our experiences.

> The *possibility of experience* is what provides all our *a priori* cognition with objective reality. Now experience rests on the synthetic unity of appearances, i.e., on a synthesis of appearances in general performed according to concepts of an object. Without such synthesis, experience would not even be cognition, but would be a rhapsody of perceptions (A156/B195, AW 761a).

I mentioned earlier that one way of putting the goal of the transcendental deduction was to show how the sensible and intellectual functions of our cognitive capacities align.
Appearances conform *a priori* both to the forms of sensible intuition and to the categories of the understanding which combine the manifold.
Kant's idealism may, at this point, seem prominent.

> Just as appearances exist not in themselves but only relatively to the subject in whom the appearances inhere insofar as the subject has senses, so the laws exist not in the appearances but only relatively to that same being insofar as that being has understanding (B164, AW 754b).

The forms of intuition meet up with the categories of the understanding in large part because they are both *a priori* impositions of the subject.
We don't know about the conditions on objects in the noumenal world.
We do know that for us, experiences (i.e. appearances of objects in nature) must have certain abstract features.

> What connects the manifold of sensible intuition is imagination, and imagination depends on the understanding as regards the unity of its intellectual synthesis, and on sensibility as regards the manifoldness of apprehension (B164, AW 754b).

The laws of cognition are very general.
Kant's claim is not that the laws of nature are innate, but that some laws of nature are synthetic *a priori*, arising from the general conditions for experience.

> Nature (regarded merely as nature in general) depends...on the categories as the original basis of its necessary law-governedness. But even the pure faculty of the understanding does not suffice for prescribing *a priori* to appearances, through mere categories, more laws than those underlying a *nature in general* considered as the law-governedness of appearances in space and time. Particular laws, because they concern appearances that are determined empirically, are *not completely derivable* from those laws... (B165, AW 754b-755a).

Where Descartes, Leibniz, and Spinoza all thought that the laws of physics were innate, knowable *a priori*, Kant argues that only the most general laws of nature can be known *a priori*.

Philosophy 203: History of Modern Western Philosophy — Hamilton College
Spring 2011 — Russell Marcus

Class 27: May 3
Kant's *Critique of Pure Reason*
Refutation of Idealism (AW 781-3)
First Antinomy (AW 792-4)

I. After the Transcendental Deduction

After the Deduction in the *Critique*, Kant explains, or transcendentally deduces, all of the particular categories.
Then, he shows in greater detail how his transcendental idealism applies to a variety of traditional philosophical problems and paradoxes, including the question of the existence of an external world, whether space and time are absolute or relational, and whether we have free will.
In some cases, Kant sides with the rationalists, claiming that we have knowledge.
For example, Kant argues for the certainty of mathematics and knowledge of an external world.
On other cases, Kant fins the rationalists' claims overly dogmatic, exceeding the limits of pure reason.

We are going to look at three of Kant's arguments from later in the *Critique*.

1. The refutation of idealism
2. Whether the universe is finite or infinite
3. The ontological argument for the existence of God

II. Refutation of Idealism

In the transcendental deduction, Kant argues that since the categories are *a priori*, then could not be derived from experience.

> Either experience makes these concepts possible, or these concepts make experience possible. The first alternative is not what happens as regards the categories (nor as regards pure sensible intuition). For they are *a priori* concepts and hence are independent of experience...The categories contain the grounds, on the part of the understanding, of the possibility of all experience as such (B167, AW 755a-b).

He thus proposes a transcendental deduction, or derivation, or discovery, of the concepts.
But, he also considers a third path.
We might think of the categories as subjective conditions for our experience that lack objective status.
They might just be necessary conditions for the way we see the world, and not conditions on how the world is.
That is, despite arguing that they are *a priori*, Kant believes that he has not shown that they are objective, that they are conditions on nature itself.

> Someone might want to propose...that the categories are...subjective predispositions for thinking that are implanted in us simultaneously with our existence; and that they were so arranged by our originator that their use harmonizes exactly with the laws of nature governing the course of experience... (B167, AW 755b).

In such a case, Kant argues, the concepts would lack necessity even if our application of those concepts

were necessary.

> I could then not say that the effect is connected with the cause in the object (i.e. connected with it necessarily), but could say only that I am so equipped that I cannot think this representation otherwise than as thus connected. And this is just what the skeptic most longs for... (B168, AW 755b).

In other words, the alternative to seeing the categories as objective, since we can know nothing about the transcendental nature of the universe, is to see them as completely subjective.
The most plausible alternative to the objectivity of the categories is Humean skepticism.
But we do seem to have knowledge of the causal structure of the universe.

In the Refutation of Idealism, Kant argues that neither Berkeleyan idealism nor Humean skepticism are justified, given the conclusions of the Transcendental Analytic.

> "**Theorem** The mere, but empirically determined, consciousness of my own existence proves the existence of objects in space outside me" (B275, AW 782a).

First, Kant distinguishes between problematic idealism, which he attributes to Descartes, and dogmatic idealism, which he attributes to Berkeley.
The dogmatic idealist complains that space and time must be properties of the noumenal world.
But, since we can't know anything of the noumenal world, then we must have no knowledge of space and time.
Kant, by taking space and time to be pure forms of intuition, provides a context for rejecting dogmatic idealism.
We can take them to be objective properties without committing to knowledge of the noumenal world.
Thus, the real problem for Kant is the problematic idealist, by which term Kant refers to skeptic of the First Meditation.

> Problematic idealism...alleges that we are unable to prove by direct experience an existence apart from our own...The proof it demands must...establish that regarding external things we have not merely *imagination* but also *experience*. And establishing this surely cannot be done unless one can prove that even our *inner* experience, indubitable for Descartes, is possible only on the presupposition of *outer* experience (B275, AW 782a).

III. Tlumak on the Refutation of Idealism

The following is the version of the refutation found in Tlumak's book.

1. I am judging.
2. Some act of judging is occurring.
3. Any act of judging is an act of consciousness or awareness.
4. Acts of consciousness or awareness are representative (have a content).
5. Awareness of the instantaneous is impossible.
6. So the content of awareness is non-instantaneous.
7. Any non-instantaneous content is a successive content, that is, a series of items occurring in an order, and not all at a single instant.
8. So judgmental awareness is of a succession of items.
9. Awareness of succession implies awareness of a plurality of items as a plurality - awareness of a diversity or manifold.
10. Awareness of a plurality of items as a plurality requires that the plurality be apprehended as a numerically identical collection over the time during which the awareness is occurring.
11. This identity of the manifold over time requires that the act of awareness of this identical manifold connect up or relate the various elements which comprise it, that is, be aware of all the elements together.
12. Such a connective awareness requires that earlier items in the series be recognized together with the later items, and that all the items be recognized as belonging to this unity over time.
13. Only a persisting, identical subject of awareness can be connective; a series or collection of diverse subjects of consciousness is incapable of such connective activity.
14. So any act of judgment requires a persisting judger.
15. An identical judger must be able to be aware of his unity of consciousness.
16. But awareness of an objectless awareness itself is impossible. I can be aware of consciousness only by being aware of the object of consciousness. [Recall Hume's argument for the bundle theory of self: I never perceive myself directly.]
17. So awareness of a persisting consciousness requires awareness of a persisting object of consciousness.
18. So awareness of succession requires awareness of something persisting.
19. This something persisting cannot be an item in the series, or of the succession, since only by being aware of it can I be aware of the series.
20. This series of items (of acts of representation) constitutes my mental life.
21. So the persisting something is not part of my mental life.
22. But if something is not part of my mental life, it is existentially and attributively independent of me.
23. And since it is something which I can perceptually identify and which persists, it is re-identifiable.
24. So the persisting something required for awareness of succession, which in turn is required for judging, is an objective particular.
25. So I am aware of an objective particular.

Tlumak's version of the refutation is so good, I won't comment much further.
I just want to raise a worry about the nature of the something persisting, in steps 18-25.
I do not see why that persisting something could not be a Berkeleyan prototype, an idea to which I have intuitive access, rather than a material object or the noumenal correlate of a material object.
Kant's refutation of idealism seems, by leaving the noumenal world out of our cognition, too weak to yield a satisfying empirical realism.

IV. First Antinomy

Kant presents three antinomies, or paradoxes, to supplant his claim that reason has limits.
While some proper metaphysics can be established using synthetic *a priori* reasoning, other topics (e.g. God, free will) are beyond our ken.
Our reason, wanting answers to such questions, speculates.
The problem with such speculation is that we can argue on either side of the debate.
We can establish that the universe is infinite.
We can also establish that it is finite.
Since such antinomies can not hold, Kant sees such proofs as demonstrating that reason has exceeded its limits.
Here again, Kant has the revolutionary Hume as an influence.
We can commit such arguments to the flames.

The first antinomy concerns both the temporal and spatial finitude of the universe.
Kant argues that the universe has a beginning from the premise that an infinite series can not be completed.
If the universe existed from infinitely long ago, the present time would be the end of an infinite series.
So, there must have been some beginning.
For the spatial finitude of the universe, Kant claims that the concept of simultaneity presupposes a spatially finite universe.
If the universe were infinitely large, we could not think of all of the universe as existing simultaneously.

On the other side, Kant argues that the universe has no beginning in time from the logical impossibility of creation.
If there were a beginning point, there would have to be something before it.
But, that time would have nothing in it, since the universe has not been created yet.
So the universe would have no way to begin.
Kant's argument that the universe is spatially infinite assumes absolute space.
Imagine you were to go to the end of the universe.
Now, stick out your arm past the edge.
It seems that you could always perform this task.
Thus, the container has to be infinite.
If we take the universe to be merely the contained portion, then we have no way to think about the container, the rest of space.
So, space itself must be the infinite container.

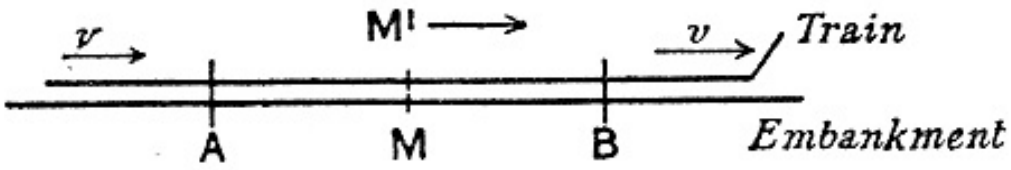
> If one wants to leave out the void, and hence space as such, as an *a priori* condition for the possibility of appearances, then the entire world of sense drops out (A433/B461, AW 794b).

Remember, space is an *a priori* form of intuition, presupposed by all possible experience.

Kant has argued, *a priori*, to both sides of a contradiction.
He concludes that pure reason has exceeded its reach.
There is no knowledge to be had of whether the universe is finite or infinite.
Like a Humean empiricist, Kant concludes that we can not know any facts of the matter.

Notice that, in making this negative argument, Kant assumes that claims about whether the universe is finite or infinite are matters for *a priori* metaphysical reasoning.
In contrast, there are some mathematical and physical facts that undermine his claims.
Kant asserts that the universe must be spatially bound because otherwise we could have no definite concept of simultaneity.
But according to the theory of relativity, simultaneity and time itself are not definite concepts anyway.
They depend on the arbitrary choice of a frame of reference.
Imagine standing on a platform waiting for a train equidistant between two signal posts, A and B.
Imagine further that lights are flashed at A and B in a way that one perceives them as flashing simultaneously.
Now, consider a train traveling in the direction from A to B, passing you at the very moment that the lights are flashed.
To a perceiver on the train, the light at B will appear before the light at A, since the frame of reference (the train) is moving toward B, and away from A.

> Events which are simultaneous with reference to the embankment are not simultaneous with respect to the train, and vice versa (relativity of simultaneity). Every reference-body (co- ordinate system) has its own particular time; unless we are told the reference-body to which the statement of time refers, there is no meaning in a statement of the time of an event (Einstein, *Relativity: The Special and General Theory*, Chapter IX).



Similarly, Kant assumes an obsolete concept of infinity.

> The true (transcendental) concept of infinity is this: that the successive synthesis of unit[s] in measuring by means of a quantum can never be completed" (A432/B460, AW 793a).

In the nineteenth century, George Cantor's work on transfinite numbers established that there are different sizes of infinity.
To count from one size of infinity to the next, we consider the smaller infinity as complete.
Today, we often define a set to be infinite if it can be put into one-one correspondence with a proper subset of itself.
For example, consider the integers and the even integers, which are a proper subset of the integers.
The integers are infinite just because we can match each one with an even integer.
See the appendix on infinity, below, or this longer, fun discussion of infinite arithmetic.

Kant's claim about the certainty of mathematics meet a similar objection.
Kant argued that we have *a priori* knowledge of Euclidean geometry arising from its role as a form of pure intuition assumed in all appearances.
But it turns out that there are various consistent non-Euclidean geometries in addition.
Euclidean geometry, instead of being the sole correct geometry, is just one of a family of mathematical

theories, not mathematically favored.

In a full course on Kant, we would spend more time on the antinomies and related applications of Kant's views.
Here, we will examine just one more topic, one which we discussed at the start of the term: the ontological argument for the existence of God.

Appendix to Kant Notes on Infinity

AI. The infinite hotel

Consider the infinite hotel: a hotel with infinitely many rooms.
The hotel is fully booked.
A new guest arrives.
We can add the new guest, by shifting every current guest from Room n to Room n+1.
Then, Room 1 will be available for the arriving guests.
We can perform the same procedure repeatedly, adding single guests.
We can generalize the procedure to add any finite number of guests, m, by shifting all current guests from Room n to Room n+m.

Next, an infinite bus with an infinite number of guests arrives.
We can still accommodate them, but we need a new procedure.
We can add the infinitely many new guests by shifting every current guest from Room n to Room 2n.
Now, all the even rooms are filled, but the odd rooms are vacant.
We can put the infinite number of new guests in the odd-numbered rooms.

Next, an infinite number of infinite busloads of guests arrives.
We can still accommodate them.
Shift all current guests from Room n to Room 2^n.
Now, all the rooms that are powers of two are filled, leaving lots of empty rooms.
We can place the people on the first bus in room numbers 3^n (for n people on the bus), the people in the second bus in rooms 5^n, the people in the third bus to rooms 7^n, and so on for each (prime number)^n.
Since there are an infinite number of primes, there will be an infinite number of infinite such sequences.
And, there will be lots of empty rooms!

AII. Cardinality, size, and correspondence

The splitting headache which may arise from thinking about infinite numbers may correspond to a split between two ways to think about cardinal numbers.
We use them to measure size.
But, we also use one-one correspondence to characterize cardinal numbers.
With finite numbers, these two approaches converge.
The size of a group is the same as the correspondence between the objects in the group and some initial segment of the natural numbers.
That is, if we have five hedgehogs, we can line them up and give them each a number from one to five.

With transfinite numbers, as with the infinite hotel, the two concepts diverge.

The size of the integers seems to be bigger than the size of the even numbers.
But, they can be put into one-one correspondence with each other.

Georg Cantor, in the mid-nineteenth century, relied on the one-one correspondence notion to generate different kinds of infinite, or transfinite, numbers.
When we list the members of something, we are putting them into one-one correspondence with the natural numbers.
Cardinal numbers are the sizes of sets, the number we count to when we put the set in one-one correspondence with the natural numbers.
But, it turns out that we can not make certain lists.

For example, we can not list the real numbers.
The real numbers may be represented as their decimal expansions: non-repeating, non-terminating.
Imagine that we have such a list.
Let's represent that list abstractly:

$a_1\ a_2\ a_3\ a_4\ a_5\ a_6\ a_7...$
$b_1\ b_2\ b_3\ b_4\ b_5\ b_6\ b_7...$
$c_1\ c_2\ c_3\ c_4\ c_5\ c_6\ c_7...$
$d_1\ d_2\ d_3\ d_4\ d_5\ d_6\ d_7...$
...

By hypothesis, the list contains all real numbers.
But, we can, for any list, demonstrate a number which does not appear on the list.
Consider the following number

$a_1\ b_2\ c_3\ d_4\ e_5\ f_6\ g_7...$

That number could be on the list.
Now, take each digit in that number and change it: add one to each number other than nine, and replace all nines with zeroes.
The following number is certainly not on the list.
For, it is different from the first number on the list in the first digit, different from the second number on the list in the second digit, and so on, for all numbers on the list.
If we add this new number to the list, we can form a new number that's not on the resulting list, by the same process.
Thus, all possible lists of real numbers are necessarily incomplete.
This proof is called Cantor's diagonalization argument.
It shows that the ordinary concept of size is not precisely the same as the concept of one-one correspondence.
Mathematicians tend to think of size now as one-one correspondence.
But, their use of 'size' differs from that of ordinary people, once we get to transfinites.

Numbers actually have two different functions.
Cardinal numbers measure size.
Ordinal numbers measure rank.
Let's look a bit at both, starting with the cardinals.
AIII. Cardinal arithmetic

Cardinal numbers are sets which we use to measure the sizes of sets, by one-one correspondence.
We are all familiar with many properties of cardinal numbers.
For all cardinal numbers a, b, and c, whether finite or transfinite, the following relations hold:

1. $a+b=b+a$
2. $ab=ba$
3. $a + (b + c) = (a + b) + c$
4. $a \bullet (b \bullet c) = (a \bullet b) \bullet c$
5. $a \bullet (b + c) = ab + ac$
6. $a^{(b+c)} = a^b \bullet a^c$
7. $(ab)^c = a^c \bullet b^c$
8. $(a^b)^c = a^{bc}$

But some properties of finite cardinal numbers do not hold for transfinite numbers.
Notice that $a+1=a$, when a is transfinite.
And $2a=a$ holds as well.
Even $a \bullet a=a$
We can show these all by considering a bijective mapping from one set to the other.
We showed all of these facts in the infinite hotel.

Consider one final important property which holds both of finite and transfinite numbers.

9. $2^a > a$

In set-theoretic terms, this ninth claim is that $\wp(a) > a$.
'$\wp(a)$' refers to the power set of a, the set of all subsets of a set a.
Consider a set $A = \{2, 4, 6\}$
Then $\wp(A) = \{\{2\}, \{4\}, \{6\}, \{2, 4\}, \{2, 6\}, \{4, 6\}, \{2, 4, 6\}, \varnothing\}$
In general the power set of a set with n elements will have 2^n elements.
Since sets with n members are the same size as sets with n+1 members, or with 2n members, or with n^2 members, for infinite n, we might think that sets with n members are the same size as sets with 2^n members.
For, with infinite numbers, it is not always clear that what we think of as a larger set is in fact larger.

The claim that $\wp(a) > a$ has been called Cantor's paradox.
$\wp(a)>a$ is now taken to be Cantor's theorem.
The proof of the theorem is a set-theoretic version of the diagonalization argument.
We want to show that the cardinal number C of the power set of a set is strictly larger than the cardinal number of the set itself (i.e. $C(\wp(A)) > C(A)$).
To show that fact, it suffices to show that there is no function which maps A one-one and onto its power set.
A function is called one-one if it every element of the domain maps to a different element of the range.
A function maps a set A onto another set B if the range of the function is the entire set B, i.e. if no elements of B are left out of the mapping.

Proof of Cantor's Theorem

Assume that there is a function $f: A \Rightarrow \wp(A)$
Consider the set $B = \{x \mid x \in A \bullet x \notin f(x)\}$
B is a subset of A, since it consists only of members of A.
So, B is an element of $\wp(A)$, by definition of the power set.
That means that B itself is in the range of f.
Since, by assumption, f is one-one and onto, there must be an element of A, b, such that f(b) is B itself.
Is $b \in B$?
If it is, then there is a contradiction, since B is defined only to include sets which are not members of their images.
If it is not, then there is a contradiction, since B should include all elements which are not members of their images.
Either way, we have a contradiction.
So, our assumption fails, and there must be no such function.
$\wp(A) > A$

QED

Let's call the size of the natural numbers $\aleph_0$.
Then the real numbers, and the real plane, are the size of the power set of the natural numbers, $2^{\aleph_0}$.
We can proceed to generate larger and larger cardinals through the power set process.
Moreover, set theorists, by various ingenious methods, including addition of axioms which do not contradict the given axioms, generate even larger cardinals.

AIV. Ordinal numbers

Let's start counting.
By adding one, here, we normally mean taking the successor of 1.
So, $\omega+1$ will be the successor of ω.
Ordinals generated in this way are called successor ordinals.
In transfinite set theory, there are also sets which are called limit elements.
We get them by taking the union of all the members of a set.
Ordinal numbers, set-theoretically, are just special kinds of sets, well-ordered sets.
A set is well-ordered if, basically, we can find an ordering relation on the set, and it has a first element.
If we consider all the sets that correspond to the finite ordinals, and combine them into a whole, we can get another well-ordered set.
This will be a new ordinal, and it will be larger than all of the ordinals in it.
So, there are two kinds of ordinals: successor ordinals and limit ordinals.

$1, 2, 3, \ldots \omega$
$\omega+1, \omega+2, \omega+3 \ldots 2\omega$
$2\omega+1, 2\omega+2, 2\omega+3 \ldots 3\omega$
$4\omega, 5\omega, 6\omega \ldots \omega^2$
$\omega^2, \omega^3, \omega^4 \ldots \omega^\omega$
$\omega^\omega, (\omega^\omega)^\omega, ((\omega^\omega)^\omega)^\omega, \ldots \varepsilon^0$

The limit ordinals are the ones found after the ellipses on each line.

Large ordinals correspond to the large cardinals.

Notice that limit ordinals are taken as the completions of an infinite series.
Kant, in the antinomies, denied that there can be any completion of an infinite series.
But, Cantor's diagonal argument shows that there are different levels of infinity.
And, we form ordinals to represent the ranks of these different levels of infinity precisely by taking certain series to completion.

Philosophy 203: History of Modern Western Philosophy Hamilton College
Spring 2011 Russell Marcus

Class 28: May 5
Kant's *Critique of Pure Reason*
Ontological Argument (AW 819-823)

I. The Ontological Argument

Hume's influence on Kant was profound.
His psychological reinterpretation of the concept of causation was a precedent for Kant's transcendental idealism.
Kant's claims about the limits of pure reason have Humean roots, too.
Kant's reason for rejecting the ontological argument is derived from Hume's claims about the nature of existence claims, as well as from Gassendi's claim that existence is not a perfection.
In the Objections and Replies to Descartes's *Meditations*, Gassendi complains that the ontological argument is invalid because existence is not the kind of property one can find by analyzing the concept of God.
Descartes disagreed, but the argument was left without a resolution.
Hume and Kant revive Gassendi's claim by adding a supporting argument.
Hume claims that the idea of existence, since it does not come from a distinct impression, adds nothing to the idea of an object.

> Though certain sensations may at one time be united, we quickly find they admit of a separation, and may be presented apart. And thus, though every impression and idea we remember be considered as existent, the idea of existence is not derived from any particular impression. The idea of existence, then, is the very same with the idea of what we conceive to be existent. To reflect on any thing simply, and to reflect on it as existent, are nothing different from each other. That idea, when conjoined with the idea of any object, makes no addition to it. Whatever we conceive, we conceive to be existent. Any idea we please to form is the idea of a being; and the idea of a being is any idea we please to form (Hume, *A Treatise on Human Nature* §I.II.VI).

Kant, following Hume, claims that whether we think of a thing as existing or not, as necessarily existing or not, we are thinking of the same thing.

> A hundred real thalers do not contain the least coin more than a hundred possible thalers (A599/B627, AW 822a).

Kant distinguishes between real (or determining) predicates and logical predicates.
A logical predicate is just something that serves as a predicate in grammar.
So, in 'the Statue of Liberty exists', we are predicating (grammatically) existence of the statue.
But, we are not saying anything substantive about the statue.
In 'the Statue of Liberty is over 150 feet tall', we use a real predicate.
Any property can be predicated of any object, grammatically.
So, 'seventeen loves its mother' is a grammatical sentence, even if it is nonsensical.
'Loves one's mother' is a real predicate.
But, Kant's point is that one can not do metaphysics through grammar alone.
Existence is a grammatical predicate, but not a real predicate.

Kant's objection support's Gassendi's criticism of Descartes's version of the argument.
It also accounts for earlier objections from Gaunilo and Caterus.
Gaunilo, responding to Anselm's version of the ontological argument, wondered whether having the concept of the most perfect island entails its existence.
Caterus wondered if the concept of the necessarily existing lion entails the actual existence of a lion.
Kant says that in predicating existence of a concept, we are just restating the concept, and not saying anything about the object.
When we say that 'God exists', we are not making a real assertion, but just restating the concept of God.

> If you admit - as any reasonable person must - that any existential proposition is synthetic, then how can you assert that the predicate of existence cannot be annulled without contradiction? For this superiority belongs only to analytic propositions as their peculiarity, since their character rests precisely on this [necessity] (A598/B626, AW 821b)

Part of Kant's support for his assertion that existence is not a predicate is that existence is too thin.
We do not add anything to a concept by claiming that it exists.
Thus, Kant mentions the 100 thalers.
Kant says that the real and possible thalers must have the same number of thalers in order that the concept be the concept of that object.
If there are more thalers in the real thalers, then the concept and the object would not match.
So, we do not add thalers when we mention that the thalers exist.

II. Evaluating Kant's Solution

Kant says that we don't add any thalers when we shift from discussing possible thalers to discussing actual thalers.
But, do we add something?
When my daughter and I discuss the existence of the tooth fairy, we are debating something substantive.
If we are going to debate the existence of something, whether it be the tooth fairy or black holes, we seem to consider an object and wonder whether it has the property of existing.
We thus have to consider objects which may or may not exist.
There may be many such objects, e.g. James Brown and Tony Soprano.
Some philosophers attribute subsistence to dead folks and fictional objects.
So, one might say that James Brown has the property of subsisting, without having the property of existing.

In ordinary cases, Hume and Kant certainly are correct that logic, or reason, can not make existence claims.
The question is whether logic can make this one existence claim.
Kant's claim that existence is not a real predicate, while influential, may not solve the problem.

Many contemporary philosophers are swayed in Kant's direction by their familiarity with first-order logic's distinction between predication and quantification, and by the distinction between grammatical form and logical form.
In Fregean logic, properties like being a god, or a person, or being mortal or vain, get translated as predicates.
Existence is taken care of by quantifiers, rather than predicates.
To say that God exists, we say '$(\exists x)Gx$' or '$(\exists x)\ x=g$'

Note that the concept of God, and the object, are represented independently of the claim of existence.
First-order logic is supposed to be our most austere, canonical language.
As Frege says, it puts a microscope to our linguistic usage.
Thus, there does seem to be a real difference between existence and predication, and between the grammar of natural language and the true logical form of our claims.

Still, formal systems can be constructed with all sorts of properties.
We can turn any predicate into a quantifier, or a functor, even turn all of them into functors.
Is first-order logic the best framework for metaphysics?
Is Kant's linguistic solution to the ontological argument decisive?

These questions get discussed in courses on logic, philosophy of science, philosophy of language, and philosophy of mathematics.

Philosophy 203: History of Modern Western Philosophy
Spring 2010
Tuesdays, Thursdays: 9am - 10:15am

Hamilton College
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Supplemental End-of-Term Course Evaluation

Course design

1. My favorite philosopher on the syllabus was:

◯ Descartes ◯ Spinoza ◯ Leibniz ◯ Locke ◯ Berkeley ◯ Hume ◯ Kant

2. My *least* favorite philosopher on the syllabus was:

◯ Descartes ◯ Spinoza ◯ Leibniz ◯ Locke ◯ Berkeley ◯ Hume ◯ Kant

3. If I could remove one philosopher from the syllabus, it would have been:

◯ Descartes ◯ Spinoza ◯ Leibniz ◯ Locke ◯ Berkeley ◯ Hume ◯ Kant

4. If we could have spent more time on one philosopher from the syllabus, it would have been:

◯ Descartes ◯ Spinoza ◯ Leibniz ◯ Locke ◯ Berkeley ◯ Hume ◯ Kant

5. For my own learning, preparing and doing my presentation was:

◯ very valuable ◯ somewhat valuable ◯ not very valuable

6. For my own learning, listening to other people's presentations was, overall:

◯ very valuable ◯ somewhat valuable ◯ not very valuable

7. Agree or disagree: "For future terms, I would recommend *not* assigning any presentations. The lecture and discussion were more productive."

◯ agree ◯ disagree

8. Agree or disagree: "In place of the two papers, I would prefer six or seven one-to-two page writing assignments."

◯ agree ◯ disagree

9. The midterm and final were:

◯ worthwhile, if somewhat burdensome, exercises that helped my learning
◯ fine
◯ complete wastes of time

10. Here's an idea: Instead of lecture and discussion or presentations, what if we sat in a circle and worked through the reading-guide questions together?

◯ interesting idea, worth exploring ◯ that sounds as dull as dishwater

11. How about ditching lecture and discussion/individual presentations in favor of small-group presentations on the reading-guide questions?

◯ again, it's an interesting idea worth considering ◯ stop over-thinking the course; it's fine as it is

12. Agree or disagree: I would have enjoyed this course a lot more had it met later in the day.

◯ agree ◯ disagree

Materials

13. How helpful did you find the Melchert text?

◯ very helpful ◯ somewhat helpful ◯ not very helpful ◯ what Melchert text?

14. How helpful did you find the Tlumak text?

◯ very helpful ◯ somewhat helpful ◯ not very helpful ◯ what Tlumak text?

15. Independently of your preparation for exams, how useful were the reading guide questions?

◯ very useful ◯ somewhat useful ◯ not very useful ◯ what a joke

Your Work

16. How many of the sets of lecture notes did you read on line?

◯ all of them ◯ most of them ◯ some of them ◯ none of them

17. How many of the presentation slides did you read on line?

◯ all of them ◯ most of them ◯ some of them ◯ none of them

18. Please rank, from one to four, in order of usefulness to your learning:

◯ Coming to class
◯ Reading the lecture notes on line
◯ Reading the assigned primary material
◯ Reading the tertiary (Melchert and/or Tlumak) material

19. How much of the assigned primary reading did you complete?

◯ all of it ◯ most of it ◯ some of it ◯ a little of it ◯ not much at all

20. Regarding attendance:

◯ I would have liked a stricter attendance policy, to force me to come to class more often.
◯ I would have liked a stricter attendance policy, to force others to come to class more often.
◯ I liked the attendance policy just fine

21a. For those students who *have not* taken Ancient Philosophy, how much did you feel that not having taken that course hindered your learning in this course?

◯ a lot ◯ a little ◯ not at all

21b. For those students who *have* taken Ancient Philosophy, how much did you feel that your work in Modern relied on what you learned in Ancient?

◯ a lot ◯ a little ◯ not at all

22. Please comment on the amount of work you did for this course.

◯ It was more work than I should have been expected to do.
◯ It was a reasonable load.
◯ I got by without doing much work.
◯ Work? Hah! My infinite mind grasps all philosophical concepts immediately.

Thanks for your help! If you were willing to talk with me about suggestions for future classes, I would be eager to hear your comments. My door is always open, at least metaphorically. - Russell

Philosophy 203: History of Modern Western Philosophy — Hamilton College
Spring 2011 — Russell Marcus

Questions to Prepare for the Final Exam

Berkeley, *Principles*, Part I, §1-33 (AW 447-453)
2. What is an object, like an apple, for Berkeley?
6. How does the notion of the independent existence of material objects depend on the doctrine of abstract ideas?
9. How does Berkeley argue that there can be no material substratum for our ideas?
10. Why can't our ideas of objects resemble material substance? How does this show the primary/ secondary distinction to be unhelpful?
11. "In short, extension, figure, and motion, abstracted from all other qualities, are inconceivable" (§10, AW 449a). Explain. What does this show?
13. Explain Berkeley's argument against the primary qualities from the relativity of perceptions.
16. "In short, if there were external bodies, it is impossible we should ever come to know it; and if there were not, we might have the very same reasons to think there were that we have now" (§20, AW 451a). Explain.

Berkeley, *Three Dialogues*, Dialogue 1 (AW 454-474)
24. How does Hylas first define 'skeptic'? Why does Philonous claim to be no skeptic?
32. "Colors, sounds, tastes, in a word, all those termed 'secondary qualities,' have certainly no existence without the mind. But by this acknowledgment I must not be supposed to derogate anything from the reality of matter or external objects..." (AW 464b). Explain. Who, besides Hylas, holds this view?
34. How does the example of the mite show the relativity of extension?
36. How does a microscope serve to show that the appearance of figure can change?
37. What is the relation between motion and time? How is time measured? What does this mean for motion?

Berkeley, *Principles*, Introduction (AW 438-446)
56. "But then whatever hand or eye I imagine, it must have some particular shape and color" (§10, AW 441a). Explain. How is this an argument against abstract ideas?
60. How does the notion of an abstract, general idea lead to a contradiction?

Berkeley, *Principles*, §86-100 (Handout)
66. How does materialism lead to skepticism? How does idealism avoid skepticism?
69. How does materialism lead to atheism?

Berkeley, *Three Dialogues*, Dialogue 2 (AW 474-484)
72. "Men commonly believe that all things are known or perceived by God, because they believe the being of a God; whereas I, on the other side, immediately and necessarily conclude the being of a God, because all sensible things must be perceived by him" (AW 477a). Explain. (See also *Principles* §146 et seq.)

Berkeley, *Principles*, §101-156 (Handout)
78. How does natural science lead to skepticism?
86. "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" (§127). Explain. How does this indicate the basic error of the notion of infinite divisibility, for Berkeley?
91. What does uniformity in nature show? What do blemishes in nature show?

Hume, *Enquiry*, §I-§IV (AW 533-548)
5. How does Hume argue that all ideas are derived from impressions?
7. How can we determine, according to Hume, whether a philosophical term is meaningless?
9. Distinguish relations of ideas from matters of fact. How do we learn propositions that are solely concerned with relations of ideas?
12. How do we learn to connect specific causes with their effects? How can we not learn this, according to Hume?
13. How does Hume argue that effects can not be discovered by examining their causes?
15. "Thus the observation of human blindness and weakness is the result of all philosophy..." (§IV.1, AW 544b). Explain. Why does Hume make this conclusion?
17. What do inferences about the future presuppose, as their foundation? Why can't experience establish this premise?
21. What is the role of custom, or habit, in our understanding of cause and effect? Does Hume explain the cause of this cause?
28. How do we respond when a general cause and effect rule fails to apply in a particular instance? Do we assume that nature is irregular?
39. Regarding their determinacy, how do human actions differ from physical interactions?
40. How does Hume define liberty? How does this definition make the debate over free will merely verbal?
41. Is liberty the opposite of necessity or constraint? Explain.
55. Why is Cartesian doubt incurable?
63. "The great subverter of Pyrrhonism or the excessive principles of scepticism, is action, and employment, and the occupations of common life" (§XII.2, AW 597b). Explain.

Hume, *Treatise*, Book I, Part IV, §6 (AW 525-532)
67. Do we have an idea of our selves? What do we think about when we think about our selves?
68. What is the self? How is the self an examplar of diversity?

Kant, *Prefaces and Introduction* (AW 717-729)
5. Does our cognition conform to objects, or do objects conform to our cognition? Explain. Consider Copernicus's revolution.
7. Why are topics like God, freedom, and immortality inaccessible to reason? How does Kant deny knowledge in order to make room for faith?
8. Distinguish analytic and synthetic judgments. Why are experiential judgments all synthetic?
9. How is 'every effect has a cause' synthetic? How is it *a priori*?
10. How are some mathematical propositions synthetic *a priori*?
13. How does Kant disagree with Hume about mathematics? How does the disagreement provide hope for mathematics?

Kant, *Transcendental Aesthetic* (AW 729-737)
16. What are intuitions? How do they differ from concepts?
20. Is space an abstraction from outer experiences? How does it underlie outer experiences?
22. What is a transcendental exposition of a concept? How does Kant provide a transcendental exposition of space?

Kant, *Transcendental Analytic: Analytic of Concepts* (AW 737-756)
30. "Thoughts without content are empty; intuitions without concepts are blind" (A51/B76, AW 737b). Explain.
36. How does Kant praise and criticize Locke regarding a deduction of pure concepts of the

understanding?

40. What is a combination of the manifold of representations? How is it missing from a merely sensible intuition?
42. Describe the principle of the synthetic unity of apperception. How is it the supreme principle of human understanding?

Kant, *Refutation of Idealism* (AW 781-783)

56. Distinguish dogmatic idealism from problematic idealism. How does Kant reject dogmatic idealism?
57. How does Kant reject problematic idealism?

Kant, *On the Ontological Argument* (AW 819-823)

76. What is Kant's distinction between a logical predicate and a real predicate? Why is 'is omnipotent' a real predicate, while 'exists' is merely a logical predicate?
77. "A hundred real thalers do not contain the least coin more than a hundred possible thalers" (A599/B627, AW 822a). Explain. Why not?
78. How does Kant's distinction between logical and real predicates demonstrate a flaw in the ontological argument?

Philosophy 203: History of Modern Western Philosophy — Hamilton College
Spring 2011 — Russell Marcus

Final Exam

Instructions: Provide a well-written response to **eight** of the following eleven questions. Each question is worth ten points. You need not restrict your responses to any particular philosopher's work. Feel free to combine answers to questions; make sure to indicate that you have done so, if you do.

1. What is an object, like an apple, for Berkeley?

2. How does Berkeley's example of the mite show the relativity of extension?

3. "But then whatever hand or eye I imagine, it must have some particular shape and color" (Berkeley). Explain. How is this an argument against abstract ideas?

4. How, according to Berkeley, does natural science lead to skepticism?

5. Distinguish, as Hume does, relations of ideas from matters of fact. According to Hume, how do we learn propositions that are solely concerned with relations of ideas?

6. "Thus the observation of human blindness and weakness is the result of all philosophy..." (Hume). Explain. Why does Hume make this conclusion?

7. For Hume, is liberty the opposite of necessity or constraint? Explain.

8. According to Hume, what is the self? How is the self an examplar of diversity?

9. According to Kant, how are some mathematical propositions synthetic *a priori*?

10. What, for Kant, are intuitions? How do they differ from concepts?

11. How does Kant's distinction between logical and real predicates demonstrate a flaw in the ontological argument?

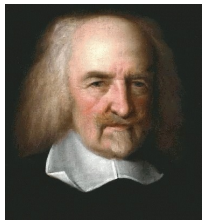
Philosophy 203
History of Modern Western Philosophy

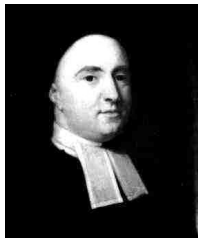
Russell Marcus
Hamilton College
Spring 2011

Class 1 - The Scientific Revolution and Descartes

History of Modern Western Philosophy

- Sixteenth through eighteenth centuries
  - Descartes to Kant
- Medieval philosophy had been dominated by Aristotle's work.
- Descartes and the philosophers who followed attempted to accommodate new learning with a broad view of human abilities, and to construct systematic understandings of the world.
  - Advances in science
  - Criticisms of Church dogma
- Chronological survey
  - Descartes
  - Hobbes
  - Spinoza
  - Leibniz
  - Locke
  - Berkeley
  - Hume
  - Kant





The Standard Narrative

- Epistemological division on whether we are born as blank slates
  - Empiricists (Hobbes, Locke, Berkeley, and Hume) believe that all knowledge comes from experience.
  - Rationalists (Descartes, Spinoza, and Leibniz) believe that we are born with knowledge built into our minds.
- The rationalists have a more robust account of the world around us, but rely on contentious assumptions about what we know.
- The empiricists have a more intuitive starting point, but are unable to develop a sufficient account of science.
- Against the Standard Narrative
  - Some of the empiricists don't quite believe in the blank slate theory of the mind
  - The rationalists tend to believe that knowledge is based on sense experience.

Another Account of the Standard Division

different uses of God in philosophy

- The rationalists find a central role for God in their work, while the empiricists do not.
- But this account is also misleading.
- While Descartes and Leibniz rely on the goodness of God to support their views, Spinoza's views on God are subtle.
- Locke's *Essay* contains long sections on scriptural interpretation.
- While Hobbes and Hume were strict materialists, denying the existence of God, Locke and Berkeley were not.

Kant and the End of the Modern Era

- Kant attempts to synthesize the disparate views of the previous two centuries.
- The nineteenth century is characterized by attempts to interpret and extend Kant's work.
- By the twentieth century, European philosophy had more or less fractured into two distinct disciplines.
  - Continental Philosophy
    - Hegel, Nietzsche, and Kierkegaard
    - Existentialism, deconstructionism, and literary theory
    - Broad questions, often political in nature
  - Anglo-American philosophy
    - Frege, Russell, Wittgenstein
    - Philosophical and conceptual analysis
    - The linguistic turn, then mind and science
- Both continental and analytic philosophers study the history of philosophy, despite their different approaches.
- This course will follow the standard structure of a modern course, but we won't be held to the standard narrative.

Central Themes

Metaphysics and Epistemology

- Metaphysics is the study of what exists, and what those things are like.
  - trees, tables, people, planets and stars, electrons, numbers, space-time points, God
  - redness, squareness, velocity, and being located outside of space and time
  - causation, necessity, the relationship between mind and body, and free will and determinism
- Epistemology is the theory of knowledge, of how we know what we know.
  - Does all our knowledge originate in sense experience?
  - Are we born with innate capacities to learn?
  - Are we born with substantial knowledge?

Why Study the History of Philosophy?

- Philosophers are engaged in a search for truth.
  - Is there free will?
  - Is there an external world?
  - How do we acquire knowledge?
  - Does God exist?
  - What actions are morally permissible and impermissible, and why?
- We are like scientists, in desiring correct answers.
- Scientists don't study the history of science in the way that philosophers study the history of philosophy.
  - not central to their own research
  - The physicist's interest in Galileo is historical, rather than scientific.
- Historicism: our intellectual lives are essentially constituted by our experiences.
  - The concerns of one generation are independent of those of earlier and subsequent generations.
  - Our interests in the history of philosophy can only be historical, and not philosophical.
  - We must be like the physicist in regard to Galileo.

History and the Humanities

- In the humanities, study of the history of a field is integral to the study of that field.
  - Musicians study the history of music.
  - Literature majors study the history of literature.
- Humanities don't centrally aim at the truth, in the way that science and philosophy do.
- The goal of the study of art and literature is to understand a given work, to place it in its historical context, to grasp the culture out of which it is produced.
- Philosophy straddles the humanities and the sciences in a puzzling way.
- It is not merely a cultural phenomenon like art or literature.
- Instead, it aims at solving problems, like the sciences.
- Yet, we study history like scholars in the humanities
- Why?

Rosenthal on the History of Philosophy

Our interest in the history of philosophy can not be explained by:

1. Its being a source of ideas for contemporary work;
2. Its being a compendium of errors to avoid;
3. The perspective we gain by seeing a wider diversity of viewpoints than we would in contemporary work;
4. The comprehensive systematicity of some great philosophers;
5. Its use as a source of opponents against which we can contrast our own positions.
6. The understanding of our own questions we gain by examining past questions.

Absurd Views

- Berkeley's claim that there is no material world
- Leibniz's claim that this is the best of all possible worlds
- Hume's claim that we have no knowledge of scientific laws
  - Such claims, and others, will seem to most of us to be obviously false.
  - Yet, we are going to evaluate them not merely for their interest, but for their truth.
  - We are going to look at the arguments, and take them seriously.
  - "The problem remains of why the study of largely unacceptable theories should be considered crucial to a field whose main aim is to arrive at the truth about certain issues... If...the analogy with mathematics and the sciences is apt...it is doubtful whether the history of philosophy could significantly further philosophical progress" (Rosenthal, 160-1).

Pursuit of Truth

- Rosenthal's solution is that in order to understand historical work, we have to interpret it through our own beliefs about what is true.
- Interpreting Berkeley and Leibniz and Hume requires honing our own views about the truth.
- *The Great Conversation*
- All philosophers are contemporaries.
- We are not divided by culture or class or era.
- We are engaged, together, in a singular pursuit of the truth.

Texts

- Required:
  - Roger Ariew and Eric Watkins. *Modern Philosophy: An Anthology of Primary Sources*, 2nd edition. Hackett, 2009.
  - Various supplementary handouts, available in class and on the course website.
- Recommended:
  - Norman Melchert. *The Great Conversation, Volume II: Descartes through Derrida and Quine*. Oxford, 2007.
  - Jeffrey Tlumak. *Classical Modern Philosophy: A Contemporary Introduction*. Routledge, 2006.

Course Website

http://www.thatmarcusfamily.org/philosophy/Course_Websites/Modern_S11/Course_Home.html

Assignments

- Attendance and participation
- Readings
- Presentation (10%)
  - Sign up, by email, after Thursday's class
- Two papers (20%, 25%)
  - First paper is due on Feb. 8
- Midterm and Final Exams (20%, 25%)

Office Hours

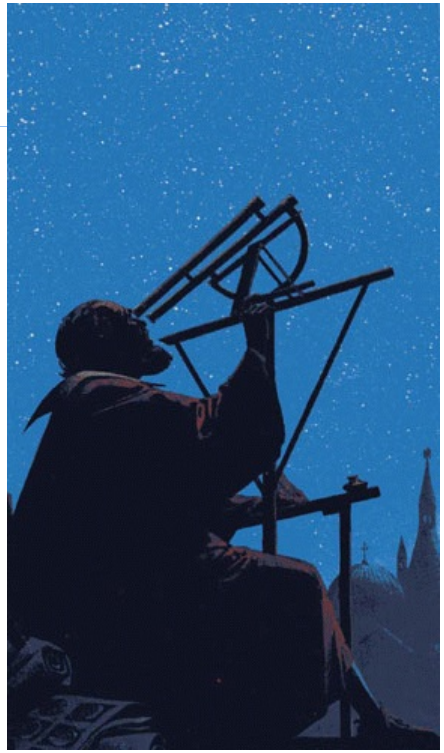
10:30am - noon, Monday through Friday
210 College Hill Road, Room 201

Questions?

Meditation One

Several years have now passed since I first realized how numerous were the false opinions that in my youth I had taken to be true, and thus how doubtful were all those that I had subsequently built upon them. And thus I realized that once in my life I had to raze everything to the ground and begin again from the original foundations, if I wanted to establish anything firm and lasting in the sciences (AW 40).

The Medieval World View



- Descartes is considered the founder of modern philosophy.
  mathematician (developing analytic geometry)
  scientist (pigs, butchers, anatomy)
- Five dogmas of the medieval world view:
  D1. The heavens are constant.
  D2. The Earth is at the center of the universe.
  D3. Causes are (partially) explained teleologically, by purposes.
  - Objects tend to fall to the Earth because of their natural tendency toward the center.

  D4. The heavens contain starry perfect spheres (stars and planets) which revolve in perfect circles around the Earth.
  D5. There are two kinds of motion.
  - On earth motion is linear, in the heavens it is circular.
- D1, D2, and D3 come mainly from Aristotle (384-322 BC).
- D4 and D5 come from mainly Ptolemy (2nd century AD).
  The Ptolemaic astronomer saw the sky as an object, rather than a void, like a roof on the Earth.

Against the Dogmas I

D1. The heavens are constant.
D2. The Earth is at the center of the universe.
D3. Causes are (partially) explained teleologically, by purposes.
D4. The heavens contain starry perfect spheres which revolve in perfect circles around the Earth.
D5. There are two kinds of motion.

- In the late 15th century, a new star was discovered.
  - against D1
- Copernicus (1473-1543) hypothesized that earth was not stable, and that it underwent retrograde motion.
  - against D2
- Brahe (1536-1601) discovered that planets move in ellipses.
  - against D2 and D4
- Kepler (1571-1630) urged heliocentrism.
  - against D2

Against the Dogmas II

D1. The heavens are constant.
D2. The Earth is at the center of the universe.
D3. Causes are (partially) explained teleologically, by purposes.
D4. The heavens contain starry perfect spheres which revolve in perfect circles around the Earth.
D5. There are two kinds of motion.

- Galileo (1564-1642) suffered under the Inquisition in 1633 for supporting Kepler's heliocentrism.
  - Jupiter's moons: more than one center of motion, against D2.
  - Bumps on our moon are evidence against D4.
- The theory of inertia
  - Aristotle: rest need not be explained, but motion does.
  - Inertia: rest is merely a limiting case of motion.
- Newton's first law of motion: an object at rest will remain at rest, and an object in motion will remain in (linear) motion, unless acted upon by an unbalanced force.
  - Only acceleration needs an explanation.
  - There is one type of undisturbed motion, linear, for all bodies, against D5.
  - Two forces, gravitation and impetus, are unifying hypotheses which explain all deviations from ordinary linear motion, against D3.

Atomism

- Aristotle and the medievals believed that there were many different kinds of things.
  - Four basic elements: earth, air, fire, and water.
  - All natural things have their own natures which make them distinct: flowers are different from trees, from frogs, from people.
- Galileo, Boyle and Descartes built on an earlier atomism (of Democritus, say).
- According to atomists, all matter is of the same kind.
- All differences among objects can be explained by their differences in structure.
  - If you find it strange that in explaining these elements I do not use the qualities called ‘heat’, ‘cold’, ‘moisture’ and ‘dryness’ -as the philosophers do - I shall say to you that these qualities themselves seem to me to need explanation. Indeed, unless I am mistaken, not only these four qualities but all the others as well, including even the forms of inanimate bodies, can be explained wihtout the need to suppose anyhign in their matter other than the motion, size, shape, and arrangement of its parts (Descartes, *The World* CSM I.89).

Against Church Authority

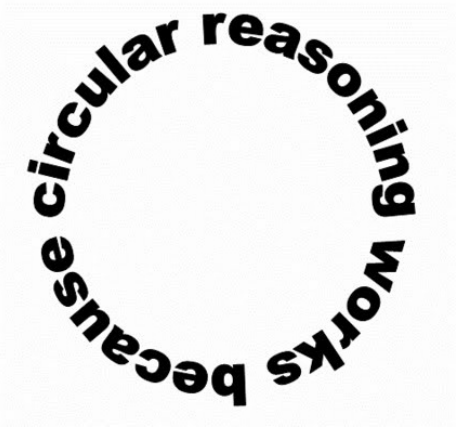
- The Papal Schism (1378-1417) undermined the Church's claim to infallibility.
- Henry VIII severed England's ties with Rome in 1530.
- Charges of corruption by Martin Luther (1483-1546) spurred the Protestant Reformation.
- Calvin (1509-1564) and the Protestant work ethic opposed the hierarchical structure of the Catholic Church.
- The Protestants sought a direct relationship between God and man.

Descartes is a Punk Rocker

- The Mood of the 16th Century
  - Skepticism
  - Humanism
  - Natural reason
  - The scientific method
- The 17th Century is not so different from our own.
  - Increasing skepticism about religion and its explanatory role.
  - There was a rise of relativism, both metaphysical (i.e. the claim that there is no absolute truth) and moral.
  - There was optimism about science and technology.
- Descartes works with a DIY ethos: the individual has a direct relation to the truth.

Scriptural Circularity

I have always thought that two issues - namely, God and the soul, are chief among those that ought to be demonstrated with the aid of philosophy rather than theology. For although it suffices for us believesr to believe by faith that the human soul does not die with the body, and that God exists, certainly no unbelievers seem capable of being persuaded of any religion or even of almost any moral virtue, until these two are first proven to them by natural reason... Granted, it is altogether true that we must believe in God's existence because it is taught in the Holy Scriptures, and, conversely, that we must believe the Holy Scriptures because they have come from God. This is because, of course, since faith is a gift from God, the very same one who gives the grace that is necessary for believing the rest can also give the grace to believe that he exists. Nonetheless, this reasoning cannot be proposed to unbelievers because they would judge it to be circular (AW 35).



Letter of Dedication

- A difficult piece to interpret
- *Le Monde*, and Galileo's condemnation
- The letter of dedication is clearly an attempt to appease the Church.
- Some take Descartes's claims in the letter to be insincere.
- Indeed, there are interpretations of Descartes's *Meditations* which impute insincerity to much of its content.
- I will not pursue such interpretations, evaluating the arguments as they are written.

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Class 2 - Meditation One

Five Dogmas undermined by the new science

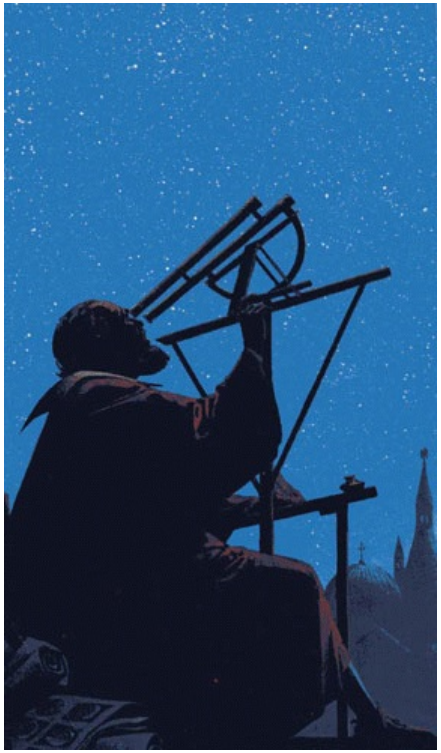
D1. The heavens are constant.

D2. The Earth is at the center of the universe.

D3. Causes are (partially) explained teleologically, by purposes.

D4. The heavens contain starry perfect spheres (stars and planets) which revolve in perfect circles around the Earth.

D5. There are two kinds of motion: linear and circular.



Scriptural circularity

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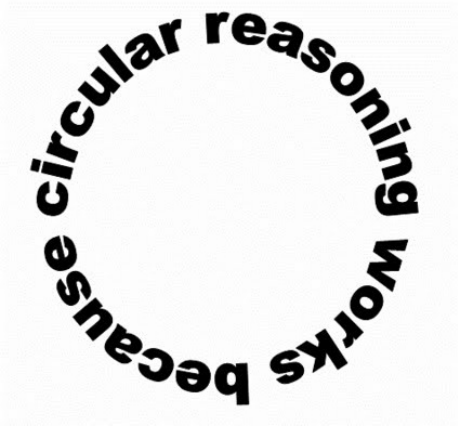
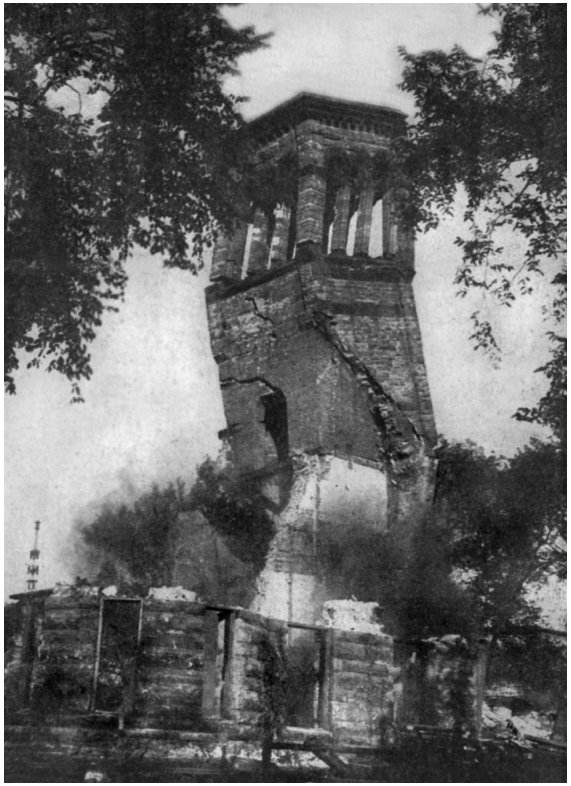


Descartes's Method

To raze everything to the ground and begin again from the original foundation.

- Principles for doubting will call swaths of beliefs into question.
- The method of doubt will lead to certain knowledge.



Descartes's Rules

From *Discourse on Method*

R1. Never to accept anything as true that I did not plainly know to be such;

R2. Divide each difficulty into as many parts as possible;

R3. Conduct my thoughts in an orderly fashion, commencing with the simplest and ascending to the most composite; and

R4. Everywhere to make complete enumerations (AW 31).

What is Knowledge?

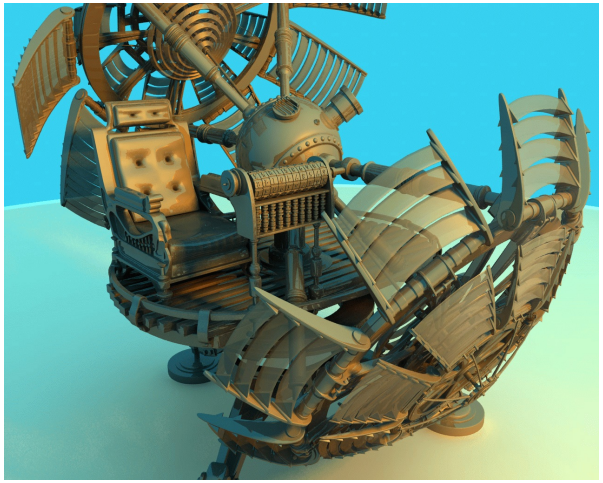
- Knowledge-How vs Knowledge-That
  - Riding a bicycle
  - That the square root of 25 is 5.
  - Focus on knowledge-that
- Knowledge-that appears to be related to belief.
- Both belief and knowledge are relations between people and propositions.

Knowledge and Belief

"I *know* that the sun revolves around the earth."

"I *believe* that the sun revolves around the earth."

Knowledge and Belief



"I *know* that the sun revolves around the earth."

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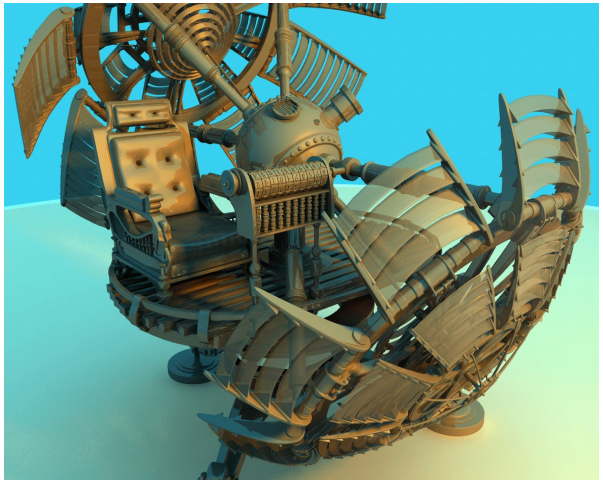
Knowledge and Belief



"I *know* that the sun revolves around the earth."

"I *believe* that the sun revolves around the earth."

I now see that I did not know.

I really did believe it.

Knowledge is a Success Term

- If you know that p, then p is true.
- We can have false beliefs.
- We can not have false knowledge.

Knowledge as True Belief

- Consider the belief that there are exactly 6,592,749,256,111 grains of sand on the beaches of the Earth.
- Let's imagine that there are, in fact, exactly 6,592,749,256,111 grains of sand on the beaches of the Earth
- Still, no one could be truly said to know this fact.
- We need some account, some justification of how we know.

Knowledge as Justified True Belief

- Plato's *Theaetetus*
- Gettier counter-examples: rare cases

The KK thesis

The first [rule] was never to accept anything as true that I did not plainly know to be such; that is to say carefully avoid hasty judgment and prejudice; and to include nothing more in my judgments than what presented itself to my mind so clearly and so distinctly that I had no occasion to call it in doubt (AW31).

- Descartes is claiming that if I know p, I can not doubt it.
- KK thesis: In order to know p, you must know that you know p.
- Name the capital of Illinois.
- Note, but put aside for now, worries about the KK thesis.

Three Doubts

Illusion, Dream, The Demon Deceiver

- Descartes is seeking firm and lasting knowledge in the sciences by way of doubt.
- Rotten apples
- Distinguish doubt from denial
  - ‘I doubt that p’ means that I do not know whether p is true or false.
  - ‘I deny that p’ is an assertion of the falsity of p.
  - At the end of the first Meditation, Descartes asserts that he will deny all of the claims he formerly believed.
  - Why?
- If the three doubts are successful, they will make us doubt, but not deny, everything on the list.

Illusion

- Among the most difficult beliefs to abandon are those which we grasp with our senses.
- Everything he has taken as most true has come either from the senses or through the senses.
- Some knowledge comes directly from experience, like knowing that it is hot outside.
- Other knowledge requires reasoning in addition to sense experience.
  - knowledge of mathematics
  - ‘Bachelors are unmarried’
  - *a priori*
- Does all knowledge come from experience?
- Illusions undermine our sensory beliefs.
  - knowledge of close objects, like our own bodies, resists doubts about illusions.
  - we approach the mirage

Dreams

We can dream of things that do not exist,
or that things have different properties than they do.

The dream argument elicits three distinct questions:

A. Is there any way of distinguishing waking from dreaming experience?

B. What beliefs does the possibility of our dreaming eliminate?

C. Is there anything of which we can be sure, even if we are dreaming?

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Class 3 - Meditations Two and Three

Topics for Today

1. Finish the Doubts
2. The Cogito
3. The Wax Argument
4. Descartes's Rule
5. Foundationalism
6. The Resemblance Hypothesis
7. The Solipsistic Barrier
8. Causal Argument for God's Existence

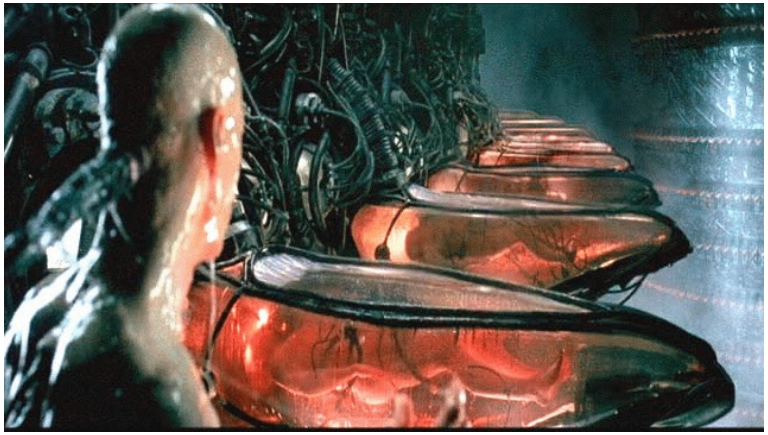
Waking and Dreaming Experience

- There is no obvious mark.
- Anything we can do when we are awake, we can dream we are doing.
- We might be able to know that some state was a dream.
- We can not be sure that our current state, if it has no obvious dream-like qualities, is a waking state.
- If we can not be sure that we are not dreaming, then we can not be sure of anything our senses tell us.
- The list of beliefs the possibility of our dreaming eliminates will be long and detailed.

What Survives the Dream Doubt?

- Mathematical claims
  - 7+5=12
  - the tangent to a circle intersects the radius of that circle at right angles'
- Logic
- Semantic facts
  - 'Bachelors are unmarried.'
- Universals/properties
  - color, shape, quantity, place, time
  - the "building blocks"
  - The properties remain, even if only in our minds.
  - "It is from these components, as if from true colors, that all those images of things that are in our thought are fashioned, be they true or false" (AW42).

The Deceiver



- What if there were a powerful deceiver who can place thoughts directly into our minds?
- The *Matrix* (and similar)
  - According to such examples, our thoughts really happen in brains.
  - There is a physical reality, but it is unlike the one we perceive.
  - In contrast, the deceiver hypothesis is consistent with the non-existence of the physical world.
- We could be disembodied minds, whose thoughts are directly controlled by an independent source.
- When we apply the deceiver hypothesis to our beliefs, we notice that just about all of them can be called into question.
- Nothing, it seems, is certain.

Seeking Firm Foundations

- Three arguments for doubt
  1. Illusion
  2. Dream
  3. Deceiver.
- Each of the three doubts corresponds to a set of beliefs eliminable on the basis of that doubt.

  Class I: Beliefs about the sensory nature of specific physical objects, or the existence of distant or ill-perceived objects.

  Class II: Beliefs about the existence and nature of specific physical objects, and the physical world generally.

  Class III: Beliefs about universals, like color, and shape, the building blocks of physical objects; and about space and time
  - Beliefs about arithmetic and geometry
  - Beliefs about logical and semantic truths
- In order to rebuild his beliefs, Descartes seeks a single starting point.

  Archimedes and the lever

Topics for Today

✓1. Finish the Doubts
2. The Cogito
3. The Wax Argument
4. Descartes's Rule
5. Foundationalism
6. The Resemblance Hypothesis
7. The Solipsistic Barrier
8. Causal Argument for God's Existence

The Cogito

- One belief resists doubt.
  - Whenever I am thinking, even if I am doubting, I must exist.
  - ‘Cogito’ is Latin for ‘I think’.
- The problem with the ‘I think; therefore I am’ formulation

  NC1. Whatever thinks, exists.
  NC2. I think.
  NCC. So, I exist.
- NC, as a logical deduction, would require
  - previous knowledge of the two premises; and
  - previous knowledge that the conclusion follows from the premises.
- But Descartes eliminated logical knowledge on the basis of the deceiver doubt.
- Descartes calls the cogito a pure intuition.
- But what then am I? A thing that thinks. What is that? A thing that doubts, understands, affirms, denies, wills, refuses, imagines, and senses (45a).
  - imagination, for representing or beholding sensory images
  - a capacity to make judgments, to affirm or deny, or to doubt
  - capacities for willing and refusing
  - emotions, like happiness

Augustine (5th Century CE)

- But, without any delusive representation of images or phantasms, I am most certain that I am, and that I know and delight in this. In respect of these truths, I am not at all afraid of the arguments of the Academicians, who say, What if you are deceived? For if I am deceived, I am. For he who is not, cannot be deceived; and if I am deceived, by this same token I am. And since I am if I am deceived, how am I deceived in believing that I am? for it is certain that I am if I am deceived. Since, therefore, I, the person deceived, should be, even if I were deceived, certainly I am not deceived in this knowledge that I am. And, consequently, neither am I deceived in knowing that I know. For, as I know that I am, so I know this also, that I know (*City of God*).
- Honor Code Violation by Descartes?

Ideas Can Not Be False

- Distinguish sensing from seeming to sense.
- The doubts lead us to wonder if we are living in a dream-like world.
- But
  - I have direct access to my thoughts: privilege.
  - The doubts infect only my claims about what those thoughts represent: indefeasibility.
  - Ideas can not be false.
- The next step: examine these thoughts and see if they can help us make any conclusions beyond our thoughts.
- No luck; let's come back the other way.

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Knowledge of Bodies From the Mind Alone

- We generally think that our knowledge of physical objects is the result of sense experience.
- We see a chipmunk, perhaps represent it to ourselves in imagination, and then we know about the chipmunk.
- “I now know that even bodies are not, properly speaking, perceived by the senses or by the faculty of imagination, but by the intellect alone, and that they are not perceived through their being touched or seen, but only through their being understood” (47a).

The Ball of Wax

- First, it is cold, hard, yellow, honey-flavored, and flower-scented.
- Then, after it is melted, the wax becomes hot and liquid, and loses its color, taste, and odor.
- All of its sensory properties have shifted.
- We have images of the wax, in several incompatible states.
- But we do not have an image of the essence of the wax, or of wax in general.
- “I grasp that the wax is capable of innumerable changes of this sort, even though I am incapable of running through these innumerable changes by using my imagination... The perception of the wax is neither a seeing, nor a touching, nor an imagining...even though it previously seemed so; rather it is an inspection on the part of the mind alone “(46a).

Descartes's Argument That Knowledge of the World Comes From the Mind Alone

W1. Knowledge must be firm and lasting.

W2. What we get from the senses is transient and mutable.

W3. So our senses do not give us knowledge.

W4. We do have knowledge about the wax.

W5. Knowledge which does not come from the senses must come from the mind alone.

WC. So, our knowledge of physical objects must come from the mind alone.

Two Possible Cheats

- We don't even know that physical objects exist.
  - Descartes's conclusion is that if we have any knowledge of physical objects, then it can not come from the senses.
- Is the wax same before and after melting?
  - "Does the same wax remain? I must confess that it does; no one denies it; no one thinks otherwise" (45b).
  - Descartes neglects the Heraclitean view.
  - The Heraclitean view, though, will not get Descartes any "firm and lasting" knowledge.
- No honor code violations here.

Real and Apparent Properties

- According to the new science, the wax is just a body which can take various manifestations, hot or cold, sweet or tasteless, etc., but is identified with none of these particular sensory qualities.
- “Perhaps the wax was what I now think it is: namely that the wax itself never really was the sweetness of the honey, nor the fragrance of the flowers, nor the whiteness, nor the shape, nor the sound, but instead was a body that a short time ago manifested itself to me in these ways, and now does so in other ways... Let us focus our attention on this and see what remains after we have removed everything that does not belong to the wax: only that it is something extended, flexible, and mutable” (46a).

Descartes's Metaphysics

S1. God (infinite mind);

S2. Persons (finite minds); and

S3. Extended objects (bodies).

The Role of the Senses in Knowledge

- Weak claim: the senses are insufficient for knowledge.
  - We use the senses to gather information
  - In conjunction with reasoning, which is purely mental, we arrive at knowledge.
  - Fairly uncontroversial
- Strong claim: the senses are irrelevant to knowledge.
  - Knowledge of physical objects comes from the intellect (or mind) alone.
  - Any information we get from the senses does not rise to the level of knowledge.
  - We can believe that the chair is blue, but we can never know this.
  - We know that the wax can take more forms than we could possibly imagine: more shapes, more sizes.
  - We don't see potential colors.
  - Our knowledge that there are other potential shapes and colors must go beyond anything that could come from the senses.
- Two different types of beliefs about the wax.
  - It has a particular shape, color, and other sense properties.
    - not knowledge
  - It can take on innumerably many different forms.
    - knowledge

The Priority of Mind

the mind is known better than the body

> "There is not a single consideration that can aid in my perception of the wax or of any other body that fails to make even more manifest the nature of my mind" (47a).

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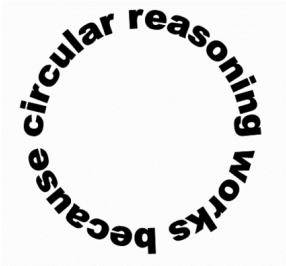
Descartes's Rule

- We need some kind of mark, or rule, which enables us to separate true knowledge from mere belief.
- We start with the Cogito.
- "Surely in this first instance of knowledge, there is nothing but a certain clear and distinct perception of what I affirm. Yet this would hardly be enough to render me certain of the truth of a thing, if it could ever happen that something I perceived so clearly and distinctly were false. And thus I now seem able to posit as a general rule that everything I very clearly and distinctly perceive is true" (47).

On Clarity and Distinctness

- "I call a perception 'clear' when it is present and accessible to the attentive mind - just as we say that we see something clearly when it is present to the eye's gaze and stimulates it with a sufficient degree of strength and accessibility. I call a perception 'distinct' if, as well as being clear, it is so sharply separated from all other perceptions that it contains within itself only what is clear" (*Principles of Philosophy* I.45).
- We can not see with our senses clearly and distinctly, but only with the mind.
- The light of nature formulation
  - "Whatever is shown me by this light of nature, for example, that from the fact that I doubt, it follows that I am, and the like, cannot in any way be doubtful. This is owing to the fact that there can be no other faculty that I can trust as much as this light and which could teach that these things are not true" (49a)
- The specific formulation of the criterion is not important.
- Without a mark, all searching for knowledge, on Descartes's terms, is fruitless.

The Cartesian Circle



- Given any mark, or rule, for certainty, how do we know that we have the correct mark?
- Appeal to the mark itself is circular.
- Later, Descartes argues that the goodness of God secures the criterion of clear and distinct perception.
- That argument seems to rely on the use of the criterion in the argument for the existence of God.
- The problem of Cartesian circularity is one of the more vexing and interesting in Descartes scholarship.
- Still, the cogito does seem to contain some kind of undoubtable truth.
- If we can grasp what it is that makes the cogito unassailable, perhaps we can find the surety elsewhere.

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Foundational Systems

- F1. Basic axioms, or undisputable truths; and
- F2. Rules of inference
  - Rules allow us to generate further theorems on the basis of already established ones.
- Definitions
- Distinguish the axioms in importance
- F1 and F2 are the core.
- Descartes's synthetic presentation in Second Replies
- Euclid's *Elements* (see website)
- Spinoza's *Ethics*

The Synthetic (Geometrical) Version

- Descartes provides definitions, postulates, common notions, and derived propositions.
- Definitions:
  - thought, idea
  - objective reality, formal reality
  - substance, mind, body,
  - God, essence, distinctness
- In the definitions of objective and formal reality, Descartes is setting up the proofs of God's existence.
- Already in the definitions, we can find some worries about Descartes's project.
  - "By the word "thought" I include everything that is in us in such a way that we are *immediately aware* of it... By the word "idea" I understand that form of any thought through the immediate perception of which I am *aware* of that very same thought "(94).
  - Unconscious thought
  - Blindsight

The Rest of the Synthetic Version

- Seven postulates:
  1. Frailty of the senses
  2. Security of pure thought
  3. Self-evidence of logic, including the logic of causation (but see the Common Notions, as well)
  4. Connection between ideas and objects (compare to Definition IX)
  5. The idea of God includes necessary existence.
  6. Contrast clear and distinct perception with obscure and confused perception
  7. Security of clear and distinct perceptions
- Ten common notions:
  1. We can ask about the cause of any thing.
  2. Each instant is independent of every other, so that creation and preservation are indistinct.
  3. Nothing can be uncaused.
  4. Whatever reality is in a thing is formally or eminently in its first cause.
  5. Our ideas require causes which contain formally the reality which exists objectively in the ideas.
  6. There are degrees of reality: accidents, finite substances, infinite substance.
  7. Our free will aims infallibly toward the good.
  8. Whatever can make what is greater can make what is less.
  9. It is greater to create (or preserve) a substance than an accident.
  10. The ideas of all objects contain existence; only the idea of a perfect object contains necessary existence.
- Propositions
  1. Ontological argument for God's existence
  2-3. Causal arguments for God's existence
  4. Distinction of mind and body

The Synthetic and the Analytic

- The single, Archimedean point of the *Meditations* is almost completely absent from the synthetic presentation.
- Meditations:
  - Cogito - God - Clarity and Distinctness - Free Will - Mathematics - Mind/Body distinction
- The synthetic version hardly mentions mathematics or the cogito.
- The order is different.

Foundations and Method

- A starting point for the *Meditations*: the cogito
- A rule for generating more truths: clear and distinct perception

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The Resemblance Hypothesis

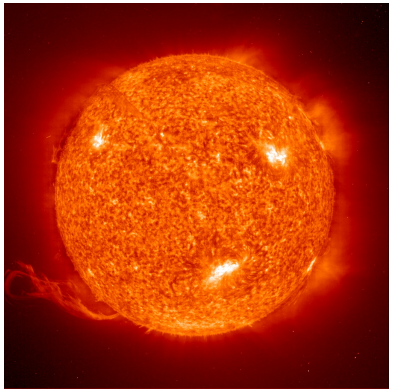
- The source of some of my errors is in believing that sensory experience leads to knowledge.
- The resemblance hypothesis says that my ideas of objects are like the objects as they are in themselves.
- Descartes rejects the Resemblance Hypothesis.
- An argument for the hypothesis.
  RH1. I have ideas about objects involuntarily.
  RH2. Involuntary ideas come from outside of me.
  RH3. Objects send me their own likeness.
  RHC. So, my ideas resemble their causes, i.e. physical objects.
- Descartes accepts RH1, although says that those ideas can lead one astray.
- Descartes provides arguments against both RH2 and RH3.

Against RH2

RH2. Involuntary ideas come from outside of me.

- We may have an unnoticed ability to create images.
- As with dreams, we may create these ideas without realizing that we are doing so.
- Or we may have another faculty inside us for making these sensations.

Against RH3



RH3. Objects send me their own likeness.

- The senses tell us that the sun is very small.
- We reason that the sun is very large.
- “Both ideas surely cannot resemble the same sun existing outside me; and reason convinces me that the idea that seems to have emanated from the sun itself from so close is the very one that least resembles the sun” (49a-b).

Ideas

- "Now as far as ideas are concerned, if they are considered alone and in their own right, without being referred to something else, they cannot, properly speaking, be false. For whether it is a she-goat or a chimera that I am imagining, it is no less true that I imagine the one than the other. Moreover, we need not fear that there is falsity in the will itself or in the affects, for although I can choose evil things or even things that are utterly nonexistent, I cannot conclude from this that it is untrue that I do choose these things. Thus there remain only judgments in which I must take care not to be mistaken" (48b).
- Three classes of ideas, depending on their origins
  - Innate ideas are *a priori*; they are not instinctive abilities, but pure intuitions are among the innate ideas.
  - Acquired ideas are *a posteriori*, or empirical; they are derived from sense experience.
  - Ideas that I create, like those of fantasy and imagination, are also empirical.
- Only acquired and created ideas are subject to errors from the resemblance hypothesis.

The Resemblance Hypothesis and the Doubts

- The arguments against the Resemblance Hypothesis are independent of the three doubts.
- We can delete the ideas which depended on the Resemblance Hypothesis.
- We now have reasons to keep the rotten apples out of the basket: the three doubts.
- We have criteria for putting good apples back into the basket: the criterion for certainty, clear and distinct perception.
- And we also have a criterion for recognizing bad apples: reliance on the Resemblance Hypothesis.

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The Solipsistic Barrier

But what about when I considered something very simple and easy in the areas of arithmetic or geometry, for example that two plus three make five, and the like? Did I not intuit them at least clearly enough so as to affirm them as true? To be sure, I did decide later on that I must doubt these things, but that was only because it occurred to me that some God could perhaps have given me a nature such that I might be deceived even about matters that seemed most evident. But whenever this preconceived opinion about the supreme power of God occurs to me, I cannot help admitting that, were he to wish it, it would be easy for him to cause me to err even in those matters that I think I intuit as clearly as possible with the eyes of the mind. On the other hand, whenever I turn my attention to those very things that I think I perceive with such great clarity, I am so completely persuaded by them that I spontaneously blurt out these words: "let him who can deceive me; so long as I think that I am something, he will never bring it about that I am nothing. Nor will he one day make it true that I never existed, for it is true now that I do exist. Nor will he even bring it about that perhaps two plus three might equal more or less than five, or similar items in which I recognize an obvious contradiction." And certainly, because I have no reason for thinking that there is a God who is a deceiver (and of course I do not yet sufficiently know whether there even is a God), the basis for doubting, depending as it does merely on the above hypothesis, is very tenuous and, so to speak, metaphysical. But in order to remove even this basis for doubt, I should at the first opportunity inquire whether there is a God, and, if there is, whether or not he can be a deceiver. For if I am ignorant of this, it appears I am never capable of being completely certain about anything else (AW 47b-48a).

Topics for Today

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✓7. The Solipsistic Barrier

- That's pretty good!

8. Causal Argument for God's Existence

- We'll start with this on Thursday.

Philosophy 203
History of Modern Western Philosophy

Russell Marcus
Hamilton College
Spring 2011

Class 4 - Meditations Four through Six
Discourse, Part Five

Topics for today

1. The causal argument for God's existence
2. The problem of error and the two-faculty theory of mind
3. Reclaiming Class III beliefs
4. The ontological argument
5. Reclaiming the material world
6. The mind/body distinction

The Causal Argument for God's Existence
An Overview

- There is one idea which can not be merely constructed by myself.
- The idea of God has properties which make it such that it can not be created by me, alone.
  - Since I have doubt, I can not be perfect.
  - But, I have the idea of perfection.
- The idea of perfection can not have come from an imperfect source.
  - That would violate a general principle which prohibits something coming from nothing.
- So, the idea of God must come from God.

Definitions

see also the synthetic presentation

- The objective reality of an idea is a quality that an idea has in regards to that which it represents.
  - The idea of God has more objective reality than the idea of a person, which has more objective reality than the idea of a mode (or property) of a person.
  - There are really three kinds of objective reality:
    - of modes
    - of finite substances
    - of infinite substances
- Formal reality is what we ordinarily think of as existence.
  - The idea of Easter Bunny has the same kind of objective reality as the idea of myself.
  - Both ideas are of finite substances.
  - But, I have formal reality, whereas the Easter Bunny does not.

The General Principle

R: There is more reality in the cause of something than in the effect.

- From R, it follows that something can not come from nothing.
- R holds for ideas as well as for other objects, like physical ones.
  - At this point in the presentation, R can only hold of ideas.
- R yields the particular claim that there must be more reality in the idea of God than there is in the idea of a person.
- There is so much reality in the idea of God that we can not have constructed it ourselves.
- The idea of God contains the ideas of all perfections.
- But, I could not have devised the notion of such perfections purely from my ideas.

God and My Ideas

Although the idea of substance is in me by virtue of the fact that I am a substance, that fact is not sufficient to explain my having the idea of an infinite substance, since I am finite, unless this idea proceeded from some substance which really was infinite... I clearly understand that there is more reality in an infinite substance than there is in a finite one. Thus the perception of the infinite is somehow prior in me to the perception of the finite... How would I understand that I doubt and that I desire, that is, that I lack something and that I am not wholly perfect, unless there were some idea in me of a more perfect being, by comparison with which I might recognize my defects (51b)?

Tlumak's Version

T1. Ideas are like images in that they represent things as having certain characteristics.

T2. Some of the objects of my ideas are represented as having more formal reality than others (i.e. some ideas have more objective reality than others).

T3. Whatever exists must have a cause with at least as much formal reality as it has.

T4. Every idea must have a cause with at least as much formal reality as the idea represents its object has having.

T5. I have an idea of God as an actually infinite, eternal, immutable, independent, all-knowing all-powerful substance by whom I (and anything else which may exist) have been created.

T6. I do not have all the perfections which my idea of God represents God as having.

T7. I am not the cause of my idea of God. (From 4, 5, and 6)

T8. The cause of my idea of God is some being other than myself who possesses at least as much formal reality as my idea of God represents. (From 4, 5, and 8)

TC. So, God exists.

Tlumak's Worry

- Tlumak questions the central claim, at T4, that ideas must have causes that are at least as real as the object of that idea.
- If I have an idea of a rock, there must be a cause of that idea with at least as much reality (i.e. the ability to create) that rock.
- The cause of my idea of the rock need not be the immediate source of my idea; I can just look at the rock.
- But, it must be the first cause of my idea of the rock.

Another Worry

R: There is more reality in the cause of something than in the effect.

- What is the status of the general principle R?
- It must be a clear and distinct perception, like the cogito.
- Is it?
- Moreover, Descartes seems to be using logical principles to infer from R.
- How were those principles secured?

Problems for God

G1. Evil, which seems to conflict with omni-benevolence.

G2. Error, which seems to conflict with omnipotence.

G3. Free will, which seems to conflict with omniscience.

Also, the best of all possible worlds.

We will pursue these questions more in the weeks ahead.

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Taking Stock

End of the Third Meditation

- We have reasons to suspend judgment concerning our beliefs: the three doubts.
- We have a criterion for restoring some of our beliefs: clear and distinct perception.
- We have a criterion for continuing to doubt others: reliance on the Resemblance Hypothesis.
- At the beginning of the Fourth Meditation, Descartes argues for protection for the criterion.

Defeating the Deceiver

- To move forward, we need to know that the criterion (C&D perception) will not lead us astray.
- To secure the criterion, we need to eliminate the possibility of a deceiver.
- GG

  GG1. Deception is a defect.
  GG2. God has no defects.
  GG3. So God is no deceiver.
  GG4. God created and preserves me.
  GGC. So, I am not deceived by God.

The Problem of Error

GG1. Deception is a defect.
GG2. God has no defects.
GG3. So God is no deceiver.
GG4. God created and preserves me.
GGC. So, I am not deceived by God.

- GG appears to be too strong.
- If my creator and preserver can not, by her goodness, deceive me, it is a puzzle how I can ever err.
- PE

  PE1. God exists and is perfectly good.
  PE2. God creates and preserves me.
  PE3. My faculty of judgment therefore comes from God.
  PEC. So, my judgments never err.
- Descartes is committed to all three premises.
- He claims that PE is invalid (i.e. PEC does not follow from the premises).

The Two-Faculty Theory of the Mind

AW 55b - 58a

- Our minds have faculties both of will and of understanding.
- Our power of willing is infinite, but our power of understanding is finite.
- We err when we apply our will (and judge) outside our understanding.
- The way to avoid error is to avoid judging unless you have a clear and distinct understanding.
- The goodness of God ensures that there is no deceiver, no systematic deception, though we might make particular errors.
- I am the source of my error, and if I am careful not to judge hastily, I can be sure to never judge falsely.
- Descartes's account allows small mistakes, but blocks widespread, systematic deception.

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Reclaiming Class III Beliefs

- Let's look back at the three-tiered classification of our beliefs:
  - Class I: Beliefs about the sensory nature of specific physical objects, or the existence of distant or ill-perceived objects
  - Class II: Beliefs about the existence and nature of specific physical objects, and the physical world generally
  - Class III: Beliefs about universals, like color, and shape, the building blocks of physical objects; and about space and time
    - Beliefs about arithmetic and geometry
    - Beliefs about logical and semantic truths
- The possibility of a deceiver eliminated all of our Class III beliefs.
- Having eliminated the deceiver, we can reclaim them, or at least the ones we perceive most clearly and distinctly.

Mathematics and Mathematical Properties

- Descartes reclaims mathematical truths in Meditation Five, 58b-59a.
- Sensory information is still in doubt, since the dream argument lingers, even with the defeat of the deceiver.
- The problems of the resemblance hypothesis have not been resolved, but mathematical knowledge is not impugned, even in dreams.
- Consequently, Descartes reclaims the mathematical properties of objects (e.g. length, shape, and anything describable using mathematics).
- This reclamation leads to Descartes' second argument for the existence of God, the ontological argument.

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Definitions of ‘God’

- There are various characterizations of ‘God’, to many of which Descartes alludes.
  - Whatever necessarily exists
  - All perfections, including omniscience, omnipotence, and omnibenevolence
  - Creator and preserver
- Anselm (1033-1109) uses a different characterization: ‘something greater than which can not be thought’.
- These are definitions of a term, or a word, but not an object.
- There is no presupposition in this characterization that such a thing exists.
  - Or, so it seems.

Anselm's Ontological Argument

- AO

  AO1. I can think of 'God'

  AO2. If 'God' were just an idea, or term, then I could conceive of something greater than 'God' (i.e. an existing God).

  AO3. But 'God' is that than which nothing greater can be conceived

  AO4. So 'God' can not be just an idea

  AOC. So, God exists.
- Anselm further argues that one can not even conceive of God not to exist.

Descartes's Ontological Argument

- Descartes's version does not depend on our actual conception, or on our ability to conceive.
- Existence is part of the essence of the concept of God.
  - having angles whose measures add up to 180 degrees is part of the essence of a 'triangle'.
  - the concept of a mountain necessarily entails a valley.
- The essence of an object is all the properties that necessarily belong to that object.
  - necessary and sufficient conditions for being one of that type.
  - Something that has all these properties is one.
  - Something that lacks any of these properties is not one.
  - A chair's essence (approximately) is to be an item of furniture for sitting, with a back, made of durable material.
  - The essence of being a bachelor is being an unmarried man.
  - A human person is essentially a body and a mind.
- The essence of the concept of God is perfection.
  - the three omnis
  - existence

Objections to the Ontological Argument

- Caterus (First Objections)
  - The concept of a necessarily existing lion has existence as part of its essence, but it entails no actual lions.
  - We must distinguish more carefully between concepts and objects.
  - Even if the concept contains existence, it is still just a concept.
- Gaunilo (To Anselm)
  - My idea of the most perfect island does not entail that it exists.
  - A non-existing island would be free of imperfections.
- Gassendi (Fifth Objections)
  - Existence can not be part of an essence since is not a perfection.
  - Kant, later, pursue's Gassendi's assertion.

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Dualism and Monism

- Specific sense properties of physical objects will never be reclaimed, since they suffer from the problems of the resemblance hypothesis.
- Descartes does reclaim the material world, though.
- By the end of the *Meditations*, he has defended a dualist view.
- Descartes countenances three types of substances:
  - S1. God (infinite mind);
  - S2. Persons (finite minds); and
  - S3. Extended objects (bodies).
- S1 and S2 are similar in kind.
- We call Descartes a dualist: he believes that there are minds (both finite and infinite) and bodies.
- A monist believes that there is only one kind of substance.
  - Berkeley is a monist who believes that there are only minds.
  - Hobbes is a monist who believes that there is only matter.

Removing the Dream Doubt

- We reclaimed Class III beliefs only after removing the third doubt.
- Descartes does not remove the dream doubt until the very end of Meditation Six.
- "The hyperbolic doubts of the last few days ought to be rejected as ludicrous. The goes especially for the chief reason for doubting, which dealt with my failure to distinguish being asleep from being awake. For I now notice that there is a considerable difference between these two; dreams are never joined by the memory with all the other actions of life, as is the case with those actions that occur when one is awake" (AW 68b).
- Why is this solution acceptable now, but not in the First Meditation?

The Material World *Can* Exist

- "I now know that [material things] can exist, at least insofar as they are the object of pure mathematics, since I clearly and distinctly perceive them. For no doubt God is capable of bringing about everything that I am capable of perceiving in this way "(61).
- God is omnipotent.
- She can create anything that I can perceive.
- She can create anything that does not create a contradiction.
- She may not be able to create a round square, or a sphere that is both blue and red all over.
- The question remains whether she did in fact create these things.

The Material World *Does* Exist

(64b)

- MW

  MW1. I seem to sense objects.
  MW2. If I seem to sense objects, while there are none, then God is a deceiver.
  MW3. God is no deceiver.
  MWC. So, material things exist.

- Only the mathematical properties of this material things are known clearly and distinctly.
  - We never defeat the illusion doubt, in the way that we reject the other two arguments for doubt.
- The essential property of a material thing is its extension.

The Utility of the Senses

66a and 68a

- The senses are not useful for determining truth.
- It seems puzzling that God would give us senses.
- Descartes resolves this puzzle by claiming that the senses provide natural protection of our bodies, 64a-b.
- Since the body must have a method for transmitting information to the brain, it is bound to be imperfect.
- It is better to be deceived once in a while, than not to have any information for the protection of the body.

Topics for today

✓1. The causal argument for God's existence
✓2. The problem of error and the two-faculty theory of mind
✓3. Reclaiming Class III beliefs
✓4. The ontological argument
✓5. Reclaiming the material world
6. The mind/body distinction

The Mind/Body Distinction

We are, essentially, thinking things

- “From the fact that I know that I exist, and that at the same time I judge that obviously nothing else belongs to my nature or essence except that I am a thinking thing, I rightly conclude that my essence consists entirely in my being a thinking thing” (AW 64a)
- Descartes provides two arguments, though most attention gets paid to the first.

MB

MB1. I have a clear and distinct understanding of my mind, independent of my body.

MB2. I have a clear and distinct understanding of my body, independent of my mind.

MB3. Whatever I can clearly and distinctly conceive of as separate, can be separated by God, and so are really distinct.

MBC. So, my mind is distinct from my body

The Major Premise

MB3. Whatever I can clearly and distinctly conceive of as separate, can be separated by God, and so are really distinct.

- MB3 is especially contentious.
- The ability of an omnipotent God to separate two objects may not be relevant to the nature and relations of those objects.
- Even if there were a God who could separate my mind from my body, perhaps my mind is, in fact, just a part of, or an aspect of, my body.
- We could weaken the premise to remove reference to God.
  - MB3*. Whatever I can clearly and distinctly conceive of as separate are really distinct.
  - MB3* supports a weaker conceptual dualism.

Conceptual Dualism

- Conceptual dualism says that we have distinct concepts for the mind and the body.
- It is, essentially, a semantic thesis, and not a metaphysical one.
- In contrast to substance dualism, conceptual dualism is not very controversial.
- We might express the original MB3 as saying that conceptual dualism entails substance dualism.

Substances and Essential Characteristics

- MB1 and MB2 rely on characterizations of the mind and body.
- "To each substance there belongs one principal attribute; in the case of mind, this is thought, and in the case of body it is extension. A substance may indeed be known through any attribute at all; but each substance has one principal property which constitutes its nature and essence, and to which all its other properties are referred. Thus extension in length, breadth and depth constitutes the nature of corporeal substance; and thought constitutes the nature of thinking substance. Everything else which can be attributed to body presupposes extension, and is merely a mode of an extended thing; and similarly, whatever we find in the mind is simply one of the various modes of thinking" (*Principles of Philosophy* 53).
- The core characteristic of thought is consciousness.
- Bodies are mere machines.
- Our bodies are no different in kind from those of the higher animals.

Persons and Animals

- The most obvious distinction between humans and animals is our ability to reason, our mental qualities.
- Descartes appeals to language use and behavioral plasticity, 33a.
- There are many ways in which particular animals are better than humans in particular tasks (e.g. smart chimps).
- Humans perform a wider range of tasks.
- Descartes concluded that humans were different in kind, having souls.
- Cartesians were notorious vivisectionists.
- Descartes's observations remain in debates over artificial intelligence.

Separating Thought from Sensation

- We may confuse the nature of mind and body because of their union.
- Consider our faculty of imagination.
  - It seems that we first receive images, and then reason about them, 63a.
  - Descartes argues that this Aristotelian picture is misleading.
- We can exist, and think, without imagination, p 64a.
- On Cartesian dualism, the senses have been demoted from their lofty position as the origin of all knowledge.
- The senses merely provide natural protection of our bodies.

Arnauld's Objection

- AO

  AO1. I have a clear and distinct understanding of Clark Kent, as someone who can not fly.

  AO2. I have a clear and distinct understanding of Superman, as someone who can fly.

  AO3. Whatever I can clearly and distinctly conceive of as separate, can be separated by God, and so are really distinct.

  AOC. So, Clark Kent is not Superman.
- The conclusion of SC is clearly false.
- But, the form of SC is the same as the form of MB.

A Cartesian Reply to Arnauld

- Descartes should respond by finding a difference between the two arguments such that AO is unsound while MB remains sound.
- He could insist that we do not have a clear and distinct understanding of Clark Kent.
  - Our knowledge of him is inadequate.
- Denigrating our knowledge of Clark Kent solves the problem with the Superman argument.
- But, that solution might rebound on the first premise of Descartes's original argument.
- We have to wonder whether our knowledge of the body is also inadequate.
- Perhaps, if our knowledge of the mind were adequate, then we would understand that the mind is the body, and not distinct from it.

Descartes's Second Argument For the Mind/Body Distinction

based on the divisibility of bodies, 67a

- DB
  - DB1. Whatever two things have different properties are different objects.
  - DB2. The mind is indivisible.
  - DB3. The body is divisible.
  - DBC. So, the mind is not the body.
- In response to DB, we might again just not have noticed that the mind is in fact divisible.
- Descartes mentions other attributes.
  - that knowledge of God is innate
  - the distinction between willing and understanding
- We have a complete understanding of the mind, without any material attributes.

A Return to Plato?

- Plato argued that the world of sensation, or becoming, is not the real world.
  - The real world is the world of being, the world of the forms.
- Arnauld claims that Descartes has returned to Plato's view.
- Descartes denies it.
  - We are primarily our minds.
  - But our bodies are part of us, as well.
- Descartes steers a narrow path between the old Platonic view that our bodies are completely inessential and a materialist view on which we are just our bodies.
- For Plato, the body is at best merely a vessel for the soul.
- For Descartes, we are tied to our bodies in a remarkable way, unlike a sailor and ship, 65a.
- We do not merely observe injury to the body, but have a special relationship to it.
  - Privileged access

Immortality

"When one knows how different [the mind and the body] are, one understands much better the arguments which prove that our soul is of a nature entirely independent of the body, and consequently that it is not subject to die with it. Then, since we do not see any other causes at all for its destruction, we are naturally led to judge from this that it is immortal" (34).

Topics for today

✓1. The causal argument for God's existence

✓2. The problem of error and the two-faculty theory of mind

✓3. Reclaiming Class III beliefs

✓4. The ontological argument

✓5. Reclaiming the material world

✓6. The mind/body distinction

- Woo. Hoo.

Some topics for review

1. Three doubts:
   Illusion
   Dream
   Deceiver
2. Skepticism
3. Three classes of beliefs
4. Rationalism and empiricism
5. A priori and a posteriori knowledge
6. The cogito
7. Clarity and distinctness as criteria for knowledge
8. Resemblance hypothesis
9. Three sources of ideas (innate, acquired, produced by me) and their characteristics.
10. The problem of error and Descartes's account of error
11. Descartes's metaphysics: infinite mind, finite minds, bodies
12. Necessary truths (e.g. those of mathematics) and how we know them
13. The ontological argument for God's existence
14. The role of our senses
15. The possibility and existence of physical objects
16. The mind/body thesis

For Next Class

Synthetic Version of the *Meditations*

In class, a group exercise on the *Objections and Replies*

Tonight: *Inception* 6-8:30pm in KJ Aud

Pizza and discussion to follow

Philosophy 203
History of Modern Western Philosophy

Russell Marcus
Hamilton College
Spring 2011

Class 6 - Hobbes

Monism and the Problem of Interaction

- Two monists:
  - Thomas Hobbes
  - Baruch (Benedict) Spinoza.
- Monism is motivated largely by the dualist's problem of interaction.
- The problem of interaction is to describe how our bodies and minds could interact, if they are two independent substances.
- "Theoretical shuttlecocks"
- Why does the mind get drunk when the body does the drinking?

Descartes and the Pineal Gland

- Descartes located the seat of the soul in the pineal gland.
  - symmetry considerations
- This merely locates the problem.

The Monist Solution

Deny the claim that the mind and body are distinct substances

- Two obvious monist options.
- The materialist claims that the mind is really just the body.
- The idealist claims that there are no bodies; there are only minds.

Hobbes is a Materialist Monist.

- The world (I mean not the earth only, that denominates the lovers of it *worldly men*, but the *universe*, that is, the whole mass of all things that are) is corporeal, that is to say, body, and has the dimensions of magnitude, namely, length, breadth, and depth. Also every part of body is likewise body, and has the like dimensions, and consequently every part of the universe is body; and that which is not body is no part of the universe. And because the universe is all, that which is no part of it is nothing, and consequently nowhere (*Leviathan* §I.46, AW 133b).

Idealism

- Berkeley
- Leibniz is also an idealist, though he writes as if there is a material world.

Spinoza

Weirdo Monist

- For Spinoza, there is only one substance, which he calls God.
- You might prefer to think of that one substance as nature, or Nature.
- Spinoza's one substance, God, has many attributes, both mental and physical (and others!).
- So, there is just one kind of thing (monism), but it has many aspects, or properties.
- Most philosophers take minds and bodies to be substances.
- Spinoza takes them to be properties of a single substance called God, or Nature.

The Problem of Interaction: No Problem

- The problem of interaction seems to require magic, which appears to debar a solution.
- But positing a non-corporeal soul already commits you to a kind of magic.
- Once you are committed to magic, the problem of interaction just requires more of the same.
- The problem seems to be with the dualism, not with explaining the interaction between the body and mind.

The Problem of Mental Causation

- The challenge for any materialist is to account for mental phenomena, especially mental causation.
- While my conscious states may not be thought of as real qualities of external objects, they are real qualities of my conscious mind.
- They seem to affect my actions.
- The problem of mental causation is to explain how thoughts can have causal powers.

Hobbes's Solution to the Problem of Mental Causation

- Hobbes claims that mental phenomena are motions in the nerves and brain.
  - paradigmatic physical phenomena
- Galilean science: all that exists are particles in motion.
  - Interactions of particles are limited to transfer of momentum.
  - Nothing could be given to us by external objects, except their motions.
- The cause of sense is the external body, or object, which presses the organ proper to each sense, either immediately, as in taste and touch, or mediately, as in seeing, hearing, and smelling; this pressure, by the mediation of nerves and other strings and membranes of the body, continues inwards to the brain and heart, causes there a resistance, or counterpressure, or endeavor of the heart, to deliver itself; this endeavor, because *outward*, seems to be some matter without. And this *seeming*, or, *fancy*, is that which men call *sense*... All...qualities called *sensible* are in the object that causes them but so many several motions of the matter, by which it presses our organs diversely. Neither in us that are pressed are they anything else but diverse motions (**for motion produces nothing but motion**) (*Leviathan* §I.1, AW 116; bold emphasis added).

Aristotle Accepted the Resemblance Hypothesis

- Aristotle had taken sensory qualities to be properties of external objects.
- The redness and sweetness of an apple are real properties of the apple itself.
- Our senses are attuned to the external environment.
- For example, color vision occurs when a person's eyes are changed to be like the color of an external object.
- I see the apple as red because my eye itself is able to change to red.
- The eye's changing to match the environment is perception.
- Similarly, in thinking, we are changed to match the forms of other objects in the world.
- On this Aristotelian view, our ideas resemble their causes, and objects really have the properties that we perceive them to have.

Descartes Rejected the Resemblance Hypothesis

- The wax is just a body which can take various manifestations, hot or cold, sweet or tasteless, etc., but is identified with none of these particular sensory qualities.
- Sound is, “Nothing but a certain vibration of the air which strikes our ears” (*Le Monde*, AT XI.6).
- Physical objects are essentially extended things, made of parts which may or may not be in motion, both together and relative to each other.
- Depending on how its parts, the atoms, unite and move, an object affects us in different ways.
- Their arrangement, along with our sensory apparatus, determines how we experience an object.
- The same object may have many different appearances.
- The arrangement of particles in a lemon makes the light reflect from its surface so that I have a yellow experience.
- Another person, or an alien with a radically different sense apparatus, would have different visual sensations of the same object.
- My conscious experience is unlike the lemon in itself.

The Veil of Perception

- Hobbes embraces the veil of perception, ascribing a profound error to those, like Aristotle, who hold a resemblance hypothesis.
- The third [cause of absurd assertions] I ascribe to the giving of the names of the *accidents* of *bodies without us* to the *accidents* of our *own bodies*; as they do who say the *color is in the body; the sound is in the air, etc*. (*Leviathan* §I.5, AW 127b)

Extension and Mathematics

- Descartes believed that physical objects have extension as their essence.
- Extension is mathematically describable, as is motion.
- The mathematical nature of both extension and motion were essential to the Galilean view of the world.
  - Philosophy is written in this grand book, the universe, which stands continually open to our gaze. But the book cannot be understood unless one first learns to comprehend the language and read the letters in which it is composed. It is written in the language of mathematics, and its characters are triangles, circles, and other geometric figures without which it is humanly impossible to understand a single word of it; without these, one wanders about in a dark labyrinth (Galileo, *The Assayer*).
- Descartes writes that the only principles he needs are mathematical.
  - The only principles which I accept, or require, in physics are those of geometry and pure mathematics; these principles explain all natural phenomena, and enable us to provide quite certain demonstrations regarding them (*Principles of Philosophy* II.64).

The Primary/Secondary Distinction

between the real properties of a physical object
and how the object appears

- Locke argues for a primary/secondary distinction, as we will see later in the term.
- Berkeley rejects the primary/secondary distinction, as we will also see later.
- Descartes's discussion of the wax is an argument for a primary/secondary distinction.
- Galileo argues for the distinction on analogy with a feather which might tickle us.
- When touched upon the soles of the feet, for example, of under the knee or armpit, it feels in addition to the common sensation of touch a sensation on which we have imposed a special name, 'tickling'. this sensation belongs to us and not to the hand. Anyone would make a serious error if he said that the hand, in addition to the properties of moving and touching, possessed another faculty of tickling, as if tickling were a phenomenon that resided in the hand that tickled (Galileo, *The Assayer*, 275).
- Hobbes's metaphysics is essentially Galilean: the world consists of particles, or atoms, in motion.

Descartes, Conscious Experience, and the Galilean World

- For Descartes, the material world is fully Galilean.
- Conscious experience occurs out of the world, in the soul.
- Descartes thus gets to have the Galilean view of the world while not giving up the reality of our sense experience.
- The cost is substance dualism and the problem of interaction.

Hobbes and Conscious Experience

- Hobbes denies that we must posit a non-physical substance to account for conscious experience.
- Our conscious experience just is the motion of particles.
- Hobbes's claim sounds almost impossible to take seriously.
- How could the sound of the concerto just be the motion of air, or the vibration of the tympanic membrane?
- What could be more different than motion of air and sound?

Ockham's Razor

- William of Okham (1287-1347) encouraged philosophers not to multiply entities beyond necessity.
- For occurrent sensory states, we might favor Hobbes's materialism over Descartes's dualism on Ockhamist grounds.
  - Hobbes only posits one kind of thing.
  - Descartes posits two.
- Hobbes's account of my occurrent sensory states seems preferable just for being less profligate.
- When we consider memory and fantasy, Hobbes's account of mental phenomena is less compelling.

The Challenge for Hobbes

- Hobbes must account for mental states which are not obviously caused by transfers of momentum from objects to our senses.
  - Memory
  - Fantasy
  - Our ability to deduce new ideas by reasoning

Hobbes's Account

- Hobbes relies on the Galilean/Newtonian concept of inertia.
- Once our ideas are set in motion by sensation, once they enter our imagination, they remain in motion.
- The physical effects of our sense experience, fancies, continue in our brains, slowing down only when impeded by other fancies.
- We associate ideas as we experienced them, remembering a sequence as we first sensed it.
- Memory, which is just imagination in time, fades as we accrue more experiences.

A Metaphor

- “All fancies are motions within us, relics of those made in the sense, and those motions that immediately succeeded one another in the sense, continue also together after sense, inasmuch as the former coming again to take place and be predominant, the latter follows, by coherence of the matter moved, in such manner as water upon a plain table is drawn which way any one part of it is guided by the finger (*Leviathan* §I.3, AW 119b).

Hobbes and Science

- Much of Descartes's work on the mind appears untestable.
- Hobbes provides a scientifically testable theory, a research program.
- "The longer the time is, after the sight or sense of any object, the weaker is the imagination" (*Leviathan* §I.2, AW 117b).
- It is true that our memories fade.
- But it does not seem that they do so in proportion to time, alone.
- Still, no one really understands how memory works.

Interest and Perception

- Hobbes's empiricism relies on the claim that we passively receive and orderly manifold.
- But no.
- We pick out items based on our desires and preconceptions.
  - Attention blindness
  - Change blindness
  - False memory
- Hobbes is working with a naive psychology.
- "Hobbes's general account of thought was rather hamstrung by his obsession with mechanics" (*Encyclopedia of Philosophy*, vol. IV, p 38).
- But his work is important because it is a precedent for precisely the kind of theory that scientists want.

Hobbes's Empiricism

- Hobbes is the first of our empiricists.
- Like Locke and Berkeley later, he wants to derive or explain all knowledge by sense experience, avoiding Descartes's innate ideas.
- He defines truth and falsity in terms of the correspondence of language to the world.
- Terms of language stand for our ideas, the images left by sense experience in our brains.
- "The first cause of absurd conclusions I ascribe to the want of method, int hat they do not begin their ratiocination from definitions, that is, from settled significations of their words, as if they could cast accounts without knowing the value of the numeral words, *one*, *two*, and *three*" (*Leviathan* §I.5, AW 127a).
- "In reasoning a man must take heed of words, which besides the signification of what we imagine of their nature, have a signification also of the nature, disposition, and interest of the speaker -such as are the names of virtues and vices, for one man calls *wisdom* what another calls *fear*; and one *cruelty*, what another *justice*, one *prodigality*, what another *magnanimity*; and one *gravity*, what another *stupidity*, etc. And therefore such names can never be true grounds of any ratiocination. No more can metaphors, and tropes of speech; but these are less dangerous, because they profess their inconstancy, which the others do not" (*Leviathan* §I.4, AW 125b)
- 'God' as a material object?

Finite Beings and Infinite Ideas

- Can a finite being can have an infinite idea?
- Everyone in the modern era agreed that there can be no sensory experience which leads to an infinite idea.
  - They mainly took ideas to be like pictures.
- Descartes separated thought from sensation, paving the way for his claims that finite beings can have infinite ideas.
  - We must have ideas that do not come from the senses, i.e. innate ideas.
  - In particular, our idea of God is infinite and non-sensory.
- Another option would be to argue from our inability to have an infinite idea to the claim that we have no idea of God.
  - "Thus philosophy excludes from itself theology, as I call the doctrine about the nature and attributes of the eternal, ungenerable, and incomprehensible God, and in whom no composition and no division can be established and no generation can be understood" (*De Corpore*, §1.8).
- A third option would be to argue that the idea of God is not infinite.

Up Next

- Spinoza
- *The Ethics* is difficult, written in the synthetic method; take your time.
- Focus on the propositions and the scholia.
  - "The deductive apparatus masks Spinoza's philosophy. For certain of his deepest and most central doctrines he offers 'demonstrations' that are unsalvageably invalid and of *no philosophical use or interest*; it is not credible that he accepts those doctrines because he thinks they follow from the premisses of those arguments" (Jonathan Bennett, *Learning from Six Philosophers*, vol. 1: 113, emphasis added).
- Nietzsche on Spinoza:
  - Not to speak of that hocus-pocus of mathematical form in which, as if in iron, Spinoza encased and masked his philosophy...so as to strike terror into the heart of any assailant who should happen to glance at that invincible maiden and Pallas Athene - how much personal timidity and vulnerability this masquerade of a sick recluse betrays (*Beyond Good and Evil*, §5).
- The appendix to Part I, AW 160-4, is worth reading, even if you have to skim some of the later propositions in Part I to get to it.

Philosophy 203
History of Modern Western Philosophy

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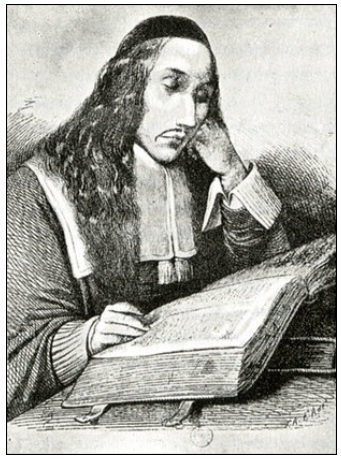
Spring 2011



Classes 7-8 - Spinoza's *Ethics*

More Nietzsche on Spinoza

Not to speak of that hocus-pocus of mathematical form in which, as if in iron, Spinoza encased and masked his philosophy...so as to strike terror into the heart of any assailant who should happen to glance at that invincible maiden and Pallas Athene - how much personal timidity and vulnerability this masquerade of a sick recluse betrays (*Beyond Good and Evil*, §5).

I am utterly amazed, utterly enchanted. I have a *predecessor*, and what a predecessor! I hardly knew Spinoza: that I should have turned to him just *now* was inspired by "instinct." Not only is his overall tendency like mine - making knowledge the *most powerful* affect - but in five main points of his doctrine I recognize myself; this most unusual and loneliest thinker is closest to me precisely in these matters: he denies the freedom of the will, teleology, the moral world order, the unegoistic, and evil. Even though the divergences are admittedly tremendous, they are due more to the differences in time, culture, and science. *In summa*: my solitude, which, as on very high mountains, often made it hard for me to breathe and made my blood rush out, is at least a dualitude (Letter to Franz Overbeck, 30 July 1881).

Three Aspects of Spinoza's Philosophy

1. Monist metaphysics;
2. The relationship between mind and body; and
3. Freedom of the will and the problem of error.

- "His parallelism debars him from treating any aspect of the mental as 'occult' or 'queer'... and his naturalism debars him from treating anything as occult or inexplicable "(Bennett 196).
- Isaac Bashevis Singer, "The Spinoza of Market Street"

Monism - An Overview

- There is just one thing: the most real being.
- Mostly, he calls this thing God, though one also can call it nature, or Nature.
- ‘Deus sive Natura’: God, in other words Nature.
- Individual bodies and minds are attributes of this single substance.
- We, and all the things around us, are ways of God/Nature to be.

An Argument for Metaphysical Monism

From Jonathan Bennett

- "If there are two Gods, then either God A knows about God B or he does not. If he does not, he is not omniscient and so is not a God (in the Christian sense). If he does, then he is partly passive -acted upon - because he is in a state of knowledge of God B which must be caused in him by God B - and so again he is not a Christian God" (Bennett 119).
- One can replace 'God B' in this argument with anything.
- The argument rules out not only another God, but also any other reality.
- If we think of ourselves as individuals separate from God, we are limiting an infinite God.
  - God would not be omnipresent.
- God just is the world, and we are not individuals separate from God.
- We are part of God, modes or attributes of God, ways for God to be.
- Atheism? Pantheism?

Monism - The Dirty Work

Adapted from Tlumak

Three steps:

- Substance exists (E).
- It is infinite (I).
- It is unique (U).

Substance Exists

E1. Substance is independent.

E2. Whatever has an external cause can not be independent.

E3. So, substance has no external cause, and must be its own cause.

E4. Anything which is its own cause must exist.

EC. So substance exists.

E1

E1. Substance is independent.
E2. Whatever has an external cause can not be independent.
E3. So, substance has no external cause, and must be its own cause.
E4. Anything which is its own cause must exist.
EC. So substance exists.

- E1 follows from Spinoza's definitions, most saliently:
  - "By substance I mean that which is in itself and is conceived through itself; that is, that the conception of which does not require the conception of another thing from which it has to be formed" (*Ethics* 1D3, AW 144).
- Distinguish between objects and properties.
  - Another term for 'object' is 'substance'.
  - Other terms for 'property' are 'mode', 'attribute', and 'affection'.
- Properties depend on objects in a way that objects do not depend on properties.
  - For redness to exist, there must exist red things.
  - Properties need to be properties of something.
  - Things need to have properties.
  - But they do not depend on particular properties.
  - The red car can be painted yellow without ceasing to be what it is.

E2 and E3

E1. Substance is independent.
E2. Whatever has an external cause can not be independent.
E3. So, substance has no external cause, and must be its own cause.
E4. Anything which is its own cause must exist.
EC. So substance exists.

- Spinoza would have seen E2 as definitional.
- E3 follows from E1 and E2 directly.
  - by modus tollens

E4

E1. Substance is independent.
E2. Whatever has an external cause can not be independent.
E3. So, substance has no external cause, and must be its own cause.
E4. Anything which is its own cause must exist.
EC. So substance exists.

- Consider the uncaused, or self-caused, cause.
  - "By that which is self-caused I mean that whose essence involves existence; or that whose nature can be conceived only as existing" (*Ethics* 1D1, AW 144).
  - The very notion of an uncaused cause is pretty much unintelligible, now.
  - A cause must be temporally prior to its effect.
  - (Ignore worries from quantum mechanics and relativity theory about backwards causation.)
- Spinoza's notion of 'cause' is related to explanation.
  - A cause of something may explain its existence.
  - If you ask why I am tired, I can explain that it is because I did not get much sleep last night.
- An unexplained cause, or an unexplained explanation, or a phenomenon which explains itself, is not so repugnant.
- 'God is an unexplained cause' becomes 'God's existence needs no explanation' becomes 'something which is self-caused could not be conceived of as not existing'.
- That last claim is E4.
- E4 and E3 entail EC, that substance exists.

The Infinitude of Substance

I1. Substance exists and is its own cause.

I2. No finite thing is its own cause.

I3. An infinite substance must have all attributes.

IC. So, substance must be infinite, and have all attributes

- I1 comes directly from the prior argument, E.

I2

I1. Substance exists and is its own cause.
I2. No finite thing is its own cause.
I3. An infinite substance must have all attributes.
IC. So, substance must be infinite, and have all attributes.

- Consider Spinoza's definition of finite.
- "A thing is said to be finite in its own kind when it can be limited by another thing of the same nature. For example, a body is said to be finite because we can always conceive of another body greater than it "(1D2, AW 144).
- If a thing is finite, then there are other things that limit it.
- Explanations about the first thing are going to appeal to its relations to other things.
- If we want to explain why I am typing, we have to appeal to the keyboard, the computer, my students, parents, my family, and more.
- Since explanations about any finite thing will depend on other things, finite things can not be their own causes.

An aside: Can substance be limited by another thing of the same nature?

- "In the universe there cannot be two or more substances of the same nature or attribute" (*Ethics* 1P5, AW 145).
- Attributes are how substances are individuated: different properties, different substance.
- If there were two or more substances with the same attributes (or nature) those things would be indistinguishable.
- Leibniz invokes a principle of sufficient reason:
  - God would have no reason to create two substances with the same attributes.
  - Spinoza does not appeal to that claim.
- Take any two things; there must be some difference between them.
  - Even if they were the same internally, they would have to differ in spatio-temporal location.
  - That's all that 1P5 says, properly speaking.
- Two bodies might limit each other (1D2), but that only shows that bodies are not substances.

I3

I1. Substance exists and is its own cause.
I2. No finite thing is its own cause.
I3. An infinite substance must have all attributes.
IC. So, substance must be infinite, and have all attributes

- I3 is implausible, on the surface.
- Some infinite collections omit some things.
- A line can travel in one direction without containing all points.
- Spinoza thinks of God as not just infinite, but as encompassing everything.
- This conception is part of his rejection of Descartes's common, anthropomorphic conception.

The Uniqueness of Substance

U1. Substance is infinite, and has all attributes

U2. There can not be two substances with the same attribute.

U3. So, at most one substance exists.

U4. Substance exists.

UC. So, there is exactly one substance; we can call it God, or Nature.

- We have seen both U1 and U2 in the argument I; U3 follows from them.
- And U4 is the conclusion of the first argument E; UC follows from it.

The Order of Things

- Some interpreters of Spinoza's work argue that we limit ourselves by thinking of substance as an individual thing.
- They suggest that we think of it as the order of things, or the realm of nature.
- That approach might be useful, psychologically, but it does not do justice to Spinoza's actual words.

Explanatory Rationalism

everything is explicable

- God could not be separate and isolated from the world; that would limit God's power.
  - Explanation would cease to be possible.
  - If God interacted with the world, we would have to impute to God will and desire, all properties of finite beings, but only anthropomorphically ascribed to God.
- One should not think of God in the image of a human being.
  - "He who loves God will not try to get God to love him back" (*Ethics* 5P19).

The Sanctuary of Ignorance

- Appeal to God's cedes explanatory force.
- "If a stone falls from a roof on to some one's head and kills him, [those who make God separate from the world] will demonstrate...that the stone fell in order to kill the man; for, if it had not by God's will fallen with that purpose, how could so many circumstances (and there are often many concurrent circumstances) have all happened together by chance? Perhaps you will answer that the event is due to the facts that the wind was blowing, and the man was walking that way. "But why," they will insist, "was the wind blowing, and why was the man at that very time walking that way?" If you again answer, that the wind had then sprung up because the sea had begun to be agitated the day before, the weather being previously calm, and that the man had been invited by a friend, they will again insist: "But why was the sea agitated, and why was the man invited at that time?" So they will pursue their questions from cause to cause, till at last you take refuge in the will of God - in other words, the sanctuary of ignorance" (*Ethics*, 1 Appendix; AW 162a-b, but in an alternate translation).
- Why did the big bang occur?

Three Aspects of Spinoza's Philosophy

✔1. Monist metaphysics;

2. The relationship between mind and body; and

3. Freedom of the will and the problem of error.

Mind and Body

- There is just one substance.
- Is it material or ideal?
- Descartes posited both minds and bodies.
  - substance dualist
- Hobbes tried to explain everything with just bodies
  - materialist monist
- Spinoza claims that the one substance is both mind and body.
  - weirdo monist
- What we ordinarily think of as objects are properties, or attributes, of God.
- There are mental properties, and there are physical properties.
  - substance monist
  - property dualist

An Argument for Property Dualism

- Recall Descartes's master argument for substance dualism.
  - D1. I have a clear and distinct understanding of my mind, independent of my body.
  - D2. I have a clear and distinct understanding of my body, independent of my mind.
  - D3. Whatever I can clearly and distinctly conceive of as separate, can be separated by God, and so are really distinct.
  - DC. So, my mind is distinct from my body.
- If we are unconvinced by D3, we can weaken it, and the conclusion.
  - D1. I have a clear and distinct understanding of my mind, independent of my body.
  - D2. I have a clear and distinct understanding of my body, independent of my mind.
  - D3*. Whatever I can clearly and distinctly conceive of as separate, are really distinct concepts.
  - DC*. So, my mind is conceptually distinct from my body. I.e. mental properties are distinct from physical properties.
- The new argument gives up on substance dualism, and establishes property dualism.

Contemporary Property Dualism

- Mental properties, like those that compose our conscious states, are not completely explicable in terms of physical properties.
- The claim that a conscious sensation just is the firing of neurons in the brain, seems difficult to defend.
  - Hobbes says that pain, or sensation of red, or taste of a mango, is just the firing of neurons in my brain.
- Still, we might argue that mental states supervene on physical states: for every mental state, there is a corresponding physical state.
- Then, instead of looking for the conscious experience in our brains, we look for the neural correlates of consciousness.
- Thus substance monism (there are just physical bodies) is compatible with property dualism (mental properties are irreducible to physical properties).
- Spinoza agrees that there is a sharp separation of mental and physical attributes, as we will see.

Mental Properties

- Recall Descartes's argument that bodies or machines, like animals, can not think.
- He appeals to two characteristics of people:
  - language use
  - behavioral plasticity
- Our bodies are essentially similar to those of animals, yet we can think.
- "For while reason is a universal instrument that can be of help in all sorts of circumstances, these organs require some particular disposition for each particular action; consequently, it is for all practical purposes impossible for there to be enough different organs in a machine to make it act in all the contingencies of life in the same ways as our reason makes us act" (*Discourse* Part Five, AW 33a).
- The number of thoughts that we have could not be instantiated in a physical body.
  - It would be like trying to run Windows 7 on a 1960s mainframe computer.
  - It just doesn't fit.
- Spinoza, like the contemporary substance monist/property dualist, rejects Descartes's claim that there is an incompatibility between minds and bodies.
  - 2P7: "The order and connection of ideas is the order and connection of things."
  - 2P7 is key for understanding Spinoza's solution to the mind-body problem, which we call parallelism.

Revenge of the Problem of Interaction

- Talk of minds and bodies is misleading, since they are not individual, independent substances.
- Still, it will be easier to talk like normal people, and just remember that we are referring to attributes, rather than things.
- Spinoza rejects Descartes's substance dualism, as we have seen.
- But he maintains a dualism among attributes: there are mental attributes of the one substance and there are physical attributes of the substance.
- Since everything is God, and there are minds and bodies, these must be properties of God.
- Notice that this means that God is, at least in one attribute, material.
- Descartes's argument that the bodies are insufficient to support minds is thus moot; these are properties of an infinite substance.
- Nevertheless, the argument for property dualism still holds, so that there is a problem of interaction between these properties.

Toward Parallelism

- "The body cannot determine the mind to thinking, and the mind cannot determine the body to motion, to rest, or to anything else (if there is anything else). Proof: All modes of thinking have God for a cause, insofar as he is a thinking thing, and not insofar as he is explained by another attribute (by 2P6). So what determines the mind to thinking is a mode of thinking and not of extension, that is (by 2D1), it is not the body. This was the first thing. Next, the motion and rest of a body must arise from another body… whatever arises in the body must have arisen from God insofar as he is considered to be affected by some mode of extension, and not insofar as he is considered to be affected by some mode of thinking (also 2P6), that is, it cannot arise from the mind, which (by 2P11) is a mode of thinking. This was the second point. Therefore, the body cannot determine the mind, and so on" (*Ethics* 3P2).
- Given that a monist metaphysics might be motivated by the problem of interaction, it is disappointing that the problem reappears for Spinoza at the level of properties.
- Spinoza claims that though the mind and body do not interact, they move parallel to each other in such a way as to give the appearance of interaction.

How many attributes? (An aside)

- "Each entity must be conceived under some attribute, and the more reality or being it has, the more are its attributes which express necessity, or eternity, and infinity. Consequently, nothing can be clearer than this, too, that an absolutely infinite entity must necessarily be defined (Def. 6) as an entity consisting of infinite attributes, each of which expresses a definite essence" (*Ethics* 1P10, AW 147b).
- Imagine that there were aliens with an extra capacity for sense perception.
- Suppose they had our five senses, but antennae with a sixth kind of receptor in addition.
- We perceive the world in only five modalities; the aliens perceive the world in six.
- We have absolutely no idea what it would be like to have a sixth sense, like this, but there is no reason to think that there couldn't be such a thing.
- So it is with the attributes of God, for Spinoza.
- We only know the worlds of minds and bodies, but there could be additional attributes perceivable by God, other aspects of nature hidden from us.
- In fact, since God is infinite, there is some reason to believe that there are other such attributes.

Parallelism Explained

- Let's say your sweetheart gives you a kiss, which makes you feel happy, which in turn makes you hug your sweetie back.
  - It looks like a physical event caused a mental event which in turn caused another physical event.
  - Whether these events are made of interacting substances or properties is immaterial.
- What is really happening, according to Spinoza's parallelism, is that there are two independent causal sequences.
  - In the physical chain, the kiss, p_1, causes a second physical event, p_2, which causes the hug, p_3.
  - In the mental chain, a mental event, m_1 causes the happiness, m_2, which causes a third mental event, m_3.
  - m_1 is the mental correlate of the kiss, and m_3 is the mental correlate of the hug; we are unaware of those ideas.
  - Similarly, there is a physical correlate, p_2, of the mental state of happiness.
  - There is no interaction between the p_is and the m_is.
  - But, it appears as if there is, since the two chains are aligned just right.

The Costs of Parallelism

- Spinoza's parallelism solves the problem of interaction by explaining how the appearance of interaction can arise from a system in which there is no interaction.
- That solution comes at a cost of positing extra mental and physical states.
- There must be a mental state corresponding to every physical state, and a physical state corresponding to every mental state.
- The contemporary defender of supervenience might subscribe to the latter claim.
- The former claim is much more foreign, and difficult to understand.
- There seem to be lots of physical states with no corresponding mental state.
- What mental state is the correlate of, say, the tree falling in the forest with no one to hear it?
- Still, the cost of his profligacy is small, since Spinoza is already committed to the broadest possible infinity of states, in God.

Monism and Parallelism

- Talk of interaction between the body and mind should, strictly speaking, be understood more like talk about different properties of the same substance.
- Perhaps the difference between the mind and the body is more like the difference between perceiving an object with two different sense modalities.
  - the taste and the look of the apple, say
  - Just as we can perceive the wax with our different senses, so we have mental and physical aspects of ourselves.
- The mind is always thinking about the body.
  - "That which constitutes the actual being of the human mind is basically nothing else but the idea of an individual actually existing thing" (*Ethics* 2P11, AW 168b).
  - "Whatever happens in the object of the idea constituting the human mind is bound to be perceived by the human mind; i.e., the idea of that thing will necessarily be in the human mind. That is to say, if the object of the idea constituting the human mind is a body, nothing can happen in that body without its being perceived by the mind" (*Ethics* 2P12, AW 169a).
  - "The object of the idea constituting the human mind is a body - i.e., a definite mode of extension actually existing, and nothing else" (*Ethics* 2P13, AW 169b).
- Spinoza is claiming that the wax and one's body and mind are all part of the same whole.
  - "The human mind is part of the infinite intellect of God; and therefore when we say that the human mind perceives this or that, we are saying nothing else but this: that God...has this or that idea" (*Ethics* 2P11 corollary, AW 169a).

Motion and Spinoza's Physics

- Bodies are not independent, and self-subsisting, of course.
- The very notion of motion has to be altered.
- We ordinarily think of motion in terms of objects changing their places.
- It is hard to see how attributes could move.
  - The relations among attributes does not seem to follow directly from our ordinary conception of the relations among bodies.
  - That is, bodies can move relative to one another, but the relative motion of attributes is less clear.
- "We have conceived an individual thing composed solely of bodies distinguished from one another only by motion-and-rest and speed of movement; that is, an individual thing composed of the simplest bodies. If we now conceive another individual thing composed of several individual things of different natures, we shall find that this can be affected in many other ways while still preserving its nature. For since each one of its parts is composed of several bodies, each single part can...without any change in its nature, move with varying degrees of speed and consequently communicate its own motion to other parts with varying degrees of speed. Now if we go on to conceive a third kind of individual thing composed of this second kind, we shall find that it can be affected in many other ways without any change in its form. If we thus continue to infinity, we shall readily conceive the whole of Nature as one individual whose parts - that is, all the constituent bodies - vary in infinite ways without any change in the individual whole" (*Ethics* 2P13 Lemma 7 Scholium, AW 171-2).
- Bennett: consider how a thaw might, in a sense, move across a region.

Determinism

- The interactions of bodies, however conceived, are governed by laws, and appeals to final causes and purposes are banished.
- These laws govern the behavior of both bodies and mind, making all of our decisions determined.
- “Nothing in nature is contingent, but all things are from the necessity of the divine nature determined to exist and to act in a definite way” (*Ethics* 1P29, AW 156).
- “Everything is determined, the beginning as well as the end, by forces over which we have no control. It is determined for the insect as well as the star. Human beings, vegetables, or cosmic dust, we all dance to a mysterious tune, intoned in the distance by an invisible piper” (Einstein).

Three Aspects of Spinoza's Philosophy

✔1. Monist metaphysics;

✔2. The relationship between mind and body; and

3. Freedom of the will and the problem of error.

Freedom and Error - An Overview

- Descartes confronted a serious puzzle in the problem of error.
  - Once he had established that we are both created and preserved by an infinitely good God, the possibility of error, despite appearances, seemed unlikely.
  - Descartes's solution was constrained by the need to avoid ascribing imperfections to God, while admitting that God's creation was imperfect and prone to error.
  - Descartes solved that problem by showing how we could act independently of God.
- For Spinoza, the problem of error appears even more intractable.
  - For, not only are we created and preserved by God, for Spinoza; we are God!
  - Descartes availed himself of our independence, at some level, from God: our free will.
  - But, Spinoza denies that we have such freedom, as we have seen.
- Descartes can sneak out the window to go to the party; Spinoza is stuck inside the house.

All Ideas are True

- Since we are, in substance, God, it seems that there can be no false ideas; all ideas are true.
  - All ideas are true insofar as they are related to God (*Ethics* 2P32, AW 178a).
  - There is nothing positive in ideas whereby they can be said to be false (*Ethics* 2P33, AW 178a).
  - Every idea which in us is absolute, that is adequate and perfect, is true (*Ethics* 2P34, AW 178a).
- There are clearer ideas and more confused ideas, and the clearer ones are closest to the truth.
- At a limit, there are even adequate ideas.
- But, since we are just one attribute of God, we only have ideas from a particular perspective, and this limitation prevents full apprehension of truth, generally.

Descartes and Spinoza on Ideas

- Descartes claimed that ideas, in themselves, could not be false.
  - An idea is like a picture.
  - For sensory ideas, we have an image.
  - For non-sensory ideas, we have a non-sensory representation.
  - We can either affirm or deny that our representation holds in reality.
  - Truth and falsity do not apply to ideas; they are matters of judgment.
- Spinoza argues that every idea contains within itself an affirmation.
  - Ideas are not mere representations
  - They carry beliefs with them.
- Spinoza's claim that all our ideas are true is thus not Descartes's claim that they can not be false.

Doxastinc involuntarism

we can not choose what to believe

- Descartes's assumption that we can separate ideas from judgments appears uncontroversial.
- But it leads to the odd claim that we are free to choose whether or not to affirm a given belief.
- Try to believe that, say, your roommate is an alien from Venus.

Spinoza's Built-In Beliefs

- "I deny that a man makes no affirmation insofar as he has a perception. For what else is perceiving a winged horse than affirming wings of a horse? For[2] if the mind should perceive nothing apart from the winged horse, it would regard the horse as present to it, and would have no cause to doubt its existence nor any faculty of dissenting, unless the imagining of the winged horse were to be connected to an idea which annuls the existence of the said horse, or he perceives that the idea which he has of the winged horse is inadequate" (*Ethics* 2P49 Scholium, AW 186b-187a).
- The default belief attached to any idea is an affirmation.
- To deny that there is a winged horse, there must be another positive idea which crowds it out, which overrides our initial affirmation.
- Even the most confused and inadequate idea has some measure of truth in it.
  - A chimera or a hallucination at least reflects a change in a mode of the one true substance.
- Truth comes in degrees.
- Our less-true ideas are, ideally, over-ridden by the more-true ones.
  - "To begin my analysis of error, I should like you to note that the imaginations of the mind, looked at in themselves, contain no error; i.e., the mind does not err from the fact that it imagines, but only insofar as it is considered to lack the idea which excludes the existence of those things which it imagines to be present to itself" (*Ethics* 2P17 Scholium, AW 173b).
- Spinoza has recast the problem from one of accounting for how we make mistakes to one of describing why some ideas are more true than others.

Passive and Active Ideas

- As long as we are passive, we are receiving ideas from outside of us.
- Those ideas are of bodies.
- Ideas of bodies are inadequate, or mutilated, or confused.
  - They are caused by the interaction of my body and other bodies.
  - Recall Descartes's claim that the wax brought him more knowledge about himself than it did about the wax.
- The inadequacy of our understanding of wax and other objects outside of ourselves prevents us from excluding those overriding ideas which block them out.
  - The inadequate ideas are not false, exactly; how could they be?
  - But, they are less true than the adequate ones.
  - They are governed by psychological associations, rather than by logical ones.

Natura naturans and *natura naturata*

- Natura naturans is active nature, as God conceives himself.
- *Natura naturata* is passive or generated nature, God as conceived through modes.
- Spinoza has removed as much of the anthropocentric view of God as he could from Descartes's metaphysics.
- But, there are limits.
- We are finite, and any account of the world and its structure will have to include us.
- Spinoza includes us by making us part of God, considered in a finite mode.

Error?

- Descartes considered two ideas we have of the sun: a sense idea and one derived from reason.
  - He determined that the former is false, and the latter is true.
- Spinoza thinks that both are true, to different degrees.
  - We do make an error, when we affirm that the sun is small, or not so far away, as it appears.
  - But that error is, properly speaking, just inadequacy, not falsity.
- "When we gaze at the sun, we see it as some two hundred feet distant from us. The error does not consist in simply seeing the sun in this way but in the fact that while we do so we are not aware of the true distance and the cause of our seeing it so. For although we may later become aware that the sun is more than six hundred times the diameter of the earth distant from us, we shall nevertheless continue to see it as close at hand. For it is not our ignorance of its true distance that causes us to see the sun to be so near; it is that the affection of our body involves the essence of the sun only to the extent that the body is affected by it" (*Ethics* 2P35 Scholium, AW 178b).

Adequate Ideas

- “Those things that are common to all things and are equally in the part as in the whole can be conceived only adequately” (*Ethics* 2P38, AW 179a).
- Common ideas are those that come from the use of reason, which is one of three kinds of knowledge Spinoza describes in 2P40 Scholium 2.
- The other kinds are sensory, which Spinoza calls opinion or imagination, and intuition, which Spinoza says is the highest kind of knowledge.
- The common ideas are the result of reasoning, which does not rely on inadequate ideas received passively from outside of us but, rather, on active ideas we discover ourselves.
- Those active ideas are the ones that are most secure.
- They are governed by logical necessity, and they allow us to engage God.
- “The human mind, insofar as it perceives things truly, is part of the infinite intellect of God...and thus it is as inevitable that the clear and distinct ideas of the mind are true as that God’s ideas are true “(*Ethics* 2P43 Scholium, AW 182).
- Primarily, the common notions concern pure geometry and philosophy, and knowledge of God.

Is There a Counsel Here?

- We should spend our time focusing on the adequate ideas?
- The situation can not be quite that simple.
- We lack the freedom to choose other than the way in which one chooses.
  - Everything is determined.
  - Descartes's doubt is impossible.
  - No counsel against it could be effective or even appropriate.
- Still, Spinoza defends a kind of freedom which arises from focusing on the active ideas.

Freedom

- Freedom is having a greater proportion of adequate ideas, so that one is more fully self-determining.
- Since we can never have only active ideas, purely adequate, freedom, like truth, is a matter of degrees.
- Even though our actions are determined, we can still strive (in some sense) to be free of our passions, our base desires.
- Such striving leads us to a kind of eternality.
- We can strive to be free by contemplating ourselves as finite modes in Nature.
- "The mind's intellectual love towards God is the love of God wherewith God loves himself not insofar as he is infinite, but insofar as he can be explicated through the essence of the human mind considered under a form of eternity. That is, the minds intellectual love towards God is part of the infinite love wherewith God loves himself... From this we clearly understand in what our salvation or blessedness or freedom consists, namely, in the constant and eternal love towards God "(*Ethics* 5P36, and Scholium, AW 191-2).

Philosophy 203
History of Modern Western Philosophy

Russell Marcus
Hamilton College
Spring 2011

Leibniz Slides - All

Leibniz, Descartes, Hobbes, Spinoza

- All four philosophers provide responses to Descartes, who attempted to accommodate the new science and the orthodox, theological world view.
- Hobbes and Spinoza were eager to dismiss the religious orthodoxy.
- Leibniz rejects:
  - Hobbes's materialism
  - atheism (or at least naturalism) of both Hobbes and Spinoza
  - the view, found in both Hobbes and Spinoza, that everything is necessary

On Bodies

- Leibniz also rejects Descartes's account of bodies
- Descartes had argued that bodies are essentially extended, unthinking, divisible, individual substances.
  - Leibniz rejects infinite divisibility.
- He argues that the claim that bodies are unthinking leads to the impossibility of thought.
  - He believes that the ultimate constituents of the material world have within them a source of action.
  - For Leibniz, the fundamental components of the world are not inert divisible matter, but active, mind-like substances.
- "Each portion of matter can be conceived as a garden full of plants, and as a pond full of fish. But each branch of a plant, each limb of an animal, each drop of its humors, is still another such garden or pond" (M67, AW 281b).

Rehabilitating Final Causes

- According to Aristotle, there are four different kinds of causes:
  - C1. Efficient cause: the source of a change (basically our contemporary notion)
  - C2. Final cause: the goal, or telos, of an object or event
  - C3. Material cause: the constituent matter of the object
  - C4. Formal cause: what it is to be an object
- Galilean physics denigrated C2-C4, focusing on C1 alone.
- Leibniz, seeking a return to an admittedly anthropocentric view of God's role in the universe, looked to rehabilitate the notion of a final cause.
- Bodies act according to laws of efficient causation, but souls act, like God, according to laws of final causes.
- "It would be best to join together both considerations, for if it is permitted to use a humble comparison, I recognize and praise the skill of a worker not only by showing his designs in making the parts of his machine, but also by explaining the instruments he used in making each part, especially when these instruments are simple and cleverly contrived. *And God is skillful enough artisan* to produce a machine which is a thousand times more ingenious than that of our body, while using only some very simple fluids..." (D22, AW 237b-238a)

Motivating Leibniz from Spinoza

- Leibniz accepts Spinoza's demand for explanatory completeness.
  - Corollary: the Principle of Sufficient Reason
- But Leibniz believes that Spinoza's view cedes too many intuitive phenomena.
- Leibniz wants to reclaim free will.
  - Spinoza relied on God's foreknowledge to establish determinism.
  - Leibniz attempts to rectify God's foreknowledge with freedom.
- And, he wants to solve the problem of interaction while maintaining multiplicity.
  - Spinoza posited parallelism to avoid interaction, but invoked a dual-aspect theory (property dualism) to explain the parallels.
  - Leibniz accepts that the body is another perspective on the mind.
  - But, he denies the singularity of substance.

Leibniz and God

Leibniz invokes God in many aspects of his work.

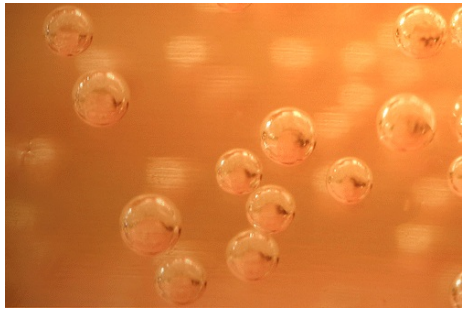
- The Super-Monad (creator)
- Guides the (teleological) changes in monadic perceptions
- Foretells the future states
- Infinite Analysis
- Protector of the Principle of Sufficient Reason
- Elector of the best world (divine benevolence)
- It would be good to have an argument.

Leibniz's Cosmological Argument

- "There must be a *sufficient reason* in *contingent truths*, or *truths of fact*, that is, in the series of things distributed throughout the universe of creatures, where the resolution into particular reasons could proceed into unlimited detail...And since all of this *detail* involves nothing but other prior and or more detailed contingents, each of which needs a similar analysis in order to give its reason...It must be the case that the sufficient or ultimate reason is outside the sequence or *series* of this multiplicity of contingencies, however infinite it may be...The ultimate reason of things must be in a necessary substance in which the diversity of changes is only eminent, as in it source. This is what we call *God*"(M336-8, AW 278b).
- From the mere existence of this world, and the principle of sufficient reason (PSR), Leibniz thus derives the standard characteristics of God.
- PSR follows from Leibniz's conception of truth as a claim in which a predicate is contained in a subject.
  - If some effect did not have a cause, if some truth had no reason, then there would be a claim whose subject did not contain its predicate.
  - Analysis is the foundation of twentieth-century analytic philosophy.

Multiplicity or Completeness?

- So far, so Spinoza.
- Spinoza insists on the completeness of substance, and concludes that there is just one.
- Leibniz insists on the multiplicity of substance, concludes that individual substances must be complete in themselves.
- Since there are composites, these must be made of parts.
- Thus, there must be some basic elements.



Our Approach to Leibniz's Work

The *Monadology* and the *Discourse on Metaphysics*.

1. Monads;
2. The Complete-World View of Substance;
3. The Mind/Body Distinction;
4. Theodicy; and
5. Freedom and Harmony.

Then, the controversy with Newton over space and time.

On to Monads

Substance

- Review
  - For Descartes, there are two kinds of substance, each with its own essential trait: mind (consciousness) and body (extension).
  - For Hobbes, there are only bodies.
  - For Spinoza, there is only one instance of a substance: God, or Nature.
- Leibniz accepts multiplicity.
- He adopts Spinoza's views on:
  - the ubiquity of mind; and
  - and that substance has to have an internal agency.
- Substance is an active unity, always perceiving, and which can will.

There must be simple substances

- *Discourse*: substantial forms, a soul or a haecceity, the thing which underlies or collects all its properties.
- *Monadology*: argument for simple substances on the basis of the obvious plurality of things.
  - Since there are composites, these must be made of parts.
  - A Cartesian piece of extended matter can be divided into further pieces of matter.
  - But, if there are no simple parts, there can be no composites.
  - Thus, there must be some basic elements, which he calls monads.
- The rainbow analogy
  - We think of bodies as coherent wholes, but they are really just accidental unities of real substances.

Monads and Atoms

- Is Leibniz Democritus, or Gassendi?
- No! The difference between atoms and monads is striking.
  - For the atomists, the simple objects are essentially undifferentiable; they are all alike.
  - Leibniz denies the similarity of atoms.
- Two arguments against atomism
  - Each monad is an active, rather than passive, unity.
  - There can be no identical objects, on the basis of his principle of sufficient reason.

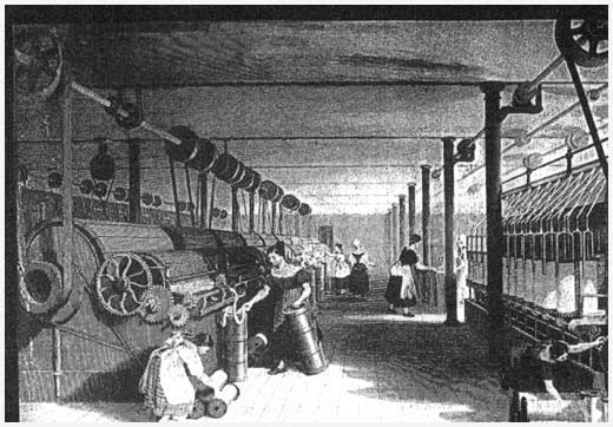
Two Arguments Against Atomism

1. Machines can not think.

- "*Perception*, and what depends on it, *is inexplicable in terms of mechanical reasons*, that is, through shapes and motions" (M17, 276b).
- There must be some essentially active, essentially perceptive, component to the basic elements of the world (entelechies).

2. The fundamental stuff (substance) must be diverse, rather than uniform.

- Perceptions of monads will distinguish them, thus denying the atomist's uniformity.

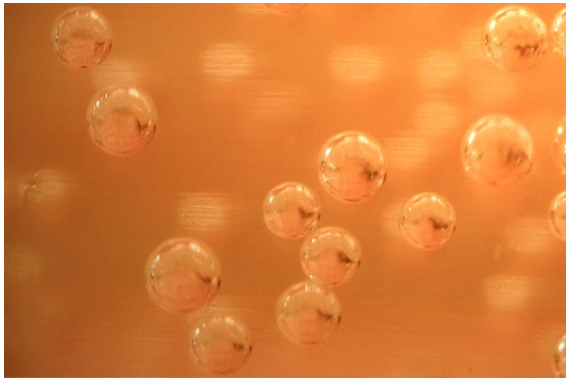


Machines Can Not Think

- "*Perception*, and what depends on it, *is inexplicable in terms of mechanical reasons*, that is, through shapes and motions" (M17, 276b).
- Leibniz considers walking inside the mechanical parts of a thinking substance, like a brain.
- All we would see would be moving parts.
- We would see no memory, no thought.
- The Chinese Nation: we can, theoretically, create an artifact that looks and functions just like us with an artificial processing system made out of the people in China.
- Leibniz imagines just this sort of case, and concludes that such contraptions could not support thought.
- "When inspecting its interior, we will only find parts that push one another, and we will never find anything to explain a perception" (M17, AW 276b).

Monads are entelechies

- There must be some essentially active, essentially perceptive, component to the basic elements of the world.
- Perceptions of monads will distinguish them, thus denying the atomist's uniformity.



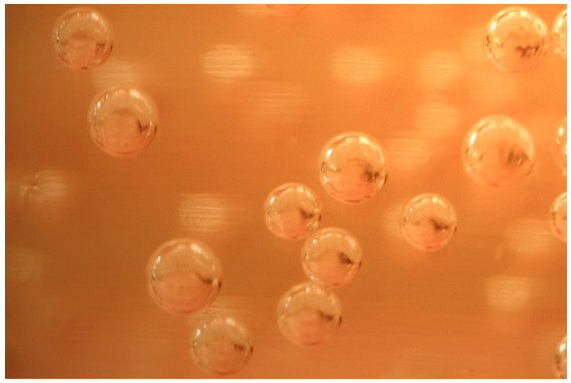
Leibniz's second argument against atomism

- There can be no two objects that do not have some internal difference: the identity of indiscernibles (II).
  - "It is also necessary that each monad be different from each other. For there are never two beings in nature that are perfectly alike, two beings in which it is not possible to discover an internal difference, that is, one founded on an intrinsic denomination" (M9, AW 276a).
- II follows, Leibniz argues, from his two great principles, contradiction and sufficient reason.

Principle of Sufficient Reason (PSR)

- PSR states that nothing is without a reason.
- Alternatively, there is no effect without a cause.
- These reasons can be obscure, hidden from our view.
- PSR further follows from a more substantial thesis, his conception of truth as a claim in which a predicate is contained in a subject.
- We'll begin with Leibniz's theory of truth on Thursday.

Monads vs Atoms



- Atomism
  - The fundamental constituents of the world are identical, unthinking, bodies.
- Two arguments against atomism
  - 1. Machines can not think
    - "*Perception*, and what depends on it, *is inexplicable in terms of mechanical reasons*, that is, through shapes and motions" (M17, 276b).
    - There must be some essentially active, essentially perceptive, component to the basic elements of the world (entelechies).
  - 2. The fundamental stuff (substance) must be diverse, rather than uniform.
    - Perceptions of monads will distinguish them, thus denying the atomist's uniformity.
- We were examining the second argument, and how it proceeds through some of Leibniz's basic principles.

Leibniz's Second Argument Against Atomism

- There can be no two objects that do not have some internal difference: the identity of indiscernibles (II).
  - "It is also necessary that each monad be different from each other. For there are never two beings in nature that are perfectly alike, two beings in which it is not possible to discover an internal difference, that is, one founded on an intrinsic denomination" (M9, AW 276a).
- II follows, Leibniz argues, from his two great principles, contradiction and sufficient reason.
  - "Our reasonings are based on *two great principles, that of contradiction*, in virtue of which we judge that which involves a contradiction to be false, and that which is opposed or contradictory to the false to be true...And *that of sufficient reason*, by virtue of which we consider that we can find no true or existent fact, no true assertion, without there being a sufficient reason why it is thus and not otherwise, although most of the time these reasons cannot be known to us..." (M31-2, AW 278a).
- I'll call the principle of contradiction PC and the principle of sufficient reason PSR.

Principle of Sufficient Reason (PSR) and Conceptual Containment

- PSR follows from Leibniz's conception of truth as a claim in which a predicate is contained in a subject.
  - "All true predication has some basis in the nature of things and...when a proposition is not an identity, that is, when the predicate is not explicitly contained in the subject, it must be contained in it virtually" (D8, AW 228).
- All true propositions are divided into basic ones, in which the predicate is explicitly contained in the subject, and derived ones, which follow by analysis.
  - Finite analysis gets to necessary truths
  - Infinite analysis is required for contingent truths, so can only be completed by God.
- The identities are known according to PC; their denial is an explicit contradiction.
  - M. David is a married bachelor.
  - M'. David is a married unmarried man.
- Analysis is the foundation of twentieth-century analytic philosophy, having been adopted by Frege, and later Russell, Wittgenstein, and the logical positivists.
- From the theory of truth as conceptual containment, Leibniz argues, we can derive PSR.
  - If some effect did not have a cause, if some truth had no reason, then there would be a claim whose subject did not contain its predicate.

From PSR to II

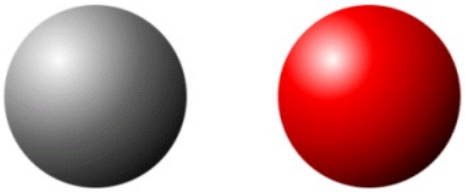
II1. If there were two indiscernible individuals, a and b, in our world, W, then there must also be another possible world, W*, in which a and b are “switched”.

II.2. But then God could have had no reason for choosing W over W*.

II3. God must have a reason for acting as he does, by PSR.

IIC. Therefore, there are not two indiscernible individuals in our world.

Simple substances must have distinct properties.

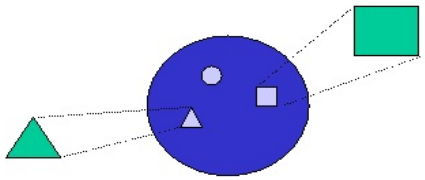


Perception

- Among the properties of monads, the most essential is their ability to perceive, or express, the world.
  - “One can call all simple substances or created monads entelechies, for they have in themselves a certain perfection...; they have a sufficiency...that makes them the sources of their internal actions, and, so to speak, incorporeal automata” (M18, AW 276b-277a).
- Monads are representative in character; they express the way the world is.
- They express the nature of the entire universe.
- “Since every present state of a simple substance is a natural consequence of its preceding states, the present is pregnant with the future” (M22, AW 277a).

Monads and Minds

- All monads are mind-like
  - “One can call all simple substances or created monads entelechies, for they have in themselves a certain perfection...; they have a sufficiency...that makes them the sources of their internal actions, and, so to speak, incorporeal automata (M18, AW 276b-277a)”.
- Only some monads have sense perception and memory; these we can call minds, or souls.
- But all monads, being simple substances, have internal causes, independence from other monads.
- They are the causes of their own activity; they are not merely passive receptors.
- Their changes are representations, or perceptions.
- These perceptions are pre-arranged by God, in harmony with the perceptions of all other monads.



Metaphysically, all properties of monads are ‘internal’ or ‘innate’ – but many exist as ‘expressions’ of relations to other monads.

Perception and Consciousness

- Descartes argued that the essential characteristic of a mind is consciousness.
- Leibniz mainly adopts Descartes's claim.
- Leibniz's class of entelechies is wider than Descartes's class of minds.
- Thus, Leibniz's characterization of the essential characteristic of substance will have to be correspondingly broader.
- The perception of a monad consists in its ability to represent, from its internal state, the entire history of the universe.
- "The passing state which involves and represents a multitude in the unity or in the simple substance is nothing other than what one calls *perception*, which should be distinguished from apperception, or consciousness...This is where the Cartesians have failed badly, since they took no account of the perceptions that we do not apperceive. This is also what made them believe that minds alone are monads and that there are no animal souls or other entelechies" (M14, AW 276a).
- One person's modus ponens is another person's modus tollens:
  - "Can you really believe that a drop of urine is an infinity of monads, and that each of these has ideas, however obscure, of the universe as a whole?" (Voltaire, *Oeuvres complètes*, Vol. 22, p. 434)

On to the Complete-World View

Predicate Containment and Complete Concepts

- That the concept of any substance has to contain all the properties that might be predicated of it, in order for there to be true predications.
  - "We can say that the nature of an individual substance or of a complete being is to have a notion so complete that it is sufficient to contain and to allow us to deduce from it all the predicates of the subject to which this notion is attributed" (D8, AW 228a)
- The substance of Alexander the Great must correspond to a complete concept which will differentiate it from other substances.
  - His substance (his haecceity) contains all of the attributes of Alexander.
  - The concepts may be analyzed down to true predications.

The Complete-World View of Substance

- The history of the universe, past and future, can be seen in every individual substance.
  - “When we consider carefully the connection of things, we can say that from all time in Alexander’s soul there are vestiges of everything that has happened to him and marks of everything that will happen to him and even traces of everything that happens in the universe, even though God alone could recognize them all” (D8, AW 228b).
- Consequences:
  - A substance can begin only by creation and end only by annihilation...
  - A substance is not divisible into two...
  - One substance cannot be constructed from two...
  - The number of substances does not naturally increase and decrease...
  - Every substance is like a complete world and like a mirror of God or of the whole universe, which each one expresses in its own way (D9, AW 229a).

The Plenum

the inter-connectedness of the universe and the independence of individual monads

- "Everything is a plenum, which makes all matter interconnected. In a plenum, every motion has some effect on distant bodies, in proportion to their distance. For each body is affected, not only by those in contact with it, and in some way feels the effects of everything that happens to them, but also, through them, it feels the effects of those in contact with the bodies with which it is itself immediately in contact. From this it follows that this communication extends to any distance whatsoever" (M61, AW 280b).
- Universal gravitation (and other field theories) extends the force of one body on others to infinity.
  - But, such force is often negligible.
  - It is not clear that Leibniz thinks that the effects of one thing on another is ever quite that small.
- And there aren't really any bodies.

Bodies

- Bodies are the appearances of monads.
  - That is why monads are not in space.
  - But, there is an appearance of space, which Leibniz takes seriously.
  - Bodies in space are governed by laws of efficient causes.
- Three metaphysical positions
  - A materialist thinks that everything is bodies.
  - A dualist thinks that there are both minds and bodies.
  - An idealist thinks that everything is minds.
- Leibniz is really an idealist.
  - Real world (monads with their appearances/bodies)
  - Phenomenal world (bodies)
  - Ideal world (space and time)
- Organized bodies are divine machines, M64

Minds

- All monads are entelechies, or souls.
- We are monads of a particular sort.
  - We have simple unity.
  - Recall Descartes on the unity of the soul.
- Our minds are governed by laws of final causes.
- The final causes guide their series of perceptions.
  - The life of a monad is like unfolding its inner core.
  - For non-soul monads, the series of their perceptions are all unconscious.
  - But, even for conscious monads, the series is often unconscious, as when we sleep.
- Given that they obey different laws, why are the laws governing final causes precisely compatible with the laws governing efficient causes?

Spinoza and the Problem of Interaction

parallelism

- The body is another perspective on the mind.
  - OK with Leibniz
- The singularity of substance
  - Not OK
  - Leibniz embraces the multiplicity.

Causation

- The problem of interaction (between mind and body) is a special case of a general problem of causal interaction.
- Four kinds of causal interactions:
  - CI1. Body-body (e.g. when one curling stone transfers momentum to the next)
  - CI2. Body-mind (e.g. when one's body is harmed and the mind feels pain)
  - CI3. Mind-body (e.g. when I decide to take a walk, and my body gets up and goes)
  - CI4. Intra-mental (e.g. when I think about my children and that causes me joy)
- CI2 and CI3 are obviously problems for the dualist.
- Many of the moderns thought that there was also a problem with CI1.

The Problem of Transeunt Causation

interaction among substances
e.g. body-body causation

CI1. Body-body
CI2. Body-mind
CI3. Mind-body
CI4. Intra-mental

- CI1 is a problem for the Cartesian.
  - God both creates and preserves the universe.
  - No one moment in any way necessitates the next.
- Bodies are passive, and thus can exert no force on each other.
  - When I see one ball strike another, my eyes … seem to tell me, that the one is truly the cause of the motion it impresses on the other… . But when I consult my reason I clearly see that since bodies cannot move themselves, and since their motor force is but the will of God that conserves them successively in different places, they cannot communicate a power they do not have and could not communicate even if it were in their possession. For the mind will never conceive that one body, a purely passive substance, can in any way whatsoever transmit to another body the power transporting it. (Malebranche, *The Search for Truth and Elucidations of the Search for Truth*, p 660).
- Communication of motion among substances is thus impossible.
- Bodies can do nothing but respond to the will of an active substance.

The Occasionalist Solution

CI1. Body-body
CI2. Body-mind
CI3. Mind-body
CI4. Intra-mental

- Whenever a body is affected, there must be an agent to manage that interaction.
- Occasionalism solves the problems with CI1-CI3.
  - In the case of body-mind events, CI2, God intervenes to create a mental events whenever the body is affected.
  - God always does the moving.
- Some people read Descartes as an occasionalist.
- Leibniz sternly rejects the occasionalist's recourse to appeals to God to guide every interaction.
  - "In solving problems it is not sufficient to make use of the general cause and to invoke what is called a *Deus ex machina*. For when one does that without giving any other explanation derived from the order of secondary causes, it is, properly speaking, having recourse to a miracle" (*New System of Nature*, AW 273a).

Leibniz Against Transeunt Causation

- Leibniz agrees that individual substances can not affect each other.
  - Monads are independent.
  - “Nothing ever enters into our mind naturally from the outside; and we have a bad habit of thinking of our soul as if it received certain species as messengers and as if it has doors and windows...The mind always expresses all its future thoughts and already thinks confusedly about everything it will ever think about distinctly” (DM 26, AW 240b).
- The isolation of each monad is essential to their completeness.
  - “There is also no way of explaining how a monad can be altered or changed internally by some other creature, since one cannot transpose anything in it, nor can one conceive of any internal motion that can be excited, directed, augmented, or diminished within it, as can be done in composites, where there can be change among the parts. The monads have no windows through which something can enter and leave” (M 7, AW 275b)

Bodies

- The rainbow analogy
  - Bodies are phenomena arising from real things, as the rainbow is just a phenomenon arising from the rain drops.
  - We think of bodies as coherent wholes, but they are really just accidental unities of real substances.
- Haecceity: the thing which underlies or collects all its properties

Revenge of the Problem of Interaction

CI1. Body-body
CI2. Body-mind
CI3. Mind-body
CI4. Intra-mental

- The denial of the real existence of bodies entails that C1-C3 are all moot.
- Leibniz holds on to CI4, arguing that while there is no transeunt causation, there is internal, or immanent, causation.
- Immanent causation is guided by the will.
- Leibniz's problem of interaction is to explain why, given the laws governing the series of perceptions and representations in the monad is there a parallel series in the appearances of the monad (i.e. the body) which are governed by strict physical laws.
- He should explain why there appear to be transeunt, efficient-causal interactions when there are only immanent, final-causal sequences of perceptions.
- But, the physical world is all just rainbows anyway.

Leibniz and Pre-Established Harmony

See *New System of Nature*, 273a-b

- “The soul follows its own laws and the body also follows its own; and they agree in virtue of the harmony pre-established between all substances, since they are all representations of a single universe” (M78, AW 282a).
- God puts the universe in motion in such a way that the mind and body seem to affect each other, and such that monads seem to affect each other.
- But, the truth is that the appearance of transeunt causation is an illusion.
- Immanent causation, the relations among perceptions of a monad, are not impugned, here.
- But the relations among monads are just the effects of the pre-established harmony.
- The appearance of transeunt causation is, as it was for Spinoza, an illusion.
- Pre-established harmony undermines the freedom of the will, by positing a determined sequence of events, it also makes that freedom easier to describe, since interactions among bodies need not be taken as governed by external laws.

Leibniz on Descartes's Error

- Descartes had argued that it would violate the laws of physics for souls to add motion into the universe that was not already accounted for by the laws.
- But, Descartes also thought that it would not violate the laws for a soul to change the direction of motion of a body.
- Descartes believed correctly that quantity of motion (momentum) was conserved in a physical interaction.
  - Maybe; he believed that motion (at least) was conserved.
  - In that, he anticipated Newton's laws of motion.
- Descartes clearly misinterpreted momentum as a scalar quantity, ignoring its vector (or directional) qualities, and leaving open the option for a soul to interact with bodies without violating physical laws.
- Leibniz believes that Descartes would have adopted his view of pre-established harmony, if he had seen the error in his physics.
  - "Descartes recognized that souls cannot impart a force to bodies because there is always the same quantity of force in matter. However, he thought that the soul could change the direction of bodies. But that is because the law of nature, which also affirms the conservation of the same total direction in matter, was not known at the time. If he had known it, he would have hit upon my system of pre-established harmony..." (M80, AW 282b).

Theodicy

1. God is omnipotent and omniscient and benevolent and the free creator of the world.

2. Things could have been otherwise—i.e., there are other possible worlds.

3. If this world is not the best of all possible worlds, then at least one of the following must be the case:
   - 3a. God was not powerful enough to bring about a better world; or
   - 3b. God did not know how this world would develop after his creation of it; or
   - 3c. God did not wish this world to be the best; or
   - 3d. God did not create the world.

4. 3a-3d all contradict 1.

5. Therefore, this world is the best of all possible worlds.

What is a Best World?

- We might wonder how worlds get ranked in order of goodness, what the criteria of goodness are.
- Spinoza worried about our anthropocentric projections, especially of the nature of goodness, onto God.
- Leibniz takes the universality of mathematics as paradigmatic, using simplicity and richness as criteria.
- “God has chosen the most perfect world, that is, the one which is at the same time the simplest in hypotheses and the richest in phenomena, as might be a line in geometry whose construction is easy and whose properties and effects are extremely remarkable and widespread” (D6, AW 227a-b).

The Voltaire Objection

we can imagine better possible worlds

- We might agree with Spinoza in thinking that everything non-contradictory is possible.
- No obvious contradiction arises from the concept of a world just like this one but with, say, less famine and war.
- Thus, there seem to be other possible worlds better than this one.
- Against Modal Realism
  - Spinoza thought that everything non-contradictory is possible.
  - David Lewis, in the 20th Century argued for modal realism: all possible worlds exist.
  - But, Leibniz insists that the possibility of some event alone does not entail its compossibility with other events.
  - Thus, alternative worlds appear possible, but only because we are seeing them incompletely.

Possibility and Compossibility

- This world is the result of God's maximizing various factors which are in tension, even if the tension is not apparent.
- "Just as the same city viewed from different directions appears entirely different and, as it were, multiplied perspectively, in just the same way it happens that, because of the infinite multitude of simple substances, there are, as it were, just as many different universes, which are, nevertheless, only perspectives on a single one, corresponding to the different points of view of each monad... And this is the way of obtaining as much variety as possible, but with the greatest order possible, that is, it is the way of obtaining as much perfection as possible" (M58, AW 280b).
- Leibniz's view recalls Descartes's claim that the perfection of the whole is not apparent from the view of the finite individual.
  - A world without disasters would be a world with irregular laws, in which science and engineering would be impossible.
  - A world without sin would be a worse world, even if it does not appear to be worse.

Two Accounts of the Illusion

- Leibniz is arguing that the imperfections we see are illusory.
- One typical way to defend the compatibility of evil or error with God's goodness is to value the freedom of the will over goodness.
  - If error is the result of free choice, then the world could only be improved if free will were eliminated.
  - Leibniz does not pursue this route.
- Leibniz defends the creation of our error-filled world by claiming that it is the best alignment of compossibles.
- Leibniz is thus presenting a logical claim, rather than a moral one.

On Descartes's Ontological Argument

- The problem of knowing whether possibilities are compossible explains Leibniz's criticism of Descartes's ontological argument for the existence of God.
- Leibniz complains that Descartes's argument only shows that the concept of God contains existence, if God exists.
- The argument omits a defense of the initial instantiation of the concept, of the claim that the perfections are compossible.
  - "But since we often think of impossible chimeras - for example of the highest degree of speed, of the greatest number, of the intersection of the conchoid with its base of rule - this reasoning is insufficient... There are true and false ideas, depending upon whether the thing in question is possible or not. And it is only when we are certain of its possibility that we can boast of having an idea of the thing" (D23, AW 239a).
- Leibniz argues that perfections are compossible since they are simples, and all simples are compossible.
- See "That a Most Perfect Being Exists."

Leibniz's Cosmological Argument

- "There must be a *sufficient reason* in *contingent truths*, or *truths of fact*, that is, in the series of things distributed throughout the universe of creatures, where the resolution into particular reasons could proceed into unlimited detail...And since all of this *detail* involves nothing but other prior and or more detailed contingents, each of which needs a similar analysis in order to give its reason...It must be the case that the sufficient or ultimate reason is outside the sequence or *series* of this multiplicity of contingencies, however infinite it may be...The ultimate reason of things must be in a necessary substance in which the diversity of changes is only eminent, as in it source. This is what we call *God*"(M336-8, AW 278b).
- From the mere existence of this world, and the principle of sufficient reason, Leibniz thus derives the standard infinite characteristics of God.
  - God, according to Leibniz, must have an infinite understanding, in order to survey all possible worlds.
  - God must have an infinite will which allows him to choose among all possible worlds.
  - And, God must have infinite power to create this world.
- See *Theodicy*, §7, for more on these derivations.

Free Will

Other Worlds are Possible

- Leibniz's work is motivated in part by a rejection of Spinoza's necessitarianism.
  - Every decision is determined, since God instantiates every possibility
- Leibniz believes that, for some actions, I could have done otherwise.
  - If there are other possible worlds, then we must have had the freedom to choose this one, rather than another.
  - The existence of this world is contingent on our free choice, rather than necessary.

But Nothing Happens without Sufficient Reason (PSR)

- PSR entails that God has foreknowledge of all of our actions.
- Any truth can be discovered by analyzing the complete concept of a substance into its component parts.
- By analysis, we will either find a given predicate inside the original concept, or find a contradiction arising from that predication.
- Either a property is true of a substance or it is not, both in the future and in the past.
- The status of any claim can be evaluated by analyzing the concept of any monad at any time.
- There seems to be no room for free choice, for denying that one can act other than one does, that the world can be other than what it is.

Leibniz's Solution

- Leibniz distinguishes between certain truths and necessary ones.
  - "Everyone grants that future contingents are certain, since God foresees them, but we do not concede that they are necessary on that account" (D13, AW 230b).
- "The one whose contrary implies a contradiction is absolutely necessary; this deduction occurs in the eternal truths, for example, the truths of geometry. The other is necessary only *ex hypothesi* and, so to speak, accidentally, but it is contingent in itself, since its contrary does not imply a contradiction. And this connection is based not purely on ideas and God's simple understanding, but on his free decrees and on the sequence of the universe" (D13, AW 231a).
- It is certain that I have two children; God can see that fact.
- But, it is not necessary that I have two children, since this fact depends on my free choice.
- "It is not impossible for what is foreseen not to happen; but it is infallibly sure that it will happen" (*Theodicy* ~407).

The Problem of Contingent Truths

- Leibniz thinks that other worlds are possible.
  - If there are other possible worlds, then we must have had the freedom to choose this one, rather than another.
  - The existence of this world, as against other possible worlds, is contingent on our free choice, rather than necessary.
  - Leibniz's work is motivated in large part by a rejection of Spinozan necessitarianism, the claim that every decision is determined, since God instantiates every possibility.
  - So, Leibniz believes that, for some actions, I could have done otherwise.
- Leibniz holds, as a basic and fundamental principle, that nothing happens without sufficient reason (PSR).
  - PSR entails that God has foreknowledge of all of our actions.
  - Any truth can be discovered by analyzing the complete concept of a substance into its component parts.
  - By analysis, we will either find a given predicate inside the original concept, or find a contradiction arising from that predication.
  - Either a property is true of a substance or it is not, both in the future and in the past.
  - The status of any claim can be evaluated by analyzing the concept of any monad at any time.
- There seems to be no room for free choice, for denying that one can act other than one does, that the world can be other than what it is.

Three Hints

1. While Leibniz states that this is the best of all possible worlds, he does accept that such other worlds are possible.

2. Contingent claims can by discovered only by infinite analysis, while necessary truths are discoverable by finite analysis.

3. Leibniz distinguishes between certain truths and necessary ones.
   - "Everyone grants that future contingents are certain, since God foresees them, but we do not concede that they are necessary on that account" (D13, AW 230b).

On Other Worlds

- Leibniz's weakest claim about other possibilities, and our freedom to create them, is that they are merely chimerical.
- It looks to us as if the world which is just the same as it is, except that Hamilton College is located on a small Caribbean island with fruited mango trees and sea breezes on campus all year around, is possible.
- But, Leibniz argues, to make even one change in the world entails changing other factors in that world.
- What seems possible in itself may not be compossible with other changes that moving Hamilton would entail.

Compossibles and Counterparts

- We can see the problem of compossibility clearly when we recall Leibniz's complete-concept view of the monad.
- If Hamilton were located, say, in the Caribbean, none of us would be members of its community.
  - There would be people somewhat like us attending and teaching at that school.
- We do not know what other properties of those people would have to be different from us in order to construct a system of compossibilities.
- We could call the people in the Caribbean-Hamilton world our counterparts, but they would not be us.
  - "These worlds are all here, that is, in ideas. I will show you some, wherein shall be found, not absolutely the same Sextus as you have seen (that is not possible, he carries with him always that which he shall be) but several Sextuses resembling him, possessing all that you know already of the true Sextus, but not all that is already in him imperceptibly, nor in consequence all that shall yet happen to him. You will find in one world a very happy and noble Sextus, in another a Sextus content with a mediocre state, a Sextus, indeed, of every kind and endless diversity of forms" (Theodicy, ~416).

Counterparts and Trans-World Identity

- Do we exist in other possible worlds?
  - Saul Kripke: We stipulate other possible worlds.
  - Names are rigid designators.
- Or, do we merely have counterparts there?
  - David Lewis: There are counterpart relations among me and all my dopplegangers in other possible worlds.
  - Exploring the nature of other possible worlds involves specifying those counterpart relations.
  - We might identify our selves with the set of our counterparts: embracing our mathematical essence!

Axioms of Counterpart Theory

C1. $(x)(y)(Ixy \supset Wy)$
- worlds are the containers of objects

C2. $(x)(y)(z)[(Ixy \bullet Ixz) \supset y=z]$
- individuals can only exist in one world

C3. $(x)(y)[Cxy \supset (\exists z)Ixz]$

C4. $(x)(y)[Cxy \supset (\exists z)Iyz]$
- all counterparts exist in worlds

C5. $(x)(y)(z)[(Ixy \bullet Izy \bullet Cxz) \supset x=z]$
- there are no distinct counterparts in any given world

C6. $(x)(y)(Ixy \supset Cxx)$
- a thing is the counterpart of itself

C7. $(\exists x)[Wx \bullet (y)(Iyx \equiv Ay)]$
- there is a world which contains all and only actual things

C8. $(\exists x)Ax$
- the actual world exists

Wx: x is a world
Ixy: x is in world y
Ax:x is actual
Cxy x is a counterpart of y

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Infinite Analysis and Finite Analysis

- In a finite analysis, we can unpack a complex concept until we reach what Leibniz calls an identity statement.
  - $3^2 = \sqrt{81}$
  - 3 x 3=9
  - 3 x 3=3 x 3
  - Later, we will call such claims analytic truths.
- Similarly, given a false statement, we will arrive at some kind of contradiction by analysis.
- Consider: ‘Russell has two children’.
  - According to the doctrine of conceptual containment, my concept contains my having two children.
  - Nevertheless, there are possible worlds in which I don’t have two children.
  - Correspondingly, when we analyze the concept ‘Russell’, we will not be able to unpack the claim that I have two children.
  - God could do so, but we can not.

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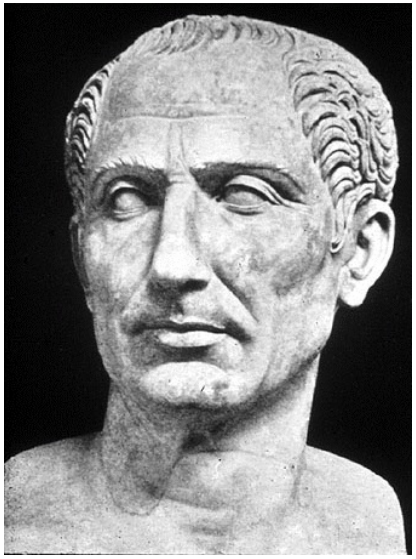
Certainty and Necessity

- “The one whose contrary implies a contradiction is absolutely necessary; this deduction occurs in the eternal truths, for example, the truths of geometry. The other is necessary only *ex hypothesi* and, so to speak, accidentally, but it is contingent in itself, since its contrary does not imply a contradiction. And this connection is based not purely on ideas and God's simple understanding, but on his free decrees and on the sequence of the universe” (D13, AW 231a).
- It is certain that I have two children; God can see that fact.
- But, it is not necessary that I have two children, since this fact depends on my free choice.
- “It is not impossible for what is foreseen not to happen; but it is infallibly sure that it will happen” (*Theodicy* ~407).

Julius Caesar

"If someone were able to carry out the whole demonstration by virtues of which he could prove this connection between the subject, Caesar, and the predicate, his successful undertaking, he in fact be showing that Caesar's future dictatorship is grounded in his notion or nature, that there is a reason why he crossed the Rubicon rather than stopped at it and why he won rather than lost at Pharsalus and that it was reasonable, and consequently certain, that this should happen. But this would not show that it was necessary in itself nor that the contrary implies a contradiction... For it will be found that the demonstration of this predicate of Caesar is not as absolute as those of numbers or of geometry, but that it supposes the sequence of things that God has freely chosen, a sequence based on God's first free decree always to do what is most perfect and on God's decree with respect to human nature, following out of the first decree, that man will always do (although freely) that which appears to be best. But every truth based on these kinds of decrees is contingent, even though it is certain; for these decrees do not change the possibility of things...it is not its impossibility but its imperfection which causes it to be rejected. And nothing is necessary whose contrary is possible" (D13, AW 231b).



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Freedom and God's Will

- Leibniz claims that God's will is constrained to choose the best, but that choice is still free.
- There is nothing in the nature of any possible world that constrains God to create it.
- All worlds are contingent, and remain to be brought into existence by God.
- Only God could perform the infinite analysis which would yield knowledge of which world is best.
- The doctrine of striving possibles
  - "Since something rather than nothing exists, there is a certain urge for existence or (so to speak) a straining toward existence in possible things or in possibility or essence itself; in a word, essence in and of itself strives for existence. Furthermore, it follows from this that all possibles, that is, everything that expresses essence or possible reality, strive with equal right for existence in proportion to the amount of essence or reality or the degree of perfection they contain, for perfection is nothing but the amount of essence. From this it is obvious that of the infinite combinations of possibilities and possible series, the one that exists is the one through which the most essence or possibility is brought into existence. In practical affairs one always follows the decision rule in accordance with which one ought to seek the maximum or the minimum: namely, one prefers the maximum effect at the minimum cost, so to speak" ("On the Ultimate Origination of Things").

Human Freedom

- Leibniz takes active, thinking things as elemental.
- The life of the monad consists of the unfolding of its perceptions.
- When these perceptions are conscious, as in a person, they are called apperception.
- But they are always self-determined, according to laws of final causes, as Leibniz denies any transeunt causation.
- The activity of a monad corresponds to the distinctness of its perceptions
  - "The action of the internal principle which brings about the change or passage from one perception to another can be called *appetition*; it is true that the appetite cannot always completely reach the whole perception toward which it tends, but it always obtains something of it, and reaches new perceptions" (D15, AW 276b).
- As the monads of persons have both conscious experience (distinct perception) and memory, we apperceive our appetition.

Freedom, sort of

- Human freedom, like God's freedom, is restricted.
- God understands what is best, and freely chooses it; what is possible is independent of God's will, but not his understanding.
- Our freedom, like God's, is the name we give to our faculty for striving, for unfolding the internal principles of our essence.
- We strive for future states, even if they are states of pain and unhappiness, as these are preferable to the alternative, which is non-existence.

Space and Time

Absolute and Relational Notions of Space and Time

- Theories of space and time have their roots in our observations about change.
- Change is due to some sort of motion.
- Motion is ordinarily measured relative to some external object.
  - Traveling on the highway, I am moving, with respect to the world outside the car, and sitting with respect to the car itself.
  - The Earth itself is moving, spinning on its axis.
  - The axis of the Earth is shifting in the annual revolution of our planet around the sun.
  - The solar system is moving relative to our Milky Way Galaxy, and the Milky Way is moving within our local system of galaxies.
  - I am driving 50 mph west, while the Earth is spinning at 650 miles per hour East, and the whole system is flying through space in its revolution around the sun at around 66,000 miles per hour, etc.
- Is there some fixed point, some privileged reference frame, to which all motion can be measured?
- Is there an absolute sense in which we can be said to be moving or not?
- Can we measure this motion relative to some special body or substance, like absolute space?
- Is there space, in addition to places?

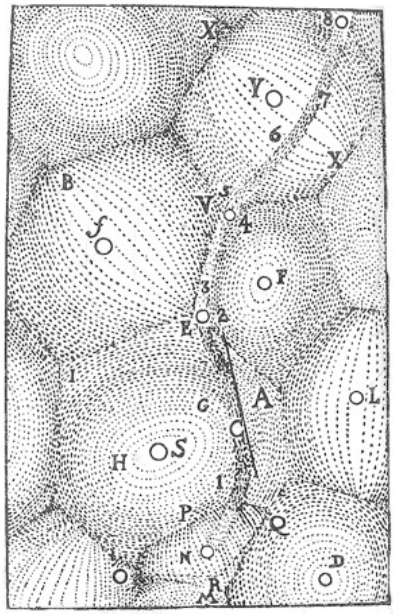
Newton and Leibniz

Do space and time have absolute reality, or are they merely relational concepts?

- Newton's view is absolutist.
  - Space is something distinct from the bodies that occupy it.
  - Time is something that passes uniformly without regard to events in the world.
  - Space is an empty container, and time marches inexorably forward.
  - Though we measure space and time using bodies and events, these are only indicative of relative motions.
- Leibniz is a relationalist
  - Space and time are idealizations.
  - They are abstractions from the realities of the material world.
  - "I hold space to be something merely relative, as time is...an order of coexistences, as time is an order of successions" (LIII.4, AW 297b).

Cartesians and the Void

- Descartes's physics denied the possibility of a void, or vacuum.
  - Aristoteleans who believed that a void is nothing, and what is nothing does not exist.
- Descartes took the world to be a plenum, in which space is not distinct from the bodies which fill it.
  - "All places are full of bodies... Each body can move only in complete circle of matter, or ring of bodies which all move together at the same time: a body entering a given place expels another, and the expelled body moves on and expels another, and so on, until the body at the end of the sequence enters the place left by the first body..." (Descartes, *Principles of Philosophy*, II.33).
- Leibniz adopts Descartes's views on the completeness of the material world.
  - "Let us fancy a space wholly empty. God could have placed some matter in it without derogating, in any respect, from all other things; therefore, he has actually placed some matter in that space; therefore, there is no space wholly empty; therefore, all is full" (LIV.PS, AW 303a).
- The Cartesians defined motion in terms of the translation of a body relative to its surrounding objects in the plenum.



Atomists and the Void

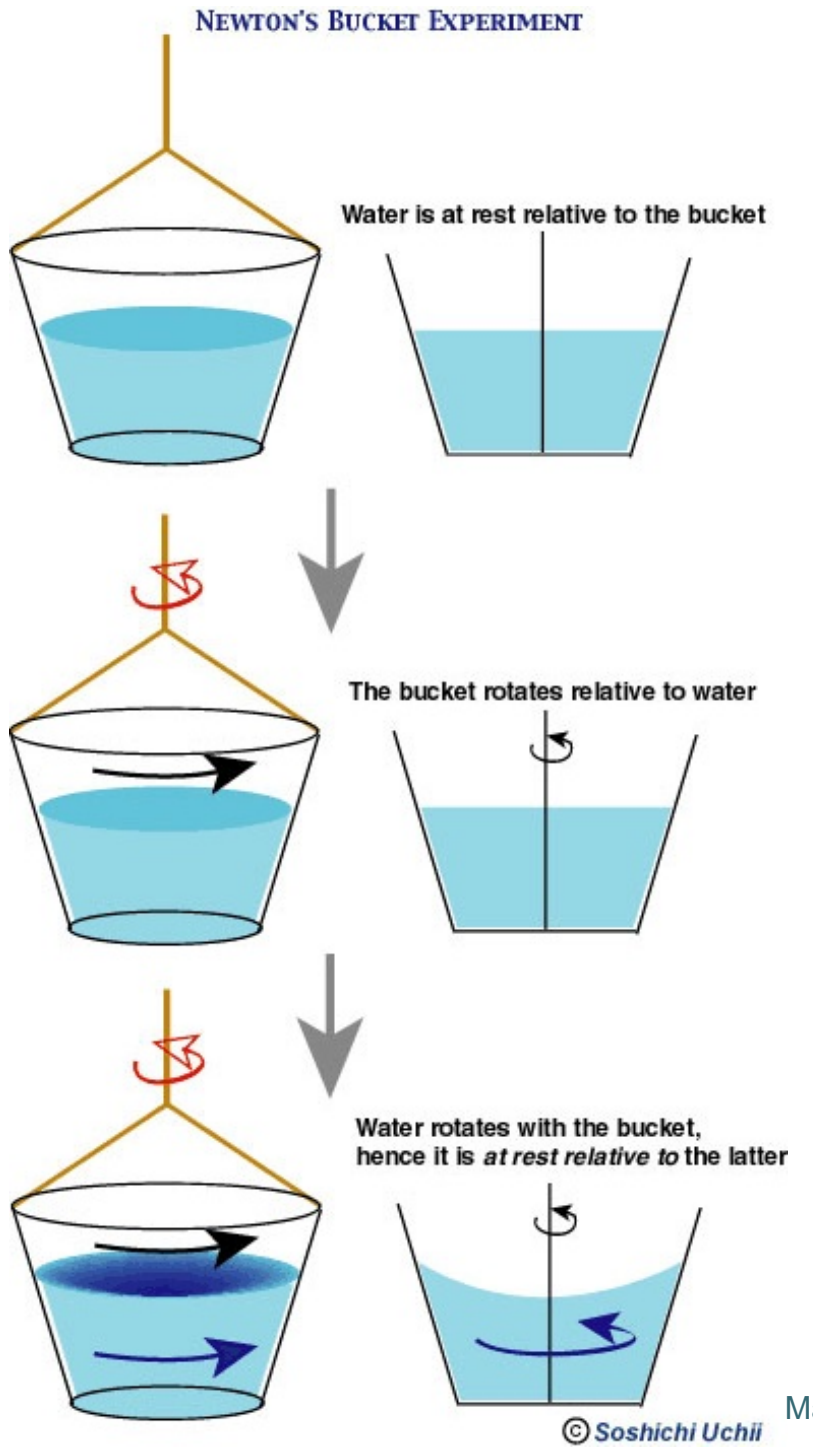
- Gassendi, the intellectual heir of the Greek atomists, had argued that the places between objects are empty.
- Objects are placed in a transcendent void.
- When we move, we change our place relative to the objects around us, and we change our location in absolute space.
- “What exists outside the universe?”
  - Leibniz, with the Cartesians, answers that the universe extends infinitely, so that there is no outside.
  - Newton, with the atomists, answers that there is an empty void.
- Today, the debate between relationalist and absolutists continues between space-time relationalists, who believe that space-time is an artificial, or nominal, construct out of particular bodies, and substantivalists, who believe in the existence of space-time points or regions.

Newton's Views on Space and Time

- Absolute time passes steadily without relation to anything external, and thus without reference to any change or way of measuring of time.
- Absolute space remains without relation to anything external.
- Relative spaces are measures of absolute space defined with reference to some system of bodies; a relative space may be in motion.
- The place of a body is the space which it occupies, whether absolute or relative.
- Absolute motion is the translation of a body from one absolute place to another; relative motion is the translation from one relative place to another.
- Thus, space is distinct from, and exists independently of, bodies.
- It is logically and metaphysically prior to bodies and events among bodies, in that bodies require space but space need not include any bodies.
- There is a fact of the matter whether a given body moves and what its true quantity of motion is.
- The true motion of a body does not consist of, or cannot be defined in terms of, its motion relative to other bodies.[1]
- Space is the sensorium of God, the seat of divine cognition.

Arguments from Properties and Causes

- Newton argues that the definition of motion as translation of a body relative to its surrounding objects will not allow us to arrive at a measurement of absolute motion.
- Bodies that are truly at rest are at rest with respect to one another.
  - Imagine that there is a distant star which is absolutely at rest.
  - We might wonder if something in our vicinity is also at rest.
  - But, if we measure it relative to the motions of things around it, we can not know whether it is moving or at rest relative to the distant star.
  - Thus, true rest cannot be defined simply in terms of position relative to bodies in the vicinity.
- If a part of a body maintains a fixed position with respect to the body as a whole, then it participates in the motion of the whole body.
  - Imagine that I am sleeping in the back of the car.
  - My femur is at rest with respect to me.
  - I am at rest with respect to the car.
  - But, my femur and I are both moving.
  - Thus, absolute motion cannot be defined as a translation from the immediately surrounding bodies.
- A body participates in the motion of its place when it moves away from that place.
  - You can change the relative motion of a body by changing the motion of the bodies to which you are comparing it.
  - But, you can only change the true, or absolute, motion of a body by applying some force to it.
  - The absolute motion of a body cannot be defined except by means of stationary places.


NEWTON'S BUCKET EXPERIMENT
Water is at rest relative to the bucket
The bucket rotates relative to water
Water rotates with the bucket,
hence it is *at rest relative to* the latter
© Soshichi Uchii

Newton's Bucket

- We know that the motions are different in the two states, but we can not differentiate them in terms of local changes of place.
- In both state 1 and state 3, the water and the bucket are at relative rest.
- But state 3 is measurably different to state 1.
- The relationalist seems unable to describe the difference between the two states.
- The absolutist needs merely to point out that in state 3, the system is in absolute motion, while in state 1, the system is at absolute rest.

Measuring Velocity

- The absolute speed of a body is the rate of change of its position relative to an arbitrary point of absolute space.
- According to Newton's account, absolute velocity is a well-defined quantity.
- But consider, as Galileo did, riding in a ship at a constant velocity.
- We cannot determine from observations inside the cabin whether the boat is at rest in harbor or sailing smoothly.
- Absolute velocity cannot be experimentally determined, unlike absolute rotation.
  - "Yet the thing is not altogether desperate; for we have some arguments to guide us, partly from the apparent motions, which are the differences of the true motions, partly from the forces, which are the causes and effects of the true motions" (Scholium to Definitions in *Principia*, AW 288a).

Leibniz, Against Newton

- “Our dispute consists in many other things. The question is whether God does not act in the most regular and most perfect manner; whether his machine is liable to disorder, which he is obliged to mend by extraordinary means; whether the will of God can act without reason; whether space is an absolute being; also concerning the nature of miracles; and many such things, which make a wide difference between us” (LIII.16, AW 299a).
- We are focusing only on the question of whether space is relational or absolute.

Classifying Space

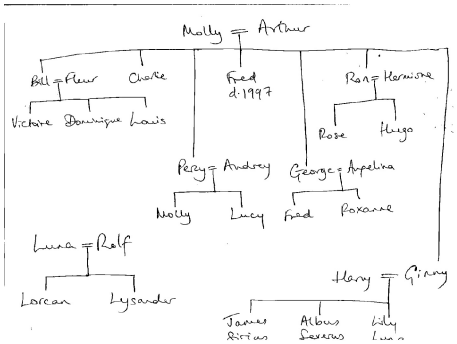
Is it a substance or an attribute?

- Newton does not take space to be a substance, for it lacks causal powers.
- But, it is also not an attribute, since its existence transcends the existence of any things.
- Unlike, say, redness, it doesn't need a thing to be predicated of.
  - "If space is a property or attribute, it must be the property of some substance. But of what substance will that bounded empty space be an affection or property, which the persons I am arguing with suppose to be between two bodies?" (LIV.8, AW 300a).
- So, space is real, but hovers in between substance and attribute.
- Perhaps the classification of all objects into substances and attributes is incomplete.

Revenge of the Great Principles

- “Those great principles of sufficient reason and of the identity of indiscernibles change the state of metaphysics. That science becomes real and demonstrative by means of these principles, whereas before it did generally consist in empty words” (LIV.5, AW 299b).
- Could the universe, for example, have been created at a different time?
- Could it be moved three inches to the left?
- There would be no way to distinguish two universes that were identical in all their relations among objects, but put into a different space, or reoriented.
- “Those two states, the one such as it is now, the other supposed to be the quite contrary way, would not at all differ from one another. Their difference therefore is only to be found in our chimerical supposition of the reality of space in itself. But in truth, the one would exactly be the same thing as the other, they being absolutely indiscernible, and consequently there is no room to inquire after a reason for the preference of the one to the other” (LIII.5, AW 297b-298a; see also LIV.13, AW 300a-b).

Leibnizian Space and Time



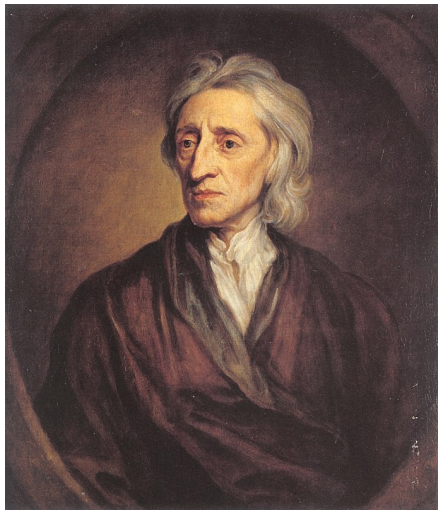
- Space is a set of relations among bodies.
- Time is an abstract relation among events (or perceptions).
- Those systems of relations might be thought of as abstract, but they should not be reified.
- The family tree analogy
- No really existing thing could be infinitely divisible.
  - We must take space and time to be ideal, or imaginary constructs derived from the appearances of bodies.
- Bodies, for Leibniz, are just appearances.
  - Space and time turn out to be abstractions on what is already only a mere appearance.
  - The only reality is monadic.
  - Monads have temporal properties, but not spatial properties, except in a thin, derivational sense.

End Continental Rationalism

- Return to our senses

Philosophy 203
History of Modern Western Philosophy

Russell Marcus
Hamilton College
Spring 2011



Locke

Four Central Topics in Locke's Work

1. Arguments against innate ideas
2. The primary/secondary distinction
3. An account of personal identity, including Locke's approach to the mind/body problem
4. Locke's philosophy of language, including the doctrine of abstract ideas

Locke's *Essay*

- over-written
- long-winded
- insightful
- fecund
- your grandmother's attic

koinai ennoia

- Descartes had pure intuitions, and clear and distinct perceptions of innate ideas.
  - the self
  - God
  - mathematics
  - laws of physics
- Spinoza
  - rational and intuitive knowledge
  - Our minds are literally part of God.
- Leibniz
  - truths of reason
  - Against transeunt causation, monads are self-contained.
- Grand metaphysical systems which claimed that reality is much different from our ordinary interpretations of sense experience.

Locke's Goal

- limit the scope of the undertanding
- reign in the speculative metaphysics
  - "It may be of use to prevail with the busy mind of man to be more cautious in meddling with things exceeding its comprehension, to stop when it is at the utmost extent of its tether, and to sit down in a quiet ignorance of those things which, upon examination, are found to be beyond the reach of our capacities" (I.I.4, AW 317a).
- Avoid skepticism
  - Descartes's standard for knowledge is too high.
  - "If we disbelieve everything because we cannot certainly know all things, we shall do quite as wisely as he who would not use his legs, but sit still and perish, because he had no wings to fly" (I.I.5, AW 317b-318a).
- The rationalists' epistemology is bloated.
  - "Men, barely by the use of their natural faculties, may attain to all the knowledge they have, without the help of any innate impressions, and may arrive at certainty without any such original notions or prinicples"(I.II.1, AW 319a).

Against Innate Ideas

Against Innate Ideas

- We do not know some of the ideas which Descartes alleges are innate.
  - "It is evident that all *children*...do not have the least apprehension or thought of them. And the lack of that is enough to destroy that universal assent which must be the necessary concomitant of all innate truths..." (§I.II.5, AW 319b).
- Goldbach's conjecture
- Every one doesn't know some of their innate ideas.
- Some people don't know any of them.

A Rationalist's Response

- Innate ideas require development.
- We have to reason to them, or unfold them from within.
- The information we get from the senses is not good enough to support clear and distinct judgments about the physical world.
- Locke takes such recourse on the part of the rationalist to be a concession.
  - "It [seems] to me near a contradiction to say that there are truths imprinted on the soul which it does not perceive or understand" (§I.II.5, AW 319b).
- Consciousness is the mark of the mental.
  - We need not recall all of our clear and distinct ideas in order to know them.
  - But, to think that there are innate ideas that are inaccessible to us seems to push the claim of innateness too far.

Universal Assent

- Locke attributes a general principle of universal assent to the defender of innate ideas:
  - UA: If everyone agrees that p, then p is innate.
- That green is not red is self-evident.
- But, no one believes that experience of color is innate.
  - “I imagine everyone will easily grant that it would be impertinent to suppose the *ideas* of colors innate in a creature to whom God has given sight and a power to receive them by the eyes from external objects....”(I.II.1, AW 319a).
- It is unlikely that any defender of innate ideas would have accepted UA.

The So-Called Innate Ideas

- Nobody questions whether experience is necessary for us to have knowledge.
- The question is whether experience is sufficient to account for what we know.
- Locke's empiricist claim is that we are born with no innate knowledge, no principles imprinted on the understanding.
- He is willing to forego claims that depend on the rationalists' innate ideas, especially claims the nature of God and the soul.
- Locke doesn't reject the claim that we have knowledge of God.
- He just argues that our idea of God comes from experience, rather than from naturally imprinted first principles.
  - "If we examine the *idea* we have of the incomprehensible supreme being, we shall find that...the complex *ideas* we have both of God and separate spirits are made of the simple *ideas* we receive from *reflection*: e.g. having, from what we experiment in ourselves, got the ideas of existence and duration; of knowledge and power; of pleasure and happiness; and of several other qualities and powers, which it is better to have than to be without. Wwhen we would frame an *idea* the most suitable we can to the Supreme Being, we enlarge every one of these with our *idea* of infinity; and so putting them together, make our complex *idea of God"* (II.XXIII.33, AW 366b).

Empiricism and Mathematics

- As a rule, the empiricist has difficulty explaining our knowledge of mathematics.
- It is difficult to see how experience can support universal claims about mathematical objects, which are not sensible.
- Locke's account of our knowledge of mathematics, like his account of our knowledge of God, does not rely on innate ideas.
- Instead, it relies on intuition and demonstration, starting with ideas of sensation, and then using reason to discover relations among them.
  - "I do not doubt but it will be easily granted tht the *knowledge* we have of *mathematical truths* is not only certain, but *real knowledge*, and not the bare empty vision of vain insignificant *chimeras* of the brain. And yet, if we will consider, we shall find that it is only of our own *ideas" (*IV.IV.6, AW 404b).

Two Lines of Attack

against the rationalists

1. Give up some of the general principles supposedly known innately.

2. Attempt to reclaim some of the knowledge that was formerly thought to rely on innate ideas.

Two tools

1. Sensation, and any ideas which can be attributed to our sense experience
2. Psychological capacities of our minds, including memory and the ability to reflect on our ideas.

- Contemplation
- Memory
- Discerning
- Comparison
- Composition
- Abstraction

Locke and Ock(ham)

- Locke rejects a contentious form of the doctrine of innate ideas.
  - UA
  - Straw person?
- Locke's positive claim is independent of his criticisms of innate ideas.
  - If he can show how to justify our beliefs while avoiding any appeal to innate ideas, we might prefer his empiricist account.
  - Ockhamist principles of simplicity

The *Tabula Rasa*

Let us then suppose the mind to be, as we say, white paper, void of all characters, without any *ideas*. How does it come to be furnished? From where does it come by that vast store which the busy and boundless fancy of man has painted on it with an almost endless variety? From where does it have all the materials of reason and knowledge? To this I answer, in one word, from *experience*; our knowledge is founded in all that, and from that it ultimately derives itself. Our observation employed either about *external sensible objects* or *about the internal operations of our minds, perceived and reflected on by ourselves, is that which supplies our understandings with all the materials of thinking*. These two are the fountains of knowledge, from which all the *ideas* we have, or can naturally have, do spring (II.I.2, AW 323a).

Sensation and Reflection

- Simple ideas of sensation come from individual sense experiences of particular objects.
  - We can hold those ideas in memory, and recall them.
  - Language primarily consists of names of our simple ideas.
- Using our naturally developing ability to reflect, we can go beyond the limits of particular sense experience, and memory of such experience.
  - "The other fountain from which experience furnishes the understanding with ideas is the *perception of the operations of our own mind* within us, as it is employed about the *ideas* it has gotten - which operations, when the soul comes to reflect on and consider, do furnish the understanding with another set of *ideas*, which could not be had from things without. And such are *perception*, *thinking*, *doubting*, *believing*, *reasoning*, *knowing*, *willing*, and all the different actings of our own minds, which we, being conscious of and observing in ourselves, do from these receive into our understandings as distinct *ideas* as we do from bodies affecting our senses... I call this REFLECTION" (II.I.4, AW 323b).

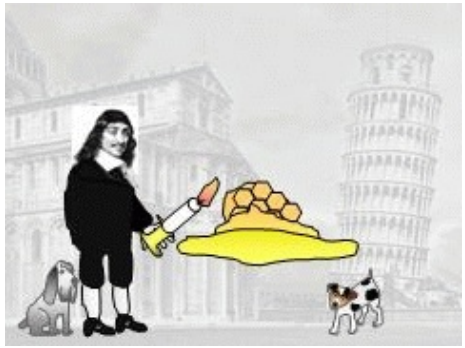
Sensation and The Primary/Secondary Distinction

Descartes Against the Senses

- Aristotle had taken sensory qualities to be properties of external objects.
  - The redness and sweetness of an apple are real properties of the apple itself.
  - Our senses are attuned to the external environment.
  - Color vision occurs when a person's eyes are changed to be like the color of an external object.
- Descartes presented (at least) three considerations which weighed against the veridicality of sense experience:
  1. The illusion and dream doubts;
  2. The wax argument; and
  3. The rejection of the Resemblance Hypothesis on the basis of the example of the sun.
- The moral of the illusion argument is merely to take care to use one's senses in the best way possible.
  - We need not dismiss all of our sense evidence on the basis of illusion.
- The dream doubt encourages a mere skepticism.
  - Put skepticism aside.

Appearance, Reality, and the Wax

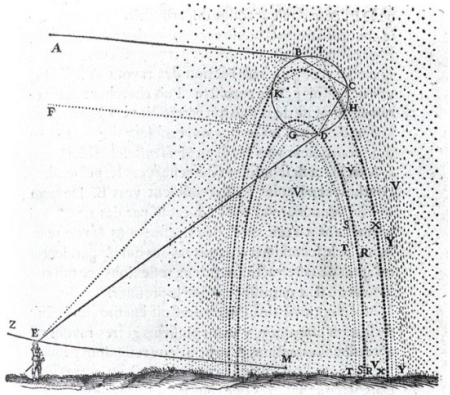
- Physical objects can have contradictory sense properties.
  - The wax (like all material objects) is an extended body which can take various manifestations.
  - The same object may have many different appearances.
  - We should identity objects with none of their particular sensory qualities.
- The appearance of an object is distinct from its real qualities.
- Which qualities are real, and which are mere appearances?
  - The primary/secondary distinction



Primary Qualities Before Locke

- Descartes believed that the only real property of physical objects was their extension.
  - "The only principles which I accept, or require, in physics are those of geometry and pure mathematics; these principles explain all natural phenomena, and enable us to provide quite certain demonstrations regarding them" (Descartes, *Principles of Philosophy* II.64, AT VIIIA.78)
  - Imagination is not capable of representing true extension.
  - We use pure thought.
- Boyle and Galileo
  - size, shape, mass, motion, and number
  - Again, mathematically-describable properties
- The expansion of the list of real properties from Descartes's extension to the other qualities does not indicate any difference in principle.
  - The primacy of mathematics

Secondary Properties Before Locke



- Descartes's rejection of the Resemblance Hypothesis
  - The sun example
  - Sensory properties are artifacts of interactions between our bodies and other bodies.
  - They are not real properties of those external bodies.
  - "Most philosophers maintain that sound is nothing but a certain vibration of the air which strikes our ears. Thus, if the sense of hearing transmitted to our mind the true image of its object then, instead of making us conceive the sound, it would have to make us conceive the motion of the parts of the air which is then vibrating against our ears" (Descartes, *Le Monde*, AT XI.5).
- Galileo argued for the primary/secondary distinction on analogy with a feather.
  - "When touched upon the soles of the feet, for example, of under the knee or armpit, it feels in addition to the common sensation of touch a sensation on which we have imposed a special name, 'tickling'. this sensation belongs to us and not to the hand. Anyone would make a serious error if he said that the hand, in addition to the properties of moving and touching, possessed another faculty of tickling, as if tickling were a phenomenon that resided in the hand that tickled" (Galileo, *The Assayer*, 275).
- The color, or odor, or taste, or heat, is not in the object which we perceive as colored, odored, tasty, or hot.

Locke's Water Experiment

- The same object displays incompatible properties at the same time.
- The Heraclitean response to the wax example
  - "No one subject can have two smells or two colors at the same time. To this perhaps will be said, has not an opal, or the infusion of *lignum nephriticum*, two colors at the same time? To which I answer that these bodies, to eyes differently placed, it is different parts of the object that reflect the particles of light. And therefore it is not the same part of the object, and so not the very same subject, which at the same time appears both yellow and azure. For it is as impossible that the very same particle of any body should at the same time differently modify or reflect the rays of light, as that it should have two different figures and textures at the same time" (IV.III.15, AW 396b).
- The Heraclitean response is unavailable in the water case.
  - The exact same water displays the incompatible properties.
- We need an account of the error that will not force us to abandon all sense experience.

Ideas of an apple

- Red
- Round
- Cool to the touch
- Sweet, though a bit sour
- Shiny
- Smooth
- Sits still on the table
- Crunchy
- Weighs 4 oz.
- Has a mass of 120 grams
- Is one apple
- Is being considered by you
- Smells like, well, an apple

Locke's Principles

- Locke tacitly presumes two principles to distinguish veridical ideas from misrepresentative ones.
- LP1: If one perceives an object as having two (or more) incompatible ideas, then those ideas do not represent real properties of the object.
  - Besides hot and cold, other sense ideas are not veridical, according to LP1.
  - Porphyry (II.VIII.19)
  - Almond (II.VIII.20)
  - Descartes's wax example
- LP1C1: Even if a change in us entails the change in the perceived quality, the ideas which change can not be veridical.
  - Orange juice
- LP1C2: Qualities that appear different to different observers are not veridical.
  - Color-blindness

Locke's Second Principle

- LP2: If an idea of an object is the same under all conditions, that idea is veridical.
  - "We may understand how it is possible that the same water may, at the same time, produce the sensations of heat in one hand and cold in the other; which yet figure never does, that, never producing the *idea* of a square by one hand, which has produced the *idea* of a globe by another" (II.VIII.21, AW 335b).
- LP2C: If every observer receives the same idea from an object, then that idea is veridical.

Apple, Redux

Red	Misrepresentative
Round	Real
Cool to the touch	Misrepresentative
Sweet, though a bit sour	Misrepresentative
Shiny	Misrepresentative
Smooth	Misrepresentative
Sits still on the table	Real
Crunchy	Misrepresentative (But consider its brittle texture)
Weighs 4 oz.	Misrepresentative
Has a mass of 120 grams	Real
Is one apple	Real
Is being considered by you	Misrepresentative
Smells like, well, an apple	Misrepresentative

- Thus, we have arrived at the primary/secondary distinction via argument:
- "These I call *original* or *primary qualities* of body, which I think we may observe to produce simple *ideas* in us, namely, solidity, extension, figure, motion or rest, and number. *Secondly*, such *qualities* which in truth are nothing in the objects themselves but powers to produce various sensations in us by their *primary qualities*...these I call *secondary qualities"* (II.VIII.9-10, AW 333a-b).

Primary Qualities and Secondary Qualities

- Primary
  - Solidity
  - Extension
  - Figure
  - Motion/ Rest
  - Number
- Secondary
  - Color
  - Odor
  - Hot/ Cold
  - Sound
  - Texture
  - Taste
- We can justify our beliefs on the basis of sense experience without worrying that we will be forced to accept errors as true because we are relying on our senses, rather than pure reason.

A Worry

- “Qualities thus considered in bodies are, first, such as are utterly inseparable from the body in whatever state it is, such as in all the alterations and changes it suffers, all the force can be used upon it, it constantly keeps, and such as sense constantly finds in every particle of matter which has bulk enough to be perceived, and the mind finds inseparable from every particle of matter, though less than to make itself singly perceived by our senses -e.g., take a grain of wheat, divide it into two parts, each part has still *solidity*, *extension*, *figure*, and *mobility*; divide it again, and it retains still the same qualities; and so divide it on until the parts become insensible, they must retain still each of them all those qualities” (II.VIII.9, AW 333a).
- Why doesn’t the change in extension of the wheat show that extension is a secondary quality?
- Do electrons have shape?

The Primary/Secondary Distinction, the Resemblance Hypothesis, and Empiricism

- Locke accepts the Resemblance Hypothesis, for primary qualities only.
  - The *ideas of primary qualities* of bodies *are resemblances* of them and their patterns do really exist in the bodies themselves, but the *ideas produced* in us *by* these *secondary qualities have no resemblance* of them at all. There is nothing like our *ideas* existing in the bodies themselves (II.VIII.15, AW 334a).
- Our ideas of extension resemble extension in the world.
- My ideas of secondary qualities do not resemble anything in an object.
- On the basis of my ideas of primary qualities, then, I can justify significant conclusions about the world (i.e. the new science) without appealing to innate ideas.

Descartes and Locke

- Both Descartes and Locke were writing in support of modern science.
- Descartes believes that the essential characteristic of physical objects is extension.
- Locke believes that extension is just one of several primary qualities.
- They disagree more strongly about how we know about those properties.
- Their disagreement is mainly epistemological, not metaphysical.

Locke's Metaphysics

- God, finite intelligences, bodies
- The material world is nothing but particles in motion.
- Sense qualities of objects are not really in the world.
  - Lemons are not really yellow, or sour.
  - They are made of particles (atoms or corpuscles) that appear yellow or sour to normal human senses.
  - These minute particles unite in varying ways.
  - Depending on how they unite, they affect us in different ways.
- We might say that the lemon has a 'dispositional property' which makes us see it as yellow.
  - But the dispositional property is not yellowness, which is, properly speaking, a property only of my experience.

Galileo and Locke

- ...that external bodies, to excite in us these tastes, these odours, and these sounds, demand other than size, figure, number, and slow or rapid motion, I do not believe, and I judge that, if the ears, the tongue, and the nostrils were taken away, the figure, the numbers, and the motions would indeed remain, but not the odours, nor the tastes, nor the sounds, which, without the living animal, I do not believe are anything else than names (Galileo, *Opere* IV, 336).
- Take away the sensation of them; let the eyes not see light, or colors, nor the ears hear sounds; let the palate not taste, nor the nose smell; and all colors, tastes, odors, and sounds as they are such particular *ideas* vanish and cease, and are reduced to their causes, i.e., bulk, figure, and motion of parts (Locke, II.VIII.17, AW 334b).

Reflection

Empiricism and Mathematics

- The empiricist has difficulty explaining our knowledge of mathematics.
- It is difficult to see how experience can support universal claims about mathematical objects, which are not sensible.
- Locke's account of our knowledge of mathematics, like his account of our knowledge of God, does not rely on innate ideas.
- Instead, it relies on intuition and demonstration, starting with ideas of sensation, and then using reason to discover relations among them.
  - "I do not doubt but it will be easily granted tht the *knowledge* we have of *mathematical truths* is not only certain, but *real knowledge*, and not the bare empty vision of vain insignificant *chimeras* of the brain. And yet, if we will consider, we shall find that it is only of our own *ideas" (*IV.IV.6, AW 404b).

Locke's Philosophy of Language

- Words stand for ideas in our minds.
  - Controversial claim
  - We ordinarily take many words to stand for objects outside of our minds.
  - We normally take 'this table' to refer to the table, not to my idea of the table.
- A representational theory of mind
  - Ideas are like pictures in the mind
  - Terms stand for ideas, which correspond to objects, like chairs, people, or even circles.

Words Stand for Ideas

1. Society depends on our ability to communicate our ideas, so words have to be able to stand for ideas.

2. If ‘book’ referred both to my idea of a book and something else (e.g. your idea, or the book itself), then it would be ambiguous in a way in which it is not.

3. Also, since my ideas precede my communication, words must refer to my ideas before they could refer to anything else.

4. So, it is impossible for words also to stand for something other than my ideas.

So, words stand for my ideas.

“[It is] perverting the use of words, and bring[ing] unavoidable obscurity and confusion into their signification, whenever we make them stand for anything but those ideas we have in our own minds” (§III.II.5).

General Terms

- Particular terms correspond to simple ideas.
- There are too many particular things for them all to have particular names.
- We have to use general names.
  1. Human capacity is limited (III.IIII.2, AW 377a).
  2. You don't have names for my ideas and I don't have names for yours (III.IIII.3, AW 377a-b).
  3. Science depends on generality (III.IIII.4, AW 377b).
- We use general names for communication and for science.

Abstraction

- sense experiences
- backs, seats, legs
- chair
- table
- furniture
- house
- apartment building
- domicile
- animal
- person
- extension
- motion
- substance

Abstraction and Science

- Ideas of bodies and motion are the foundations of physical science.
  - $v = \Delta s/\Delta t$
- We can abstract to the term, ‘physical object’.
- General terms, and the abstract ideas to which they refer, apply to particular objects, but only to certain aspects of those objects.
  - “[A general] *idea* [of man] is made, not by any new addition, but only...by leaving out the shape, and some other properties signified by the name *man*, and retaining only a body, with life, sense, and spontaneous motion, comprehended under the name *animal*”(III.IIII.8, AW 378a).
- A progression of abstraction leads us from terms for particular sensations to terms for bodies.
- So, the term ‘bodies’, which we have constructed to stand for an abstract idea, refers to bodies, which are physical objects.

Abstraction and Mathematics

- Both the use of general terms and our ability to remember the distinct parts of a proof are essential to mathematics.
- "If...the perception that the same *ideas* will eternally have the same habitudes and relations is not a sufficient ground of knowledge, there could be no knowledge of general propositions in mathematics, for no mathematical demonstration would be any other than particular" (IV.I.9, AW 388b).
- The abstract generality of mathematical claims supports their certainty.
- "[The mathematician] is certain all his knowledge concerning such *ideas* is real knowledge, because intending things no further than they agree with his *ideas*, he is sure what he knows concerning those figures, when they have barely an *ideal existence* in his mind, will hold true of them also when they have real existence in matter, his consideration being barely of those figures which are the same, wherever or however they exist" (IV.IV.6, AW 404b).

Ethics, Too

For certainty being but the perception of the agreement or disagreement of our *ideas*; and demonstration nothing but the perception of such agreement, by the intervention of other *ideas* or mediums, our moral *ideas*, as well as mathematical, being archetypes themselves, and so adequate and complete *ideas*; all the agreement or disagreement which we shall find in them will produce real knowledge, as well as in mathematical figures (IV.IV.7, AW 404b).

Capacities and Intuitive Knowledge

Not Innate Ideas

- We can generalize, or abstract, to find universals, like those of mathematics.
  - "The senses at first let in particular *ideas*, and furnish the yet empty cabinet, and the mind by degrees growing familiar with some of them, they are lodged in the memory, and names got to them. Afterwards the mind proceeding further abstracts them, and by degrees learns the use of general names" (I.II.15, AW 321a).
- We can recognize similarities and differences among our ideas.
- We have intuitive knowledge of the agreement or disagreement of ideas.
  - "If we will reflect on our own ways of thinking, we shall find that sometimes the mind perceives the agreement or disagreement of two *ideas* immediately by themselves, without the intervention of any other. And this, I think, we may call *intuitive knowledge"* (IV.II.1, AW 389a).
    1. Identity or diversity;
    2. Relation;
    3. Coexistence or necessary connection; and
    4. Real existence.
- "This is so absolutely necessary that without it there could be no knowledge, no reasoning, no imagination, no distinct thoughts, at all. But this the mind claerly and infallibly perceives each *idea* to agree with itself, and to be what it is, and all distinct *ideas* to disagree, i.e., the one not to be the other, And this it does without pains, labor, or deduction, but at first view, by its natural power of perception and distinction" (IV.I.4, AW 386b).

Mathematics

- General names are the foundation for empirical science, and formal sciences like mathematics and logic.
- We get knowledge of mathematical objects, which we do not experience, by a process of abstraction.
- Doughnuts and frisbees, and circles
- We leave out other properties, form an abstract idea, and coin a general term to stand for it.
  - We experience extended things, but not extension itself.

Nominalism

some words are merely names and do not denote real objects or properties

- We are all nominalists about fictional objects, like the Easter Bunny.
- Some people are nominalists about numbers.
- Locke is a nominalist about color, and other secondary properties.
- Locke is also a nominalist about the referents of abstract ideas.
  - "Universality does not belong to things themselves, which are all of them particular in their existence, even those words and *ideas* which in their signification are general. When therefore we quit particulars, the generals that rest are only creatures of our own making, their general nature being nothing but the capacity they are put into by the understanding of signifying or representing many particulars. For the signification they have is nothing but a relation that, by the mind of man, is added to them" (III.IIII.11, AW 379a).

Essences

- Locke does not have much to say, positively, about essences.
- Since we do not have sense experience of the essence of an object, there is little to be said.
- “The real internal, but generally, in substances, unknown constitution of things on which their discoverable qualities depend, may be called their *essence*” (III.III.15, AW 380a).
- To arrive at an idea of essence, we must generalize from particular sensation, and form an abstract idea.
- But, strictly speaking, essences, being abstract ideas, are not real, either.
- “That which is *essential* belongs to it as a condition, by which it is of this or that sort; but take away the consideration of its being ranked under the name of some abstract *idea*, and then there is nothing necessary to it, nothing inseparable from it” (III.VI.6, AW 383b).
- Again, Locke is a nominalist about essences.

Objectivity without Objects

- For all his nominalism, we are not supposed to think that Locke denigrates mathematical or moral knowledge.
  - "All the discourses of the mathematicians about the squaring of a circle, conic sections, or any other part of mathematics, *do not concern* the *existence* of any of those figures, but their demonstrations, which depend on their *ideas*, are the same, whether there is any square or circle existing in the world or not. In the same manner the truth and certainty of *moral* discourses abstract from the lives of men and the existence of those virtues in the world of which they treat" (IV.IV.8, AW 405a).
- Our knowledge of the external world, the causes of our sensations and the laws that govern physical interactions, contains deep mysteries, inexplicable absent something like a rationalist's principle of sufficient reason.
  - "I think not only that it becomes the modesty of philosophy not to pronounce magisterially where we want that evidence that can produce knowledge, but also that it is of use to us to discern how far our knowledge does reach, for the state we are at present in, not being that of vision, we must in many things content ourselves with faith and probability" (IV.III.6, AW 394a).

Demonstrative Knowledge

- Demonstrative knowledge requires proof, and each step of the proof has to be intuitive.
- Because demonstrative knowledge requires chains of reasoning, doubt, which does not infect intuitive knowledge of agreement of ideas, can arise.
- Demonstrative knowledge grounds both mathematical and moral claims.
- In both cases, we have intuitive knowledge of some primitive relations among ideas.
- And in both cases, we derive more complex ideas by reflecting and abstracting from them.
  - "*Morality* [is] *among the sciences capable of demonstration*; in which I do not doubt but from self-evident propositions, by necessary conequences, as incontestable as those in mathematics, the measures of right and wrong might be made out to anyone who will apply himself with the same indifference and attention to the one as he does to the other of these sciences... "*Where there is no property, there is no injustice*," is a proposition as certain as any demonstration in *Euclid*"(IV.III.18, AW 397b-398a.).

Locke and the Mind

The Mind-Body Problem

- While Locke was suspected of Hobbesian materialism, he is clearly a dualist.
- So, Locke is saddled with a typical mind-body problem.
- Locke does not provide a Cartesian-style solution to the mind-body problem, despairing of any satisfactory account.
- "Supposing the sensation or idea we name whiteness be produced in us by a certain number of globules, which, having a verticity about their own centres, strike upon the retina of the eye, with a certain degree of rotation, as well as progressive swiftness; it will hence easily follow, that the more the superficial parts of any body are so ordered as to reflect the greater number of globules of light, and to give them the proper rotation, which is fit to produce this sensation of white in us, the more white will that body appear, that from an equal space sends to the retina the greater number of such corpuscles, with that peculiar sort of motion... I cannot (and I would be glad any one would make intelligible that he did), conceive how bodies without us can any ways affect our senses, but by the immediate contact of the sensible bodies themselves, as in tasting and feeling, or the impulse of some sensible particles coming from them, as in seeing, hearing, and smelling; by the different impulse of which parts, caused by their different size, figure, and motion, the variety of sensations is produced in us" (IV.II.11).

Locke's Humility

- There are lawful correspondences between physical events and some mental states.
- If these lawful correspondences are possible, it seems possible for matter to think.
- It seems equally unlikely for whatever substance in which thought resides to be the seat of thought as for matter to be the seat of thought.
- "We have the *ideas* of *matter* and *thinking*, but possibly shall never be able to know whether any mere material being thinks or not, it being impossible for us, by the contemplation of our own *ideas*, without revelation, to discover whether omnipotence has not given to some systems of matter fitly disposed a power to perceive and think, or else joined and fixed to matter so disposed a thinking immaterial substance - it being in respect of our notions not much more remote from our comprehension to conceive that God can, if he pleases, superadd to matter a faculty of thinking than that he should superadd to it another substance with a faculty of thinking, since we do not know in what thinking consists, nor to what sort of substances the Almighty has been pleased to give that power..." (IV.III.6, AW 393b).
- "*The extent of our knowledge* comes not only short of the reality of things, but even of the extent of our own *ideas*"(IV.III.6, AW 393a).

The Hard Problem

- So, why do the lemons appear yellow?
- We lack an explanation of the connection between my quale and its cause.
- Why is it that such and such motions in the air cause me to hear a symphony?
- Why is it that certain wavelengths of light cause me to see blue?
- "That the size, figure, and motion of one body should cause a change in the size, figure, and motion of another body is not beyond our conception. The separation of the parts of one body upon the intrusion of another and the change from rest to motion upon impulse, these and the like seem to have some *connection* one with another. And if we knew these primary qualities of bodies, we might have reason to hope we might be able to know a great deal more of these operations of them one upon another. But our minds not being able to discover any *connection* between these primary qualities of bodies and the sensations that are produced in us by them, we can never be able to establish certain and undoubted rules of the consequence or *coexistence* of any secondary qualities, though we could discover the size, figure, or motion of those invisible parts which immediately produce them. We are so far from knowing what figure, size, or motion of parts produce a yellow color, a sweet taste, or a sharp sound that we can by no means conceive how any *size, figure*, or *motion* of any particles can possibly produce in us the *idea* of any *color*, *taste*, or *sound* whatsoever; there is no conceivable *connection* between the one and the other" (IV.III.13).

Locke and the Self

The Ship of Theseus

- We can replace every plank on the ship, one at a time.
- It changes its material composition completely, but remains the same ship.
- We can make a new ship with the old wood, and find ourselves completely confused about what to say.
- Is the ship that Theseus uses, with all new materials, his ship?
- Or, is the new ship made of the old wood his ship?

The Self as a Moral (Forensic) Concept

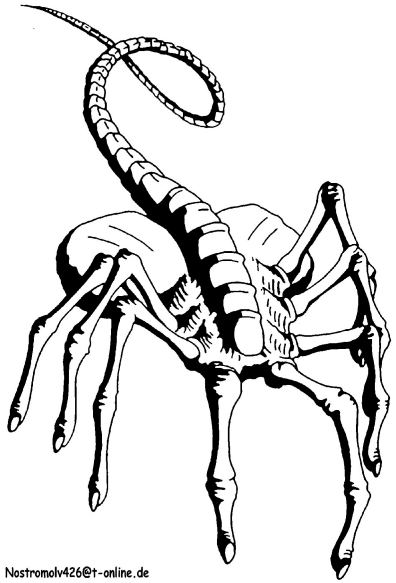
- Not the soul (to which Descartes identified the self)
- Not the matter of our bodies (to which materialists like Hobbes identified the self)
  - An animal is not merely its matter.
  - The matter remains after death while the animal does not.
- Used for practical purposes of ascribing responsibility.

Relative Identity

- Identity is relative to a sortal, to a kind of thing
- A lump of plasticine can the same lump, but a different statue.
- We can not know how to identify something unless we know what kind of thing it is.
- So, we can not know what our identity is until we know what kind of thing we are.

Against Biological Criteria

- Locke takes ‘man’, or ‘human being’, to be a type of animal, whose identity (qua human being) is determined functionally.
  - “The identity of the same *man* consists...in nothing but a participation of the same continued life, by constantly fleeting particles of matter, in succession vitally united to the same organized body” (II.XXVII.6, AW 369a).
  - This sort, human being, can not serve as the sort of our selves.
- A human is identified by the functional organization of the body; it is a biological thing.
- But, a person is not a biological thing.
- “[A person] is a thinking intelligent being that has reason and reflection, and can consider itself as itself, the same thinking thing in different times and places, which it does only by that consciousness which is inseparable from thinking, and, as it seems to me, essential to it...” (II.XXVII.9, AW 370a).
- Aliens, and sentient machines



Against Identifying with the Soul

- “Souls [are], as far as we know anything of them, in their nature, indifferent to any parcel of matter...” (§II.XXVII.14, AW 372a).
- Imagine that a soul had two successive incarnations.
- We wouldn’t say that there were only one person.
- “Suppose it to be the same soul that was in *Nestor* or *Thersites* at the siege of *Troy*...which it may have been, as well as it is now the soul of any other man. But he now having no consciousness of any of the actions of either of *Nestor* or *Thersites*, does or can he conceive himself the same person with either of them? Can he be concerned in either of their actions, attribute them to himself, or think them his own more than the actions of any other men that ever existed? Thus, this consciousness not reaching to any of the actions of either of those men, he is no more one self with either of them than if the soul or immaterial spirit that now informs him had been created and began to exist, when it began to inform his present body...” (II.XXVII.14, AW 372a).

The Consciousness Theory of the Self

- Locke identifies the self with the thinking thing.
- If the same consciousness...can be transferred from one thinking substance to another, it will be possible that two thinking substances may make but one person. For the same consciousness being preserved, whether in the same or different substances, the personal identity is preserved (II.XXVII.13, AW 371b).
- For Locke, what makes the same person over time, is consciousness, and, especially, connection through memory, which Locke calls consciousness extending backwards.
- Thus, the day and night man, who has divided consciousness, is two different persons in one body.

Philosophy 203
History of Modern Western Philosophy

Russell Marcus
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Berkeley

Metaphysics and Epistemology

- Metaphysics
  - For the materialist, like Hobbes, all reality is made of matter.
    - Even ideas are material, motions in the brain.
  - For the dualist, some reality is mental and some is physical.
    - Descartes and Locke are both dualists.
  - For the idealist, all reality is mental.
    - Leibniz and Berkeley
- Epistemology
  - Locke and Descartes agree on dualism, despite their disagreement over epistemology.
  - Berkeley disagrees with Locke about metaphysics, though he mainly agrees about epistemology.

An Empiricist's Problem

- The empiricist claims that all knowledge comes from experience.
- But we experience our sensations, not the causes of our sensations.
- So, we have no knowledge of what causes our sensations, i.e. objects in the supposedly material world.
- "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).

Correspondence Truth

To say of what is that it is not, or of what is not that it is, is false, while to say of what is that it is, and of what is not that it is not, is true (Aristotle, *Metaphysics* 1011b25).

- A correspondence theory says that truth is a correspondence between words and worlds.
- A proposition is true if the world is the way that the proposition claims that it is.
- One worry
  - We have no extra-linguistic way to apprehend reality.
  - We have no access to the world as it is in itself.

Idealism

- Descartes: we judge that there is an external world, and what it is like, with our minds.
  - Such judgment extends beyond experience.
- Locke: our ideas of primary qualities of objects resemble real qualities of those objects.
  - To assert a resemblance, we have to be able to perceive both objects.
  - We seem to be stuck with only our sensations.
- Berkeley: there are no material objects.
  - "It is indeed an opinion strangely prevailing among men that houses, mountains, rivers, and, in a word, sensible objects have an existence, natural or real, distinct from their being perceived by the understanding... What are the aforementioned objects but the things we perceive by sense? And what do we perceive besides our own ideas or sensations?" (*Principles*, §4)
  - "By matter...we are to understand an inert, senseless substance, in which extension, figure, and motion do actually subsist. But it is evident from what we have already shown that extension, figure, and motion are only ideas existing in the mind, and that an idea can be like nothing but another idea, and that consequently neither they nor their archetypes can exist in an unperceiving substance. Hence it is plain that the very notion of what is called matter, or corporeal substance, involves a contradiction in it" (*Principles*, §9).

Three Main Berkeley Topics

1. Arguments for idealism, and against materialism
2. Arguments against abstract ideas
3. Accounts of mathematics and science

Materialism, Dualism, and Idealism

- For the materialist, like Hobbes, all reality is made of matter.
  - Even ideas are material, motions in the brain.
- For the dualist, some reality is mental and some is physical.
  - Descartes and Locke are both dualists.
- For the idealist, all reality is mental.
  - Leibniz

Metaphysics is Independent of Epistemology

- Locke and Descartes agree on dualism, despite their disagreement over epistemology.
- Berkeley disagrees with Locke about metaphysics, though he mainly agrees about epistemology.
- “No sooner do we depart from sense and instinct to follow the light of a superior principle, to reason, meditate, and reflect on the nature of things, but a thousand scruples spring up in our minds concerning those things which before we seemed fully to comprehend. Prejudices and errors of sense do from all parts discover themselves to our view; and, endeavoring to correct these by reason, we are insensibly drawn into uncouth paradoxes, difficulties, and inconsistencies, which multiply and grow upon us as we advance in speculation, till at length, having wandered through many intricate mazes, we find ourselves just where we were, or, which is worse, sit down in a forlorn skepticism” (*Principles*, Introduction §1).

More Locke and Berkeley

- If by this inquiry into the nature of the understanding, I can discover the powers thereof; how far they reach; to what things they are in any degree proportionate; and where they fail us, I suppose it may be of use to prevail with the busy mind of man to be more cautious in meddling with things exceeding its comprehension; to stop when it is at the utmost extent of its tether; and to sit down in a quiet ignorance of those things which, upon examination, are found to be beyond the reach of our capacities...The discoveries we can make with this ought to satisfy us; and we shall then use our understandings right, when we entertain all objects in that way and proportion that they are suited to our faculties, and upon those grounds they are capable of being proposed to us; and not peremptorily or intemperately require demonstration, and demand certainty, where probability only is to be had, and which is sufficient to govern all our concernments. If we will disbelieve everything, because we cannot certainly know all things, we shall do much as wisely as he who would not use his legs, but sit still and perish, because he had no wings to fly (Locke, *Essay*, Introduction §4-§5, AW 317a-318a).
- It is said the faculties we have are few, and those designed by nature for the support and comfort of life, and not to penetrate into the inward essence and constitution of things...But, perhaps, we may be too partial to ourselves in placing the fault originally in our faculties, and not rather in the wrong use we make of them...We should believe that God has dealt more bountifully with the sons of men than to give them a strong desire for that knowledge which he had placed quite out of their reach...I am inclined to think that the far greater part, if not all, of those difficulties which have hitherto amused philosophers and blocked up the way to knowledge, are entirely owing to ourselves - that we have first raised a dust and then complain we cannot see (*Principles*, Introduction §2-3, AW 439a-b).

Skepticism and Atheism

- Locke accepts that certain questions are unanswerable.
- Berkeley believes that Locke's limitations arise from his materialism.
- Materialism, and the materialist element of dualism, leads to skepticism.
- Such skepticism extends to one's belief in the existence of God.
- But this skepticism is unjustified, and avoidable if one abandons materialism for idealism.
  - For objects, their *esse* is *percipi*.
  - We perceive only our perceptions, not what is behind them, under them, or causing them.
  - Since we can have no knowledge of any material world, Berkeley concludes, there can be none.
  - There is no extra-mental reality.

Three Arguments for Idealism

1. From the sensibility of objects
2. From the relativity of perceptions
3. A reductive argument

The Argument from the Sensibility of Objects

By Definition

D1. Objects are sensible things.

D2. Sensible things are things with sensible qualities.

D3. The sensible qualities are the secondary qualities.

D4. Those secondary qualities are strictly mental properties.

DC. So, objects are strictly mental, i.e. there is no physical world.

Problems with D

- D, as it stands, is not valid.
- To conclude that objects are strictly mental, we need a stronger premise than D2, something like D2*:
  - D2*. Sensible things are things that have no properties other than their sensible qualities.
- "The table I write on, I say, exists; that is, I see it and feel it; and if I were out of my study I should say it existed - meaning by that that if I was in my study I might perceive it, or that some other spirit actually does perceive it. There was an odor; that is, it was smelled; there was a sound, that is to say, it was heard; a color or figure, and it was perceived by sight or touch. This is all that I can understand by these and the like expressions. For as to what is said of the absolute existence of unthinking things without any relation to their being perceived that seems perfectly unintelligible. Their *esse* is *percipi*, nor is it possible that they should have any existence out of the minds or thinking things which perceive them" (*Principles* §3, AW 447a).
- "This point then is agreed between us - that *sensible things are those only which are immediately perceived by sense*" (First Dialogue, AW 457b).

Three Arguments for Idealism

✓1. From the sensibility of objects

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Lockean Principles

LP1: If one perceives an object as having two (or more) incompatible ideas, then those ideas do not represent real properties of the object.

LP1C1: Even if a change in us entails the change in the perceived quality, the ideas which change can not be veridical.

LP1C2: Qualities that appear different to different observers are not veridical.

LP2: If an idea of an object is the same under all conditions, that idea is veridical.

LP2C: If every observer receives the same idea from an object, then that idea is veridical.

Two Stages of Berkeley's Argument

- In the first stage, Berkeley echoes Locke's arguments against the veridicality of the secondary qualities.
  - There is nothing particularly new in this portion of the dialogue.
  - At the end of that section, Hylas is espousing precisely Locke's view.
  - "Colors, sounds, tastes, in a word , all those termed *secondary qualities*, have certainly no existence without the mind. But by this acknowledgment I must not be supposed to derogate anything from the reality of matter or external objects..." (First Dialogue, AW 464b).
- In the second stage of his argument against the primary/secondary distinction, Berkeley shows that, for each supposedly primary quality, it is really a secondary quality.
  - "Why may we not as well argue that figure and extension are not patterns or resemblances of qualities existing in matter, because to the same eye at different stations, or eyes of a different texture at the same station, they appear various and cannot, therefore, be the images of anything settled and determinate without the mind?" (*Principles* §14, AW 449b).

Number

- For the argument for the relativity of number, consider what number we might give to a deck of cards.
- It is 52 cards, 4 suits, 13 ranks, 1 deck.
- “The same thing bears a different denomination of number as the mind views it with different respects. Thus, the same extension is one, or three, or thirty-six, according as the mind considers it with reference to a yard, a foot, or an inch. Number is so visibly relative and dependent on men’s understanding that it is strange to think how anyone should give it an absolute existence without the mind” (*Principles* §12, AW 449b).
- The number correctly applied to the object varies as we think of the object in different ways.
- It may be a property of a concept, rather than of an object.

Extension

- To show that extension is relative to the perceiver, consider the mite (a tiny insect) and a giant.
- What appears large to the mite can appear tiny to us, and minuscule to the giant.
- The size of an object is relative to perceiver, just as the color or taste is.
- I appear large to the mite, but to a giant, I appear small.
- Thus extension is a secondary property, too.
- This example is of utmost importance, since extension is the most plausible primary quality.

Extension: An Objection

- If there is an objective fact about my extension which is not relative to the perceiver, then Berkeley's argument fails.
- The mite, the giant, and I can all agree that I am six feet tall.
- The correspondence between a scale of measurement and an object is not relative to the perceiver.
- But the scale of measurement itself is relative to a perceiver.
  - A yard was originally defined as the distance between the end of the king's finger and the tip of his nose.
  - There used to be an actual standard meter bar, against which all other meters could be measured.
  - Now, we use the distance light travels in a specific period of time, since the speed of light is a constant.
- What if everything were to double in size?
  - Dilations and restrictions could happen all of the time, without us knowing!
  - We settle our scales relative to useful sizes and distances.

Shape

- To show that shape is relative to a perceiver, consider what we see under a microscope.
  - *Philonous*: Is it not the very same reasoning to conclude there is no extension or figure in an object because to one eye it shall seem little, smooth, and round, when at the same time it appears to the other, great, uneven, and angular?
  - *Hylas*: The very same. But does this latter fact ever happen?
  - *Philonous*: You may at any time make the experiment by looking with one eye bare and with the other through a microscope (First Dialogue, AW 465b).
- Edges that appear straight to the naked eye will appear jagged when magnified.
- Consider our perception of a rectangular object, like a table.
  - The shape is never really seen as a rectangle, although we all infer that it is that shape.
  - What we really get from the senses about the shape is relative to the perceiver.

Motion

- The argument for the relativity of our perceptions of motion relies on an argument for the relativity of our perceptions of time, since motion is change in place over time.
- Our perception of time varies with the succession of our ideas.
- If our ideas proceed more quickly, a motion will appear more slow.
  - *Philonous*: Is it not possible ideas should succeed one another twice as fast in your mind as they do in mine or in that of some spirit of another kind?
  - *Hylas*: I admit it.
  - *Philonous*: Consequently, the same body may to another seem to perform its motion over any space in half the time that it does to you. And...it is possible one and the same body shall be really moved the same way at once, both very swift and very slow (First Dialogue, AW 466a).
- Note that just as we can not rely on an external measurement of extension, since we have to agree on a standard unit measure, we can not rely on an external measurement of time.

Solidity

- Berkeley's argument for the relativity of solidity to the perceiver takes solidity to be resistance to touch.
- A strong person will find something soft that a weaker person will find hard.
- This is even more plausible if we consider giants and mites again.

Berkeley's Arguments From the Relativity of Perceptions: Summary

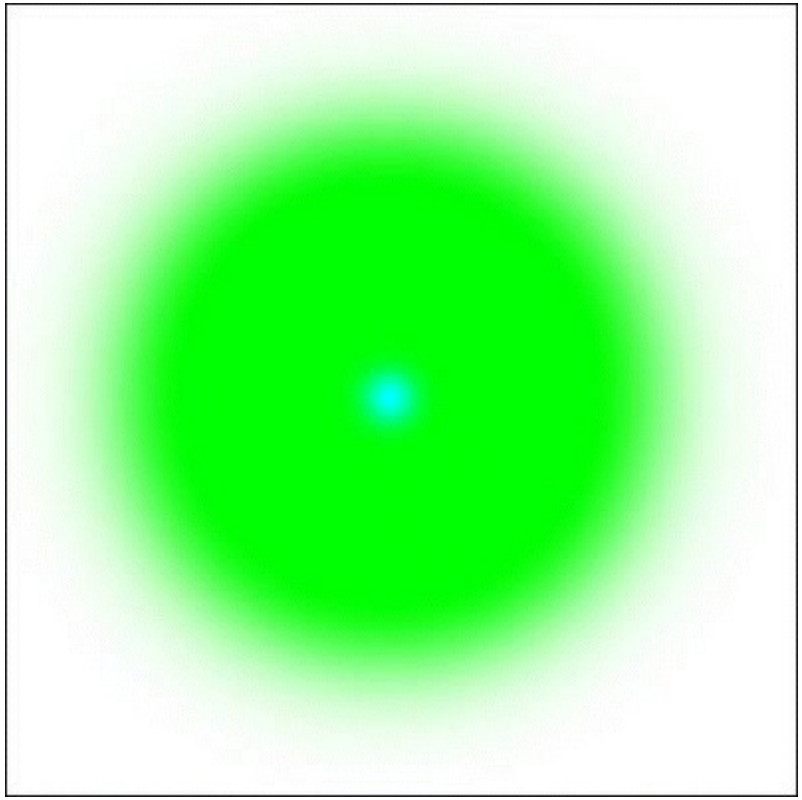
- Berkeley has considered all of Locke's primary qualities as we experience them.
- He has shown that these perceptions vary in the same way that perceptions of the secondary qualities do.
- All qualities are secondary qualities.
- We have no veridical primary qualities, representing a material world.

Three Arguments for Idealism

✓1. From the sensibility of objects

✓2. From the relativity of perceptions

3. A reductive argument



Berkeley's Reductive Argument Against the Primary Qualities

If it is certain that those original [primary] qualities are inseparably united with the other sensible qualities and not, even in thought, capable of being abstracted from them, it plainly follows that they exist only in the mind. But I desire anyone to reflect and try whether he can, by any abstraction of thought, conceive the extension and motion of a body without all other sensible qualities. For my own part, I see evidently that it is not in my power to frame an idea of a body extended and moved, but I must in addition give it some color or other sensible quality which is acknowledged to exist only in the mind. In short, extension, figure, and motion, abstracted from all other qualities, are inconceivable. Where, therefore, the other sensible qualities are, these must be also, namely, in the mind and nowhere else (*Principles* §10, AW 449a).

Berkeley's Reductive Argument in Syllogistic Form

R1. You can not have an idea of a primary quality without secondary qualities.
R2. So, wherever the secondary qualities are, the primary are.
R3. Secondary qualities are only in the mind.
RC. So, the primary qualities are mental, too.

"*Philonous*: Sensible things are all immediately perceivable; and those things which are immediately perceivable are ideas; and these exist only in the mind. This much you have, if I am not mistaken, long since agreed to" (Second Dialogue, AW 475b).

An Intermediate Cause of Our Perceptions?

- Berkeley claims that there is no reason to posit anything beyond such objects, aside from their cause, i.e. God.
- "*Hylas*: I conclude [the material world] exists, because qualities cannot be conceived to exist without a support" (First Dialogue, AW 469b).
- To characterize this intermediate cause, Hylas uses several different names.
  - IC1. Absolute extension (AW 467a)
  - IC2. Passive object of an active sensation (AW 468a)
  - IC3. Material substratum (AW 469b)
  - IC4. External object (as opposed to immediately perceived idea) (AW 472b)
  - IC5. Causes or occasions in the brain (AW 475a-b)
  - IC6. Matter, as whatever causes my ideas (AW 479a)
  - IC7. Instrument (AW 480a)

Berkeley on Intermediate Causes

IC1. Absolute extension
IC2. Passive object of an active sensation
IC3. Material substratum
IC4. External object
IC5. Causes or occasions in the brain
IC6. Matter, as whatever causes my ideas
IC7. Instrument

- Philonous responds, in all cases, that such causes are not perceived, and thus that they are not sensible objects.
- Absolute extension, IC1, is a general idea, and can neither exist in a particular object nor in our minds.
- Our minds are always passive, when sensing, so that the passive object, IC2, is the sensation itself, not an external object.
- The material substratum, IC3, is either itself perceivable (as when we think of it as spreading) or imperceivable, in which case it can not be the object of sensation.
- The external object, IC4, is not perceived, but inferred using reason or reflection.
- The brain itself, IC5, is not (generally) the sensible object in question.
  - Moreover, taking motion in the brain to be the cause of my ideas leads to the puzzle, that Locke noticed, about why particular conscious experiences are correlated with particular motions in material objects.
  - "*Philonous*: This way of explaining things...could never have satisfied any reasonable man. What connection is there between a motion in the nerves and the sensations of sound or color in the mind? Or how is it possible these should be the effect of that?" (Second Dialogue, AW 476a).

A Functional Definition of Matter

- *"Hylas*: I find myself affected with various ideas of which I know I am not the cause; neither are they the cause of themselves or of one another, or capable of subsisting by themselves, as being altogether inactive, fleeting, dependent beings. They have therefore some cause distinct from me and them, of which I pretend to know no more than that it is *the cause of my ideas*. And this thing, whatever it is, I call matter" (Second Dialogue, AW 479a).
- Philonous responds that only God can be taken as the true cause of my ideas, and that an all-powerful God could have no use for an intermediate instrument.
- "Though we do the utmost we can to secure the belief of *matter*, though, when reason forsakes us, we endeavor to support our opinion on the bare possibility of the thing, and though we indulge ourselves in the full scope of an imagination not regulated by reason to make out that poor *possibility*, yet the upshot of all is that there are certain *unknown ideas* in the mind of God; for this, if anything, is all that I conceive to be meant by *occasion* with regard to God. And this at the bottom is no longer contending for the *thing*, but for the *name*. Whether therefore there are such ideas in the mind of God, and whether they may be called by the name *matter*, I shall not dispute. But, if you stick to the notion of an unthinking substance or support of extension, motion, and other sensible qualities, then to me it is most evidently impossible there should be any such thing, since it is a plain repugnancy that those qualities should exist in or be supported by an unperceiving substance" (*Principles*, §§75-6).
- God would just not waste her time making material things!

Descartes on the Possibility of a Berkeleyan Universe

There clearly is in me a passive faculty of sensing, that is, a faculty for receiving and knowing the ideas of sensible things; but I could not use it unless there also existed, either in me or in something else, a certain active faculty of producing or bringing about these ideas...[I]t is in some substance different from me, containing either formally or eminently all the reality that exists objectively in the ideas produced by that faculty...[T]his substance is either a body, that is a corporeal nature, which contains formally all that is contained objectively in the ideas, or else it is God, or some other creature more noble than a body, which contains eminently all that is contained objectively in the ideas. But since God is not a deceiver, it is patently obvious that he does not send me these ideas either immediately by himself, or even through the mediation of some creature that contains the objective reality of these ideas not formally but only eminently. For since God has given me no faculty whatsoever for making this determination, but instead has given me a great inclination to believe that these ideas issue from corporeal things, I fail to see how God could be understood not to be a deceiver, if these ideas were to issue from a source other than corporeal things. And consequently corporeal things exist (*Meditations* AT VII.79-80, AW 64b).

Berkeley, Against Descartes's Argument for the Material World

- Berkeley could argue for idealism from a Principle of Sufficient Reason.
  - BAD1. God does not do anything without sufficient reason.
  - BAD2. God either created physical objects or did not create them.
  - BAD3. We do not need physical objects in order to have all of our experiences, since God can implant them in our minds directly.
  - BAD4. So, there is no good reason for God to have created physical objects, in addition to minds.
  - BADC. So, God did not create physical objects. God creates our ideas directly, instead of taking the detour through physical objects.
- "In short, if there were external bodies, it is impossible we should ever come to know it; and if there were not, we might have the very same reasons to think there were that we have now" (*Principles* §20, AW 451a).
- Descartes says that an argument like BAD is obviously unsound.
- What step or inference would Descartes deny?

Three Main Berkeley Topics

✓1. Arguments for idealism, and against materialism

2. Arguments against abstract ideas

3. Accounts of mathematics and science

Materialism and Abstract Ideas

accounting for the error

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 Master Argument

- *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)

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).

On Locke's Inference

- "The *ideas of primary qualities* of bodies *are resemblances* of them and their patterns do really exist in the bodies themselves, but the *ideas produced* in us *by* these *secondary qualities have no resemblance* of them at all. There is nothing like our *ideas* existing in the bodies themselves. They are, in the bodies we denominate from them, only a power to produce those sensations in us. And what is sweet, blue, or warm in *idea* is but the certain bulk, figure, and motion of the *insensible parts in the bodies themselves* which we call so" (II.VIII.15, AW 334a, emphasis in last line added).
- There appears to be a contradiction between saying, on the one hand, that all knowledge comes from sense experience and, on the other, that we have knowledge of insensible objects.
- If we are empiricists, we can have no experience, no sensation, of insensible parts.
- Still, even though Locke and Berkeley reject innate ideas, they have to admit that we have some ability to reason or infer.
- Since we have such an ability, it is unclear why an inference to material objects is illegitimate.

Other Persons

- There is no universally accepted argument for the existence of other minds.
- Berkeley claims that we can infer the existence of other minds from their effects on us.
  - "From what has been said, it is plain that we cannot know the existence of other spirits otherwise than by their operations, or the ideas by them excited in us. I perceive several motions, changes, and combinations of ideas, that inform me there are certain particular agents, like myself, which accompany them and concur in their production. Hence, the knowledge I have of other spirits is not immediate, as is the knowledge of my ideas; but depending on the intervention of ideas, by me referred to agents or spirits distinct from myself, as effects or concomitant signs" (*Principles* §145).
- The problem of other minds is perennially troubling, and nothing Berkeley says here resolves it.
  - How do we know that the things we call other people are not craftily constructed robots?
  - How do we know that the effects Berkeley mentions are really originating in a thinking thing?

The Self

- Even our own existence is an illegitimate inference.
- "A spirit is one simple, undivided, active being; as it perceives ideas it is called the *understanding*, and as it produces or otherwise operates about them it is called the *will*. Hence there can be no idea formed of a soul or spirit; for all ideas whatever, being passive and inert (see §25), they cannot represent unto us, by way of image or likeness, that which acts... The words *will*, *soul*, *spirit* do not stand for different ideas or, in truth, for any idea at all, but for something which is very different from ideas, and which, being an agent, cannot be like or represented by any idea whatsoever -though it must be admitted at the same time that we have some notion of soul, spirit, and the operations of the mind, such as willing, loving, hating, inasmuch as we know or understand the meaning of those words" (*Principles* §27, AW 452b).

Ideas and Notions

- Thus Berkeley distinguishes ideas, which are images, from notions, which can be conceptual, if not abstract.
- Notions can be devised by inference, as Locke claimed that ideas of reflection were formed.
- From such notions, we can infer the existence of other persons.
- "In a large sense, indeed, we may be said to have an idea or rather a notion of *spirit*; that is, we understand the meaning of the word, otherwise we could not affirm or deny anything of it. Moreover, as we conceive the ideas that are in the minds of other spirits by means of our own, which we suppose to be resemblances of them; so we know other spirits by means of our own soul, which in that sense is the image or idea of them; it having a like respect to other spirits that blueness or heat by me perceived has to those ideas perceived by another" (*Principles* §140).

Berkeley on the Resemblance Hypothesis

- RH1. My ideas resemble material objects.
- RH2. My ideas resemble their causes.
  - Berkeley rejects RH1, but accepts RH2.
  - Ideas can only resemble other ideas.
- "But, you say, though the ideas themselves do not exist without the mind, yet there may be things like them of which they are copies or resemblances, which things exist without the mind in an unthinking substance. I answer, an idea can be like nothing but an idea; a color or figure can be like nothing but another color or figure" (*Principles*, §8, AW 448b).
- My ideas resemble, we presume, the ideas in the minds of other persons.
- And, they resemble their causes, which are ideas in the mind of God.

Berkeley on God

an inference, not a presumption

- "When in broad daylight I open my eyes, it is not in my power to choose whether I shall see or not, or to determine what particular objects shall present themselves to my view; and so likewise as to the hearing and other senses- the ideas imprinted on them are not creatures of my will. There is, therefore, some other will or spirit that produces them" (*Principles* §29, AW 453a).
- "*Philonous*: Men commonly believe that all things are known or perceived by God because they believe the being of a God, whereas I, on the other side, immediately and necessarily conclude the being of a God because all sensible things must be perceived by him" (Second Dialogue, AW 477a).
- "A human spirit or person is not perceived by sense, as not being an idea; when therefore we see the color, size, figure, and motions of a man, we perceive only certain sensations or ideas excited in our own minds; and these being exhibited to our view in sundry distinct collections, serve to mark out unto us the existence of finite and created spirits like ourselves. Hence it is plain we do not see a man, if by *man* is meant that which lives, moves, perceives, and thinks as we do, but only such a certain collection of ideas as directs us to think there is a distinct principle of thought and motion, like to ourselves, accompanying and represented by it. And after the same manner we see God; all the difference is that, whereas some one finite and narrow assemblage of ideas denotes a particular human mind, whithersoever we direct our view, we do at all times and in all places perceive manifest tokens of the divinity: everything we see, hear, feel, or anywise perceive by sense, being a sign or effect of the power of God; as is our perception of those very motions which are produced by men" (*Principles* §148).

Uniformity and Blemishes

- 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).

Idealism and Abstraction

- We have seen three arguments for idealism: from sensibility, from relativity of perceptions, and the reductive argument.
- If Berkeley's denial of the existence of a material world were based solely on our inability to know about such a world, his idealism would be ill motivated.
- But, Berkeley's idealism is more forcefully motivated by his objections to a particular kind of inference used by Locke to generate his materialism: the ability to abstract.
- Berkeley attacks Locke's doctrine of abstract ideas as the source of a skeptical, atheistic materialism.

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).

Three Main Berkeley Topics

✓1. Arguments for idealism, and against materialism

✓2. Arguments against abstract ideas

3. Accounts of mathematics and science

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.

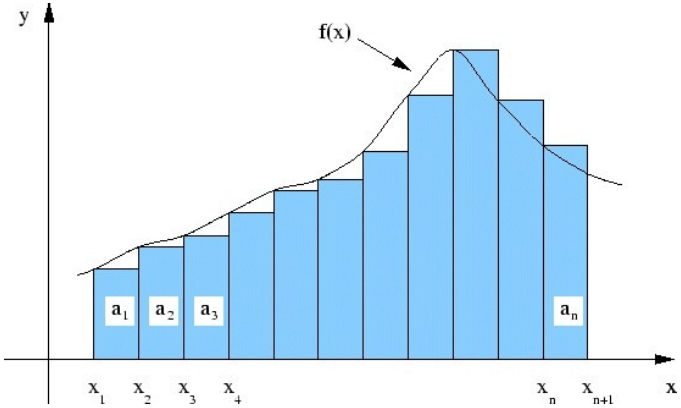
Berkeley, on Mathematics and Abstraction

- 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... 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).

The Defender of Common Sense

advantages of Berkeley's idealism

- On the materialist view, secondary qualities are denigrated.
  - no yellow lemons
  - no sweet maple syrup
  - 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.
- Berkeley's account solves the problem of error for our beliefs based on the senses.
  - Descartes's wax example
  - Locke's water experiment
  - All ideas are independent.

Intersubjectivity and Persistence

disadvantages of Berkeley's idealism

- How do we account for different people having similar experiences?
- 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.
- "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).

The 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.”

Berkeley's World

- There is a real 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).
- It's a purely psychological world.

On To Hume

- 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.

Philosophy 203
History of Modern Western Philosophy

Russell Marcus
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Hume

Some Things We Know

P1. It is sunny outside right now.
P2. It snowed in February.
P3. Shakespeare wrote *The Tragedy of Macbeth*.
P4. 2 + 2 = 4.
P5. I exist.
P6. Objects near the surface of the Earth accelerate toward the center of the Earth at 9.8 m/s^2.
P7. The sun will rise tomorrow.

- Our account of our beliefs about P1 appeals to occurrent sense experience.
- Our accounts of our beliefs about P6 and P7 appeal to universal scientific principles.

Mathematical Claims

P4. 2 + 2 = 4.

- Many empiricists are nominalists or fictionalists about mathematical terms.
- Fictionalism: mathematical objects are merely convenient fictions
  - Existential mathematical claims are false.
    - There are four prime numbers between 10 and 20.
  - Conditional mathematical claims are true, but only vacuously so.
    - All parallelograms have congruent opposite angles.
- Berkeley was a nominalist about both mathematical terms and scientific laws, claiming that are illegitimate abstractions from particular ideas.

Hume on Abstraction

agrees with Berkeley

The idea of extension...is wholly dependent on the sensible ideas or the ideas of secondary qualities. Nothing can save us from this conclusion but the asserting that the ideas of those primary qualities are attained by *abstraction*; an opinion which, if we examine it accurately, we shall find to be unintelligible, and even absurd (*Enquiry*, §XII.1, AW 595b).

Inference and Mediation

- We are immediately aware of only our ideas, not an external world of objects.
- The external world is perceived only mediately, or inferred.
  - Physical laws
  - Mathematical principles
- Locke claimed knowledge of the external world, science, and mathematics on the basis of a modified resemblance hypothesis, and a principle of abstraction.
- Berkeley denied Locke's resemblance hypothesis and doctrine of abstract ideas, and asserted idealism.
  - Only a practical knowledge of general scientific regularities
  - Mathematical principles are fundamentally flawed by their reliance on abstraction.
- For the early empiricists, our beliefs about mathematics and our beliefs about scientific theories are treated together.
  - Descartes, too, but as innate

Hume's Move

- Hume bases our knowledge of mathematics on the principle of contradiction and our bare psychological capacities.
- But, he has deep concerns about our knowledge of science.
- He agrees with Berkeley that our conclusions about the material world are unjustified.
  - The mind never has anything present to it but the perceptions and cannot possibly reach any experience of their connection with objects. The supposition of such a connection is, therefore, *without any foundation in reasoning* (*Enquiry*, §XII.1, AW 595a, emphasis added).
- His conclusions are skeptical, rather than idealistic.
- Hume returns to and extends Locke's skepticism.
  - For Locke, skepticism is mainly an expression of humility.
  - For Hume, skepticism is a philosophy.

Induction and Deduction

- Hume's main focus is on the laws of nature, and the ways in which we formulate predictive scientific theories on the basis of our experience.
- The methods of science are inductive.
- Induction is the derivation of a general law from particular cases.
  - We see lots of objects moving, and stopping, and we generate hypotheses about why this happens.
  - We see that in events E_1, E_2, E_3.... a law applies.
  - We conclude that in all similar cases, this law must apply.
- Induction is contrasted with deduction, in which we infer a particular case from a general rule or law.
  - All goobles are froom.
  - Trazzie is a gooble.
  - So, Trazzie is froom.

Universal Scientific Laws

We're supposed to know these.

- Newton's three laws of motion
  - L1: Inertia: an object in motion will remain in motion, an object at rest will remain at rest, unless acted on by an unbalanced force.
  - L2: The force produced by an object is equal to the product of its mass and its acceleration.
  - L3: For every action there is an equal and opposite reaction.
- Laws of motion are generalizations from experimental evidence.
- The phenomena, the E_n, are sensory experiences.

Hume's Skepticism

Our beliefs in scientific laws are unjustified.

- This skeptical claim arises from what is called the problem of induction.
- Berkeley turns toward knowledge of God as the only cause.
- Hume turns away from certainty.
- Universal scientific claims are unknowable.
- "In vain do you pretend to have learned the nature of bodies from your past experience. Their secret nature and, consequently, all their effects and influence may change without any change in their sensible qualities" (*Enquiry*, §IV.2, AW 547b).
- Even our knowledge of our selves is impugned by Hume's philosophy.
- Despite its resulting skepticism, Hume holds to his empiricism.
  - HE1. All our beliefs about the world are either directly derived from sense impressions, or are the result of reasoning about cause and effect relations.
  - HE2. All our beliefs about cause and effect relations are based on experience, not reason.
  - HEC. So, all beliefs about the world are based on experience.

Hume's Methods

- We start with a modest appraisal of our experience and our psychological capacities.
- We examine the nature of our psychology, and see what conclusions are warranted.
- And, we will humbly avoid making unsupported claims.
- The major difference between Hume and Locke is the severity with which Hume invokes his empiricist limitations, and his consequent skepticism, and atheism.

Hume's Work

- Published the *Treatise* in 1739 when he was 27, anonymously.
  - "It fell stillborn from the press."
- Suppressed his *Dialogues Concerning Natural Religion*
  - published posthumously
  - Hume's atheism was widely known and ridiculed.
  - His proposed university appointments were blocked by the Scottish clergy twice.
  - Virginia Woolf
- *Enquiry Concerning Human Understanding*, published in 1748.

Topics in Hume

1. Causation and Induction
2. The Bundle Theory of the Self
3. Free Will and Compatibilism

Matters of Fact
and
Relations of Ideas

Matters of Fact and Relations of Ideas

- All the objects of human reason or enquiry may naturally be divided into two kinds, namely, *relations of ideas*, and *matters of fact*. Of the first kind are the sciences of geometry, algebra, and arithmetic; and in short, every affirmation which is either intuitively or demonstratively certain. *That the square of the hypothenuse is equal to the square of the two sides* is a proposition which expresses a relation between these figures. *That three times five is equal to the half of thirty* expresses a relation between these numbers. Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe. Though there never were a circle or triangle in nature, the truths demonstrated by Euclid would for ever retain their certainty and evidence (§IV.1, AW 542a).
- Matters of fact are a posteriori, contingent.
- Relations of ideas are a priori, necessary, and deductive.
  - "What never was seen, or heard of, may yet be conceived, nor is any thing beyond the power of thought except what implies an absolute contradiction" (§II, AW 539b).
  - "To convince us of this proposition, *that where there is no property, there can be no injustice*, it is only necessary to define the terms and explain injustice to be a violation of property. This proposition is, indeed, nothing but a more imperfect definition. It is the same case with all those pretended syllogistical reasonings which may be found in every other branch of learning, except the sciences of quantity and number; and these may safely, I think, be pronounced the only proper objects of knowledge and demonstration" (§XII.3, AW 599b).

Ideas and Impressions

We may divide all the perceptions of the mind into two classes or species, which are distinguished by their different degrees of force and vivacity. The less forcible and lively are commonly denominated thoughts or ideas. The other species want a name in our language, and in most others; I suppose, because it was not requisite for any but philosophical purposes to rank them under a general term or appellation. Let us, therefore, use a little freedom and call them impressions, employing that word in a sense somewhat different from the usual. By the term *impression*, then, I mean all our more lively perceptions, when we hear, or see, or feel, or love, or hate, or desire, or will. And impressions are distinguished from ideas, which are the less lively perceptions, of which we are conscious, when we reflect on any of those sensations or movements above mentioned (§II, AW 539a).

The Missing Shade of Blue

- Hume's epistemology is consistent with Locke's.
- Hume does admit of a limited exception to the general rule that all the contents of the mind are simple or complex ideas, or impressions.
- Suppose...a person to have enjoyed his sight for thirty years, and to have become perfectly acquainted with colors of all kinds except one particular shade of blue, for instance, which it never has been his fortune to meet with. Let all the different shades of that color, except that single one, be placed before him, descending gradually from the deepest to the lightest; it is plain that he will perceive a blank, where that shade is wanting, and will be sensible that there is a greater distance in that place between the contiguous color than in any other. Now I ask whether it be possible for him, from his own imagination, to supply this deficiency, and raise up to himself the idea of that particular shade, though it had never been conveyed to him by his senses? I believe there are few but will be of opinion that he can; and this may serve as a proof that the simple ideas are not always, in every instance, derived from the correspondent impressions; though this instance is so singular, that it is scarcely worth our observing, and does not merit that for it alone we should alter our general maxim (§II, AW 540b).

The Limits of Philosophy

- When we entertain, therefore, any suspicion that a philosophical term is employed without any meaning or idea (as is but too frequent), we need but enquire, *From what impression is that supposed idea derived?* And if it be impossible to assign any, this will serve to confirm our suspicion. By bringing ideas into so clear a light we may reasonably hope to remove all dispute, which may arise, concerning their nature and reality (§II, AW 540b-541a).
- Hume is willing to entertain exceptions to his rule.
- The missing shade of blue is just one such exception.
- But, it is not the kind of exception that will found the rationalist's projects.
- It is just a small thing, not the introduction of innate ideas.

Psychological Connections Among Ideas

There appear to be only three principles of connection among ideas, namely, *resemblance*, *contiguity* in time or place, and *cause* or *effect*. That these principles serve to connect ideas will not, I believe, be much doubted. A picture naturally leads our thoughts to the original. The mention of one apartment in a building naturally introduces an enquiry or discourse concerning the others; and if we think of a wound, we can scarcely forbear reflecting on the pain which follows it. But that this enumeration is complete, and that there are no other principles of association except these, may be difficult to prove to the satisfaction of the reader, or even to a man's own satisfaction. All we can do, in such cases, is to run over several instances, and examine carefully the principle which binds the different thoughts to each other, never stopping till we render the principle as general as possible. The more instances we examine, and the more care we employ, the more assurance shall we acquire, that the enumeration, which we form from the whole, is complete and entire (§III, AW 541b).

Relations of Ideas

- All the objects of human reason or enquiry may naturally be divided into two kinds, namely, *relations of ideas*, and *matters of fact*. Of the first kind are the sciences of geometry, algebra, and arithmetic; and in short, every affirmation which is either intuitively or demonstratively certain. *That the square of the hypothenuse is equal to the square of the two sides* is a proposition which expresses a relation between these figures. *That three times five is equal to the half of thirty* expresses a relation between these numbers. Propositions of this kind are discoverable by the mere operation of thought, without dependence on what is anywhere existent in the universe. Though there never were a circle or triangle in nature, the truths demonstrated by Euclid would for ever retain their certainty and evidence (*Enquiry*, §IV.1, AW 542a).
  - Matters of fact are *a posteriori*, contingent.
  - Relations of ideas are *a priori*, necessary, and deductive.

The Principle of Contradiction

Leibniz, Without Innateness

- "What never was seen, or heard of, may yet be conceived, nor is any thing beyond the power of thought except what implies an absolute contradiction" (*Enquiry*, §II, AW 539b).
- If a statement entails a contradiction, then it is necessarily false.
  - *reductio ad absurdum*
- We know mathematical claims because their negations are self-contradictory.
- Statements can be known to be necessarily true only if their negations entail a contradiction.

A Cleansing Tool

- Many claims that have been accepted as certainly true, can not be so, since their negations are not contradictory.
  - the existence and goodness of God
  - the laws of nature
- "The only objects of the abstract sciences or of demonstration are quantity and number...All other inquiries of men regard only matter of fact and existence and these are evidently incapable of demonstration. Whatever *is* may *not be*. No negation of a fact can involve a contradiction" (*Enquiry* XII.3, AW 599b).

Definitions and Relations of Ideas

- Some non-mathematical claims can be relations of ideas.
  - All bachelors are unmarried.
- Such claims will depend on definitions.
  - To convince us of this proposition, *that where there is no property, there can be no injustice*, it is only necessary to define the terms and explain injustice to be a violation of property. This proposition is, indeed, nothing but a more imperfect definition. It is the same case with all those pretended syllogistical reasonings which may be found in every other branch of learning, except the sciences of quantity and number; and these may safely, I think, be pronounced the only proper objects of knowledge and demonstration (*Enquiry*, §XII.3, AW 599b).

Principle of Contradiction, Redux

- Both sufficient and necessary for justifying our knowledge of all necessary truths, including those of mathematics
- “We are possessed of a precise standard by which we can judge of the equality and proportion of numbers and, according as they correspond or not to that standard, we determine their relations without any possibility of error” (*Treatise* I.3.1, p 8).

Beyond Contradiction

- The principle of contradiction, by itself, can not do all the work.
  - We need auxiliary tools to frame an hypothesis, to determine whether a statement is in fact a contradiction
- Frege and the syntactic test for contradiction
  - a formal language in which contradictions could be represented
  - $\alpha \bullet \sim\alpha$.
- Hume and the moderns did not have this criterion.
- Locke and Hume appeal to our psychological ability to recognize contradictions.
- They also appeal to our ability to recognize identities, statements whose negations are contradictions.

Two Tools for Relations of Ideas

- RI1. The principle of contradiction.
- RI2. The imagination's ability to recognize similarity and difference.

- Leibniz also appeals to these abilities
  - intuitive knowledge of the axioms
  - adequate knowledge of how theorems are derived from axioms
- Locke appeals to what he calls intuitive and demonstrative knowledge.
  - "If we will reflect on our own ways of thinking, we shall find that sometimes the mind perceives the agreement or disagreement of two *ideas* immediately by themselves, without the intervention of any other. And this, I think, we may call *intuitive knowledge*" (Locke, *Essay* §IV.II. 1, AW 389a).

Hume on Intuition

Only four [philosophical relations], depending solely upon ideas, can be the objects of knowledge and certainty. These four are *resemblance*, *contrariety*, *degrees in quality*, and *proportions in quantity or number*. Three of these relations are discoverable at first sight and fall more properly under the province of intuition than demonstration (*Treatise* I.III.1, p 7).

Hume on Demonstrative Knowledge

When the mind cannot so bring its *ideas* together, as by their immediate comparison and as it were juxtaposition or application one to another, to perceive their agreement or disagreement, it is inclined, by the intervention of other *ideas* (one or more, as it happens) to discover the agreement or disagreement which it searches; and this is that which we call *reasoning* (Locke, *Essay* IV.II.2, AW 389b).

Psychological Capacities and Abstract Ideas

- Locke introduces the doctrine of abstract ideas to replace the rationalists's innate ideas with an appeal to psychological capacities.
- Berkeley denies the doctrine of abstract ideas and suggests that we (the learned) ban general terms from our most austere, respectable language.
- We can use particular terms generally, without pretending to form 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" (Berkeley, *Principles* Introduction §11, AW 442a).

Hume on Abstract Ideas

- "It is a principle generally received in philosophy that everything in nature is individual and that it is utterly absurd to suppose a triangle really existent which has no precise proportion of sides and angles. If this, therefore, be absurd in *fact and reality*, it must also be absurd in *idea*, since nothing of which we can form a clear and distinct idea is absurd and impossible" (*Treatise* I.1.7, p 5).
- We have some psychological capacities to alter the ideas of sensation, and to create new ones.
  - We can combine parts of our ideas, as when we think of a centaur.
  - We can consider some portions of an idea apart from others, as when we think about the door of a building, and not the walls or roof or windows.
- We can not form an abstract general idea, like the idea of a triangle, without thinking of a particular triangle, or like the idea of 250,737 without thinking of a particular symbol to stand for that number.

Science and Mathematics Without Abstract Ideas

- An ability to speak generally is fundamental to mathematics and empirical science.
- Taking particulars to stand for other particulars avoids a commitment to abstract ideas.
- It may not succeed in supporting knowledge of those universal claims.
  - "The theories, therefore, in arithmetic...can be supposed to have nothing at all for their object. Hence we may see how entirely the science of numbers is subordinate to practice and how jejune and trifling it becomes when considered as a matter of mere speculation" (Berkeley, *Principles* §120).

Repurposing Particular Ideas

- Hume claims that our particular ideas can support universal claims, by functioning as general ideas while remaining particular.
  - "The image in the mind is only that of a particular object, though the application of it in our reasoning be the same as if it were universal" (*Treatise* I.1.7, p 5).
- We re-purpose our particular ideas to function as general ones
  - psychological capacity different from abstraction.
  - "A particular idea becomes general by being annexed to a general term, that is, to a term which, from a customary conjunction, has a relation to many other particular ideas and readily recalls them in the imagination" (*Treatise* I.1.7, p 6).

Examples of Repurposing

- We use symbols, like numerical inscriptions.
- The first notes of a song give us the whole tune.
- We can recall different component aspects of a general term.
- “Nothing is more admirable than the readiness with which the imagination suggests its ideas and presents them at the very instant in which they become necessary or useful” (*Treatise* I.1.7, pp 6-7).
- “If ideas be particular in their nature and at the same time finite in their number, it is only by custom they can become general in their representation and contain an infinite number of other ideas under them” (*Treatise* I.1.7, p 7).

Summary on Psychological Capacities

- For Leibniz and Locke and Hume, we have both intuitive knowledge or immediate apprehension of some basic principles, and derivative knowledge of more complex statements.
- Leibniz claimed that Intuitive knowledge could not be explained by sense experience.
- Locke and Hume, believing it to be just the result of a natural psychological ability to recognize similarities, differences, and contradictions, argue that this ability is acceptable to empiricists, and includes no appeal to innate ideas.

Applying the Matters of Fact/Relations of Ideas Distinction, I

- Consider some things we might say that we know.
  - P1. It is chilly outside right now.
  - P2. It snowed in February.
  - P3. It is cold at the North Pole.
  - P4. Shakespeare wrote *The Tragedy of Macbeth*.
  - P5. 2 + 2 = 4.
  - P6. I exist.
  - P7. Objects near the surface of the Earth accelerate toward the center of the Earth at 9.8 m/s^2.
  - P8. The sun will rise tomorrow.
- P1-P4 all state matters of fact.
- P1 is justified directly by sense perception.
- P2 is justified by memory.
- P3 and P4 rely on testimony from the sense perceptions of others.
- Hume claims that such assertions can be traced back to original impressions.
- For these four propositions, Hume's claim seems plausible.
  - Trickier than Hume thought
  - Carnap, *Logical Structure of the World*

Applying the Matters of Fact/Relations of Ideas Distinction, II

- Consider
  - P5. 2 + 2 = 4.
  - P6. I exist.
  - P7. Objects near the surface of the Earth accelerate toward the center of the Earth at 9.8 m/s^2.
  - P8. The sun will rise tomorrow.
- P5 states a mathematical fact, and is thus a relation of ideas.
- P6, our knowledge of ourselves, leads to a complication to which we shall return on Tuesday.
- P7 and P8 refer to physical laws, like Newton's laws of motion.
  - Not relations of ideas
  - Their denials do not lead to a contradiction.
  - We can not discover that denials of laws of nature are false by mere process of thought.

Empiricism, Mathematics and Science

- Some empiricists are nominalists or fictionalists about mathematical terms.
  - Mathematical objects are merely convenient fictions.
  - Existential mathematical claims are false.
  - Conditional mathematical claims are true, but only vacuously so.
- Berkeley was also a nominalist about scientific laws, claiming that are illegitimate abstractions from particular ideas.
  - Hume agrees with Berkeley, in many ways.
  - "The idea of extension...is wholly dependent on the sensible ideas or the ideas of secondary qualities. Nothing can save us from this conclusion but the asserting that the ideas of those primary qualities are attained by *abstraction*; an opinion which, if we examine it accurately, we shall find to be unintelligible, and even absurd" (§XII.1, AW 595b).

Induction

- The philosophers of the scientific revolution sought to provide a philosophical foundation for science.
- Science uses induction.
- Induction is the derivation of a general law from particular cases.
  - We see lots of objects moving, and stopping, and we generate hypotheses about why this happens.
  - We see that in events E_1, E_2, E_3.... a law applies.
  - We conclude that in all similar cases, this law must apply.
- Induction is contrasted with deduction, in which we infer a particular case from a general rule or law.
- Laws of motion are generalizations from experimental evidence.
- The phenomena, the E_n, are sensory experiences.

Hume on Induction and Analogy

All our reasonings concerning matters of fact are founded on a species of analogy which leads us to expect from any cause the same events which we have observed to result from similar causes. Where the causes are entirely similar, the analogy is perfect, and the inference drawn from it is regarded as certain and conclusive. Nor does any man ever entertain a doubt where he sees a piece of iron that it will have weight and cohesion of parts as in all other instances which have ever fallen under his observation. But where the objects have not so exact a similarity, the analogy is less perfect and the inference is less conclusive, though still it has some force in proportion to the degree of similarity and resemblance. The anatomical observations formed upon one animal are, by this species of reasoning, extended to all animals; and it is certain that, when the circulation of the blood, for instance, is clearly proved to have place in one creature, as a frog, or fish, it forms a strong presumption that the same principle has place in all (§IX, AW 575a).

Laws of Motion

- Abstraction supports our beliefs in the laws of motion.
  - N1: Inertia: an object in motion will remain in motion, an object at rest will remain at rest, unless acted on by an unbalanced force.
  - N2: The force produced by an object is equal to the product of its mass and its acceleration.
  - N3: For every action there is an equal and opposite reaction.
- 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).

Laws of Nature and Efficient Causation

- Berkeley says that laws are useful summaries of regularities, but that they do not reveal the fundamental causal structure of the universe.
- Not all uniformities are laws.
  - There are no balls of uranium one mile in diameter.
  - There are no balls of gold one mile in diameter.
- The difference between lawlike and non-lawlike uniformities may be the presence of causal connections underlying those uniformities.
- But, for Berkeley, the only true causal ascriptions apply to God.
  - "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).
- Berkeley sets the stage for Hume, who will argue that laws of nature are completely beyond the reach of the empiricist.

The Denial of a Law of Nature is Not a Contradiction

The course of nature may change, and...an object seemingly like those which we have experienced, may be attended with different or contrary effects. May I not clearly and distinctly conceive that a body, falling from the clouds, and which in all other respects resembles snow, has yet the taste of salt or feeling of fire? Is there any more intelligible proposition tat to affirm that all the trees will flourish in December and January and decay in May and June? Now, whatever is intelligible and can be distinctly conceived implies no contradiction and can never be proved false by any demonstrative argument or abstract reasoning *a priori* (§IV.2, AW 546a-b).

Ignorance of Laws

- It seems difficult to defend any claims about the laws of nature.
- We do not have any experience of the future, so they can not be confirmed by experience.
- If they are matters of fact, they have to be traceable back to original sense impressions.
- When they pronounce on future events, we go beyond our experiences of the past, inductively, and project into the future.
- Those claims about the future are unfounded.
- We thus can have no knowledge that the sun will rise tomorrow.
- This is the problem of induction.

Cause and Effect

- The problem of induction is rooted in our ignorance of causes.
- Scientific laws are generally taken to describe the causal structure of the universe.
  - There are no balls of uranium larger than one mile in diameter.
- But we have no sense impressions of many terms used, including ‘gravity’, ‘force’, ‘mass’, and ‘energy’.
- We have experience only of events, not their causes.
- “The effect is totally different from the cause, and consequently can never be discovered in it. Motion in the second billiard ball is a quite distinct event from motion in the first, nor is there anything in the one to suggest the smallest hint of the other. A stone or piece of metal raised into the air and left without any support immediately falls. But to consider the matter *a priori*, is there anything we discover in this situation which can beget the idea of a downward rather than an upward or any other motion in the stone or metal?...When I see, for instance, a billiard ball moving in a straight line towards another, even suppose motion in the second ball should by accident be suggested to me as the result of their contact or impulse, may I not conceive that a hundred different events might as well follow from that cause? May not the first ball return in a straight line or leap off from the second in any line or direction? All these suppositions are consistent and conceivable” (§IV.1, AW 543b-544a).

Secret Powers

- The secret powers, the connections between events, are hidden from us.
- The cohesion of marble
- “Let an object be presented to a man of ever so strong natural reason and abilities; if that object is entirely new to him, he will not be able, by the most accurate examination of its sensible qualities, to discover any of its causes of effects. Adam, though his rational faculties are supposed entirely perfect at the very first, could not have inferred from the fluidity and transparency of water that it would suffocate him, or from the light and warmth of fire that it would consume him” (§IV.1, AW 543a).

Connection and Conjunction

- When we perform inductions, and pronounce on the laws connecting events, we go beyond the evidence of our experience.
- We pretend that we see connections among events,
- But, in fact, all we ever see are conjunctions.
- “We only learn by experience the frequent conjunction of objects, without being ever able to comprehend anything like connection between them” (§VII.1, AW 560b).

No Causes, No Laws

- All our beliefs about the world are based on experience.
- Experience only tells us what was, not what has to be.
- This follows from the fact that we have no access to the causes.
- Laws of nature reduce disparate phenomena to simple statements.
- But, such reductions require insight into the causal structure of the world, which we do not have.
- Thus we can not establish the truth of laws of nature, despite our best efforts.
- "*The utmost effort of human reason is to reduce the principles productive of natural phenomena to a greater simplicity and to resolve the many particular effects into a few general causes by means of reasonings from analogy, experience, and observation*. But as to the causes of these general causes, we should in vain attempt their discovery, nor shall we ever be able to satisfy ourselves by any particular explication of them. These ultimate springs and principles are totally shut up from human curiosity and inquiry...Thus the observation of human blindness and weakness is the result of all philosophy and meets us at every turn in spite of our endeavors to elude or avoid it" (§IV.1, AW 544a-b, emphasis added).

Blindness and Weakness

- The utmost effort of human reason is to reduce the principles productive of natural phenomena to a greater simplicity and to resolve the many particular effects into a few general causes by means of reasonings from analogy, experience, and observation. But as to the causes of these general causes, we should in vain attempt their discovery, nor shall we ever be able to satisfy ourselves by any particular explication of them. These ultimate springs and principles are totally shut up from human curiosity and inquiry...Thus the observation of human blindness and weakness is the result of all philosophy and meets us at every turn in spite of our endeavors to elude or avoid it (§IV.1, AW 544a-b).
- We have no knowledge of both particular and general claims about laws of nature.
- We do not know that the sun will rise tomorrow.
  - The problem is not that there might be a big explosion.
  - Such an event would be consistent with physical laws.
  - The problem is that the laws could suddenly shift, from what we think they are.

The Problem of Induction

- Russell's Chicken
- Hume's skeptical argument about induction.
  - PIPI1. Our beliefs about future events and unobserved objects are matters of fact.
  - PI2. Beliefs about matters of fact are based on experience.
  - PI3. Experience tells us how things were, not how they will be; it tells us only about actually observed phenomena.
  - PIC. So, our beliefs about the future and the unobserved are unknown.
- PI1 is a definition.
- PI2 is the basic principle of empiricism.
  - Scientific generalizations which do not limit themselves to past observations go beyond sense evidence.
  - Descartes, for example, argued that innate principles can allow us to make the inductive leap.
  - An appeal to innate principles will not work for Hume, obviously.
  - We can not go beyond the evidence of our senses.

We Can Not Go Beyond the Senses

PI3 is the result of Hume's observations about causation.

"When we infer any particular cause from an effect, we must proportion the one to the other and can never be allowed to ascribe to the cause any qualities but what are exactly sufficient to produce the effect...If the cause assigned for any effect is not sufficient to produce it, we must either reject that cause or add to it such qualities as will give it a just proportion to the effect. but if we ascribe to it further qualities or affirm it capable of producing other effects, we can only indulge the license of conjecture and arbitrarily suppose the existence of qualities and energies without reason or authority" (§XI, AW 588a).

Fixing the Hole in the Inductive Argument

- Consider a specific version of the problem of induction.
  - B1. I have seen one billiard ball strike another many times.
  - B2. Each time the ball which was struck has moved, motion was transferred.
  - BC. So, the struck ball will move this time.
- BC does not follow deductively from B1 and B2.
  - B is an invalid argument.
  - The conclusion could be false, while the premises remain true.
- We can add a premise, the principle of the uniformity of nature (PUN).
  - PUN The future will resemble the past.

The Problem Resolved

- This argument is valid!
  - B1. I have seen one billiard ball strike another many times.
  - B2. Each time the ball which was struck has moved, motion was transferred.
  - B3. The future will resemble the past.
  - BC. So, the struck ball will move this time.
- The problem with B* is that we have no basis for believing B3, the PUN.
- "All inferences from experience suppose as their foundation that the future will resemble the past and that similar powers will be conjoined with similar sensible qualities. If there is any suspicion that the course of nature may change, and that the past may be no rule for the future, all experience becomes useless and give rise to no inference or conclusion. It is impossible, therefore, that any arguments from experience can prove this resemblance of the past to the future, since all these arguments are founded on the supposition of that resemblance" (§IV.2, AW 547b).
- The past has resembled the future in the past, but we don't know that it will continue to resemble the future!

Cause, Effect, and Uniformity

- If we had knowledge of cause and effect relations, of the connections among events, we could tie them together to yield PUN.
- We would know what the hidden springs are by experience.
- But, we only have knowledge of constant conjunction.
- So, all scientific generalizations which do not limit themselves to observed evidence are unjustified.
- Physical laws like Newtonian gravitation, or the gas laws, go beyond experimental evidence.

Skepticism About the External World

- Even the existence of a material world is a scientific hypothesis generated by experience.
- "It is a question of fact whether the perceptions of the senses are produced by external objects resembling them; how shall this question be determined? By experience, surely as all other questions of a like nature. But here experience is and must be entirely silent. The mind never has anything present to it but the perceptions and cannot possibly reach any experience of their connection with objects. The supposition of such a connection is, therefore, *without any foundation in reasoning*" (§XII.1, AW 595a, emphasis added).

Skepticism and Revolution

- Philosophers speculate broadly about the world and its laws.
- Hume insists that such speculation is unfounded.
- He proposes that philosophy be rid of such speculation.
- "When we run over libraries, persuaded of these principles, what havoc must we make? If we take in hand any volume - of divinity or school metaphysics, for instance - let us ask, D*oes it contain any abstract reasoning concerning quantity or number?* No. *Does it contain any experimental reasoning concerning matter of fact and existence?* No. Commit it then to the flames, for it can contain nothing but sophistry and illusion" (§XII.3, AW 600b).

The Naturalist Hume

- We formulate laws of nature from regularities we have perceived.
- We can not know that the regularity will persist.
- Still, we do believe that there are connections between events.
- We exit through the door, not the window.
- We do not really doubt that the sun will rise.
- "When one particular species of event has always, in all instances, been conjoined with another, we make no longer any scruple of foretelling one upon the appearance of the other, and of employing that reasoning which can alone assure us of any matter of fact or existence. We then call the one object *cause*, the other *effect*. We suppose that there is some connection between them, some power in the one by which it infallibly produces the other and operates with the greatest certainty and strongest necessity" (§VII.2, AW 563a).

Belief in Laws is a Habit

After a repetition of similar instances the mind is carried by habit upon the appearance of one event to expect its usual attendant and to believe that it will exist. This connection, therefore, which we *feel* in the mind, this customary transition of the imagination from one object to its usual attendant, is the sentiment or impression from which we form the idea of power or necessary connection...The first time a man saw the communication of motion by impulse, as by the shock of two billiard balls, he could not pronounce that the one event was *connected*, but only that it was *conjoined* with the other. After he has observed several instances of this nature, he then pronounces them to be *connected*. What alteration has happened to give rise to this new idea of *connection*? Nothing but that he now *feels* these events to be *connected* in his imagination, and can readily foretell the existence of one from the appearance of the other. When we say, therefore, that one object is connected with another, we mean only that they have acquired a connection in our thought (§VII.2, AW 563a).

Habits Come from Experience

- Consider if a person were suddenly brought into the world.
- She would have no habits, and so no beliefs about regularities or causal powers.
- By experience, she would develop certain habits, certain expectations, all while never having any experiences of causal connections.
- "Suppose...that he has acquired more experience and has lived so long in the world as to have observed familiar objects or events to be constantly conjoined together - what is the consequence of this experience? He immediately infers the existence of one object from the appearance of the other. Yet he has not, by all his experience, acquired any idea or knowledge of the secret power by which the one object produces the other, nor is it by any process of reasoning he is engaged to draw this inference. But still he finds himself determined to draw it. And though he should be convinced that his understanding has no part in the operation, he would nevertheless continue in the same course of thinking. There is some other principle which determines him to form such a conclusion. This principle is *custom* or *habit*" (§V.1, AW 549a-b).
- What she has developed is a mental capacity, not an insight.

The Mental Interpretation of ‘Cause’

- Remember, Hume agrees with Berkeley that we experience our sensations, and not their causes.
- We have no experience of the things in themselves.
- Thus, the term ‘cause’ refers to a mental phenomenon.
- “The appearance of a cause always conveys the mind, by a customary transition, to the idea of the effect. Of this also we have experience. We may, therefore, suitably to this experience, form [a] definition of cause, and call it *an object followed by another, and whose appearance always conveys the thought to that other”* (VII.2, AW 563b).
- Properly distinguished, causes are internal, rather than external.
  - They are not in nature, but in our minds.
  - Causes are psychological, rather than objective.

Berkeley and Hume

- Berkeley, when faced with the limits of what we can know, interpreted the terms we use that seem to refer to objects as referring to our mental states.
- Hume, rejecting Berkeley's idealism, assumes that there is a material world, but interprets terms referring to causal relations (including those stating physical laws) as referring to our mental states.
- We can not know about the laws governing the interactions of objects in the world, but we know about our mental states, and we presume (non-rationally) that they project onto the world, in some way.
- Instead of internalizing the world, Hume internalizes cause and effect.
- Hume psychologizes, or naturalizes, our scientific beliefs.

Laws of Nature and Miracles

- Berkeley thinks that there are some general regularities in nature, and exceptions to these regularities.
  - "It cannot be denied that God, or the intelligence that sustains and rules the ordinary course of things, might if He were minded to produce a miracle, cause all the motions on the dial-plate of a watch, though nobody had ever made the movements and put them in it" (Berkeley, *Principles* §62).
  - Joshua and the halting of time
- Hume not only denies that miracles do happen, he denies that they are possible.
  - There can be no irregularities in nature, because the very notion of a regularity presupposes uniformity.
  - If there were exceptions to the laws, we wouldn't call them laws.

Hume on Miracles

- “Nothing is esteemed a miracle if it ever happen in the common course of nature. It is no miracle that a man, seemingly in good health, should die on a sudden, because such a kind of death, though more unusual than any other, has yet been frequently observed to happen. But it is a miracle that a dead man should come to life because that has never been observed in any age or country. There must, therefore, be a uniform experience against every miraculous event, otherwise the event would not merit that appellation. And as a uniform experience amounts to a proof, there is here a direct and full proof, from the nature of the fact, against the existence of any miracle, nor can such a proof be destroyed or the miracle rendered credible but by an opposite proof which is superior” (§X, AW 579b).
- If we experience an anomaly, an event inconsistent with what we think are the laws of nature, we will adjust the laws.
- “When any cause fails of producing its usual effect, philosophers ascribe not this to any irregularity in nature, but suppose that some secret causes in the particular structure of parts have prevented the operation” (§VI, AW 556a).

Skepticism and Regularities

- Note the tension here between Hume's claim that we have no knowledge of causal laws, on the one hand, and his insistence that there are universal regularities in nature.
  - Not only are there regularities, but there can be no exceptions to those regularities.
  - Hume argues that there is no chance in nature.
  - All probability arises from our ignorance of causal connections; it is epistemic, rather than objective.
  - As Einstein (later) said, God does not throw dice.
- Hume does have a psychological account of causation.
  - The regularities that we find are real, even if among our ideas.
- Hume is not, like Berkeley, leaving room for divine intervention.
- He is taking seriously the empiricist's problem of being cut off from the external world, the veil of ideas.

Reconciling the Two Humes

- The skeptical Hume argues that we have no knowledge of the future or unobserved.
- The naturalist Hume presumes our beliefs in universal scientific laws, and explains them in terms of our natural psychological capacities.
- But, to explain is not to justify, and the problem of induction persists.
- The next two topics, miracles and free will, will start from the naturalist assumptions.

Topics in Hume

✓1. Causation and Induction

2. The Bundle Theory of the Self

3. Free Will and Compatibilism

Locke and Berkeley on the Self

- Locke argued that we identify with our conscious experience, linked by memory.
- Berkeley worried that given Locke's constraints on our capacities to acquire beliefs, we have no sense of self.
  - We never sense our selves.
  - We sense our bodies, but they are always changing, while the self remains constant.
  - We have no idea of the self, which Berkeley identified with the soul, or of God.
- "There can be no idea formed of a soul or spirit; for all ideas whatever, being passive and inert... they cannot represent unto us, by way of image or likeness, that which acts...The words *will*, *soul*, *spirit* do not stand for different ideas or, in truth, for any idea at all, but for something which is very different from ideas, and which, being an agent, cannot be like or represented by any idea whatsoever - though it must be admitted at the same time that we have some notion of soul, spirit, and the operations of the mind, such as willing, loving, hating, inasmuch as we know or understand the meaning of those words" (Berkeley, *Principles* §27, AW 452b).
- We posit the self in order to unify our experiences; we posit God as the source of all the ideas.

Hume Stands His Ground

- Since we have no idea of the self, we have no reason to believe in any such thing.
- "If any impression gives rise to the idea of self, that impression must continue invariably the same through the whole course of our lives, since self is supposed to exist after that manner. But there is no impression constant and invariable. Pain and pleasure, grief and joy, passions and sensations succeed each other and never all exist at the same time. It cannot, therefore, be from any of these impressions or from any other that the idea of self is derived, and, consequently, there is no such idea" (*Treatise* I.4.6, AW 526a).

Identity and the Self

- Hume's claim that the self must be precisely identical over time seems a bit too strong.
- As we age, and acquire more experiences, we have different properties.
- Even having lunch, or shifting our bodies slightly to the left, changes our relations to the world, without changing our ordinary conception of our selves.
- Still, Hume's point is that there is no underlying, unifying object which we can call the self.
- There are just perceptions.
- "When I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception and never can observe anything but the perception" (*Treatise* I.4.6, AW 526a).

The Bundle Theory

- The self, for Hume, is a loose bundle of experiences.
- The experiences are joined only by the same connections among ideas that govern all of our thoughts: resemblance, contiguity, and cause and effect.
- But, those principles do not connect ideas; they merely conjoin them.
- Even memory, on which Locke based his account of personal identity, merely demonstrates those conjunctions.
  - It can not add further connections.
  - The common notion of self which we are pursuing outruns our memories: there are experiences which I call mine that I do not remember.
  - "Memory does not so much *produce* as *discover* personal identity by showing us the relation of cause and effect among our different perceptions. It will be incumbent on those who affirm that memory produces entirely our personal identity to give a reason why we can thus extend our identity beyond our memory" (*Treatise* I.4.6, AW 530b).

The Self as Diversity

- Instead of being a paradigm of unity, as the rationalists all saw it, the self is an exemplar of diversity.
- Just as Berkeley argued that the apple is just a bundle of independent sense experiences, its taste independent from its roundness and its crunch, we are just a collection of various, independent experiences.
- As far as we know, the world itself is just a loose collection of events, unconnected by causal laws.
- Everything is particular, and all the particulars are independent.
- “Every distinct perception which enters into the composition of the mind is a distinct existence and is different and distinguishable and separable from every other perception, either contemporary or successive” (AW 529b).
- Even the self is dissolved.
- The Buddhist view: There is no I, beyond the experiences.
- Descartes’s claim that the cogito yields the existence of a thinker is too strong.
  - There is just thought.

Topics in Hume

✓1. Causation and Induction

✓2. The Bundle Theory of the Self

3. Free Will and Compatibilism

Three Positions on Free Will

- We have reasons to believe that we are free: our conscious experience feels free.
- We have reasons to believe that we are determined: either by God's will or deterministic laws of physics, or both.
  1. Libertarianism: Our will is free
  2. Determinism: Our will is not free, but determined
     - Libertarianism and determinism are both incompatibilist positions.
  3. Compatibilism: We are both free and determined

Libertarian Freedom

- Descartes attributed our ability to err to our freedom.
- The libertarian believes that the future is not fixed.
- Phenomenology of human action
- Indeterminacy of quantum physics?
  - Quantum indeterminacy does not seem to rise to the macro level.
  - Random indeterminacies
- Our freedom does not seem to consist of random, chaotic moments inconsistent with the laws.
- Our freedom is rooted in our ability to choose among various options.

The Deterministic Response

- To avoid libertarianism, the determinist tries to show that our feeling of free will is illusory.
- Appearances of free will might, say, be attributed to a lack of understanding of the laws and the initial conditions.
- Or, they can be attributed to the inability of a finite mind to comprehend the infinitude of God.
- Spinoza was a determinist, and claimed that freedom was an illusion.

Problems with Determinism

- The thought that I don't have the freedom I appear to have is unpleasant.
- Determinism seems to undermine our ordinary notions of moral responsibility.
  - Ordinarily, we think that we are morally responsible only for behavior that we could have avoided.
  - We are not responsible when we have no ability to do otherwise.
  - I am not personally responsible for ending global warming, tidying the surface of Jupiter, or preventing the great Chicago fire of 1871.
  - In contrast, I may be responsible for the relief of suffering and misery in the Sudan.
- If determinism is true, and if it entails that I can never do otherwise than what I do, it seems that I can never be morally responsible for any of my actions.
- Intuitively, we do think people are morally responsible for some of their actions.
- So, determinism clashes with these intuitions.

Compatibilism

- Compatibilism: determinism is not opposed to free will.
- Leibniz defended determinacy with contingency
  - Caesar example
  - Many of us found Leibniz's claim implausible.
- Hume: an act is free if it is done in accordance with our will, even if it is also determined.
- People do not generally surprise us with their actions.
- When they do, it is due to our own ignorance, rather than any unpredictability, in principle, in their behavior.
- "The philosopher, if he is consistent, must apply the same reasoning to the actions and volitions of intelligent agents. The most irregular and unexpected resolutions of men may frequently be accounted for by those who know every particular circumstance of their character and situation" (§VIII.1, 568a).
- Hume claims that the dispute between libertarians and determinists is mainly verbal, since the freedom that we really care about is not opposed to determinism.

‘Freedom’ and Necessity

- Hume’s claim is that ‘freedom’ is ambiguous.
- In one sense, ‘freedom’ is opposed to ‘determinism’, or ‘necessity’.
- In that sense, the debate over free will lives on.
- But, freedom in that sense is not even desirable.
- If our actions were free, in the sense of undetermined, we would have no reasons for acting at all.
  - Our acts would be random, and chaotic.
  - Worse, since our actions did not proceed determined from our will, we seem to be blameless.
  - We do not hold the lion morally culpable for killing the wildebeest.

How Freedom Prevents Moral Responsibility

- “The actions themselves may be blamable; they may be contrary to all the rules of morality and religion. But the person is not answerable for them and , as they proceeded from nothing in him that is durable and constant and leave nothing of that nature behind them, it is impossible he can, upon their account, become the object of punishment or vengeance. According to the principle, therefore, which denies necessity, and consequently causes, a man is as pure and untainted after having committed the most horrid crime as at the first moment of his birth, nor is his character any way concerned in his actions, since they are not derived from it, and the wickedness of the one can never be used as a proof of the depravity of the other” (§VIII.2, 572b).
- Hume has turned the table on the determinist.
- We were worried that determinism prevents ascriptions of moral responsibility.
- Hume argues that free will, in the sense opposed to determinism, also prevents ascriptions of moral responsibility.

‘Freedom’ and Constraint

- Hume claims that an action is done freely, properly understood, when it is done without external constraint.
- I act freely if I am not dragged, pushed, or held at gunpoint to perform an action.
- “For what is meant by liberty when applied to voluntary actions? We cannot surely mean that actions have so little connection with motives, inclinations, and circumstances that one does not follow with a certain degree of uniformity from the other and that one affords no inference by which we can conclude the existence of the other. For these are plain and acknowledged matters of fact. By liberty, then, we can only mean *a power of acting or not acting according to the determinations of the will* - that is, if we choose to remain at rest, we may; if we choose to move, we also may. Now this hypothetical liberty is universally allowed to belong to everyone who is not a prisoner and in chains” (§VIII.1, AW 571a).

Moral Responsibility in a Deterministic World

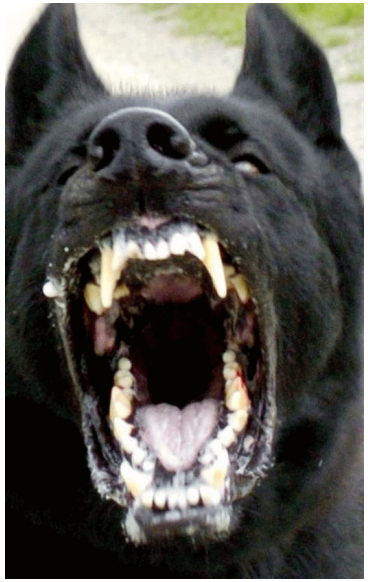
- If I do something only because I could not have done otherwise, I do not do it freely.
- I do not return to the ground when I jump in the air of my free will; I could not have done otherwise in that case.
- If I pay my taxes because I am afraid of being fined or imprisoned, or if I refrain from cheating only out of fear of punishment, or if I am forced by threat to do any action I do not wish to perform, I do not act freely.
- If I want to pay taxes, since I approve of their uses in building and maintaining roads, schools and armed forces; or if I refrain from cheating because I do not wish to cheat, then I am acting in accordance with my will, freely.
- Consequently, we can hold people morally responsible for those acts they perform freely, in Hume's sense, and not for those they perform under constraint.

The Compatibilist Wins!

- By focusing on a sense of ‘freedom’ that is not opposed to determinism, Hume makes free will compatible with determinism.
- He also makes both the acceptance of both free will and determinism compatible with ascriptions of moral responsibility.
- He allows us an account of moral responsibility which aligns with our belief that we are responsible only for that which we choose.
- Hume’s definition is consistent with the doctrine that ought implies can, that our moral responsibilities do not exceed our powers.
- Everyone should be happy.

Not So Fast!

- The reflective determinist will be unsatisfied with Hume's definition.
- The determinist can pursue the question of whether we are free or determined by asking whether we are free to choose what we choose, or whether we are constrained.
- If our thoughts are themselves the products of physical processes, mainly brain processes along with their inputs (from perception), then the same problem of determinism recurs with regard to our will.
- That is, we do seem to distinguish between cases in which our will is constrained and cases in which it is not.



The incompatibilist

Freedom and Constraint of the Will

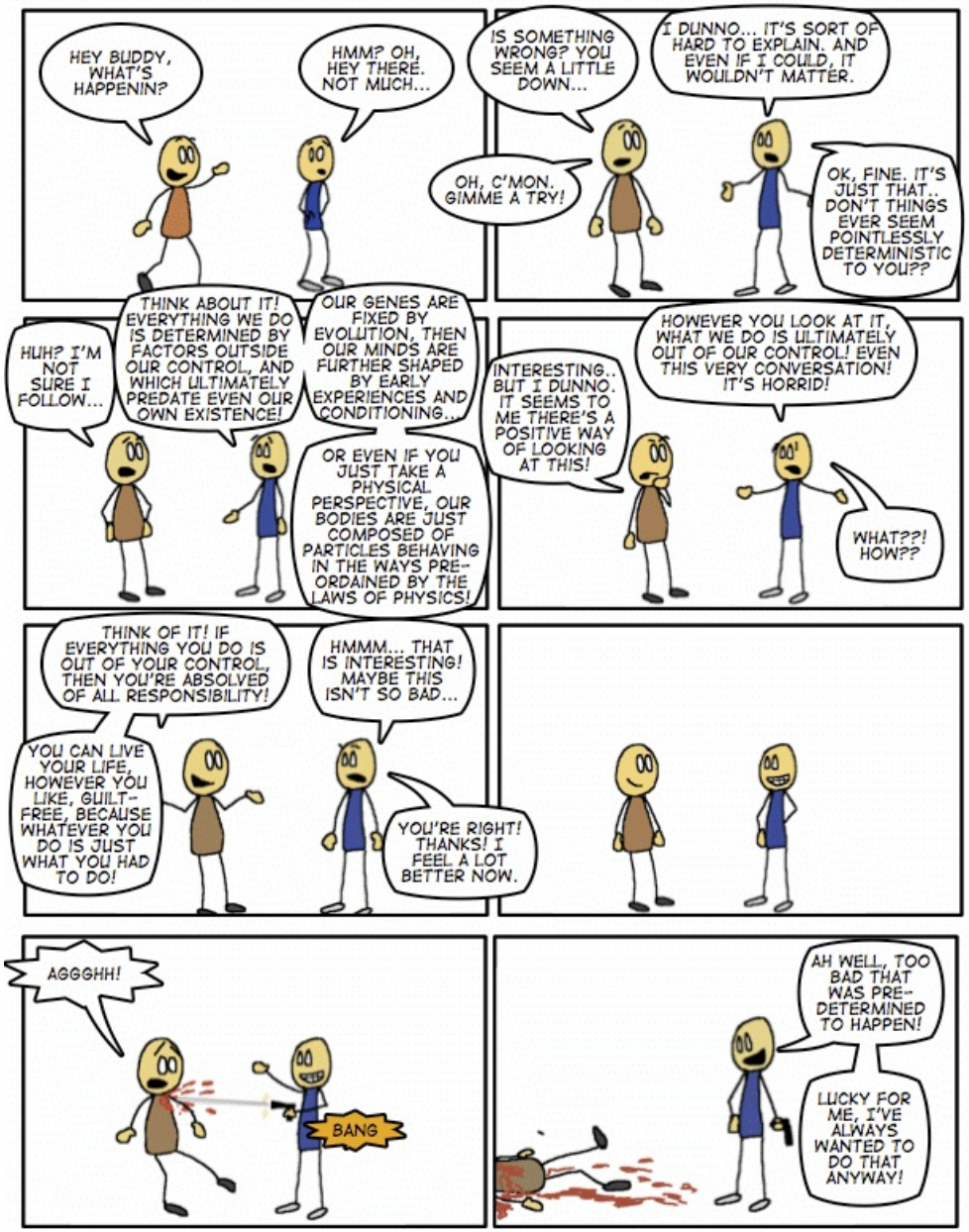
- If our wills are constrained, then there is a deep sense in which we are not free, even if we are not under external constraint.
- We excuse children from legal responsibility, because we think that they are not free to choose otherwise, even when they are not constrained by an external force.
- Mental disorders
  - The differences between adults, on the one hand, and children and people with dementia, on the other, may not be as significant as is ordinarily assumed.
  - More of our actions are seen as the result of mental predispositions than as the result of free choice.
  - DSM-V
- Neuroscientific progress and advances in genetics
  - Such scientific progress will include, eventually, substantial predictive power.
  - fMRI and mindreading
- Can we maintain, as the compatibilist does, that we are free, if a computer can predict our behavior?
  - The absence of free will implied by the predictability of our actions seems to excuse.
  - That is the essence of incompatibilism.
- Compatibilism does not settle the question of whether we have free will, in the sense opposed to determinism.

Frankfurt Cases

- One can be morally responsible even if one could not have done otherwise.
  - Suppose someone — Black, let us say — wants $Jones_4$ to perform a certain action. Black is prepared to go to considerable lengths to get his way, but he prefers to avoid showing his hand unnecessarily. So he waits until $Jones_4$ is about to make up his mind what to do, and does nothing unless it is clear to him (Black is an excellent judge of such things) that $Jones_4$ is going to decide to do something other than what he wants him to do. If it does become clear that $Jones_4$ is going to decide to do something else, Black takes effective steps to ensure that $Jones_4$ decides to do, and that he does do, what he wants him to do... Now suppose that Black never has to show his hand because $Jones_4$, for reasons of his own, decides to perform and does perform the very action Black wants him to perform. In that case, it seems clear, $Jones_4$ will bear precisely the same moral responsibility for what he does as he would have borne if Black had not been ready to take steps to ensure that he do it. It would be quite unreasonable to excuse $Jones_4$ for his action...on the basis of the fact that he could not have done otherwise. This fact played no role at all in leading him to act as he did... Indeed, everything happened just as it would have happened without Black's presence in the situation and without his readiness to intrude into it (Harry Frankfurt, "Alternate Possibilities and Moral Responsibility," 835-6).
- $Jones_4$ could not have done otherwise, since Black was prepared to force him to act.
- But $Jones_4$ still bears moral responsibility.
- Hume, and Frankfurt, thus argue that moral responsibility is compatible with determinism.
  - That's useful for both the determinist and the compatibilist, both of whom accept that we can not do other that what we do.
  - it does not settle the question of whether we have free will, in the sense opposed to determinism.
- The compatibilist recovers moral responsibility while avoiding the metaphysical question about freedom.

Hume's Compatibilism

- Compatibilism: determinism is not opposed to free will.
  1. Libertarianism: Our will is free.
  2. Determinism: Our will is not free, but determined.
  3. Compatibilism: We are both free and determined.
- Hume: an act is free if it is done in accordance with our will, even if both the act and the will are also determined.
- Freedom, in its important sense, is not opposed to determinism.
- Freedom is opposed to external constraint.


HEY BUDDY, WHAT'S HAPPENIN?
HMM? OH, HEY THERE. NOT MUCH...
IS SOMETHING WRONG? YOU SEEM A LITTLE DOWN...
I DUNNO... IT'S SORT OF HARD TO EXPLAIN. AND EVEN IF I COULD, IT WOULDN'T MATTER.
OH, C'MON. GIMME A TRY!
OK, FINE. IT'S JUST THAT.. DON'T THINGS EVER SEEM POINTLESSLY DETERMINISTIC TO YOU??
HUH? I'M NOT SURE I FOLLOW...
THINK ABOUT IT! EVERYTHING WE DO IS DETERMINED BY FACTORS OUTSIDE OUR CONTROL, AND WHICH ULTIMATELY PREDATE EVEN OUR OWN EXISTENCE!
OUR GENES ARE FIXED BY EVOLUTION, THEN OUR MINDS ARE FURTHER SHAPED BY EARLY EXPERIENCES AND CONDITIONING...
OR EVEN IF YOU JUST TAKE A PHYSICAL PERSPECTIVE, OUR BODIES ARE JUST COMPOSED OF PARTICLES BEHAVING IN THE WAYS PRE-ORDAINED BY THE LAWS OF PHYSICS!
INTERESTING.. BUT I DUNNO. IT SEEMS TO ME THERE'S A POSITIVE WAY OF LOOKING AT THIS!
HOWEVER YOU LOOK AT IT, WHAT WE DO IS ULTIMATELY OUT OF OUR CONTROL! EVEN THIS VERY CONVERSATION! IT'S HORRID!
WHAT??! HOW??
THINK OF IT! IF EVERYTHING YOU DO IS OUT OF YOUR CONTROL, THEN YOU'RE ABSOLVED OF ALL RESPONSIBILITY!
YOU CAN LIVE YOUR LIFE, HOWEVER YOU LIKE, GUILT-FREE, BECAUSE WHATEVER YOU DO IS JUST WHAT YOU HAD TO DO!
HMMM... THAT IS INTERESTING! MAYBE THIS ISN'T SO BAD...
YOU'RE RIGHT! THANKS! I FEEL A LOT BETTER NOW.
AGGGHH!
BANG
AH WELL, TOO BAD THAT WAS PRE-DETERMINED TO HAPPEN!
LUCKY FOR ME, I'VE ALWAYS WANTED TO DO THAT ANYWAY!

Some Things We Know

- P1. It is raining outside right now.
  - Occurent sense experience
- P2. It snowed in February.
  - Memory
- P3. Shakespeare wrote *The Tragedy of Macbeth*.
  - Testimony
- P4. 2 + 2 = 4.
  - Relations of ideas
- P5. I exist.
  - Nope
- P6. Objects near the surface of the Earth accelerate toward the center of the Earth at 9.8 m/s^2.
  - Nope
- P7. The sun will rise tomorrow.
  - Nope

Three Problems of Induction

The Weak Problem of Induction

WI: We have limited intelligence and experience.

- There is not enough evidence to draw the conclusions that we draw.
- Scientific theories are generally under-determined by the evidence.
- Often there are two or more competing yet equally well-supported theories about the world.
- Such theories agree on all the empirical evidence we have gathered.
- Even if we presume that physical laws will be uniform and stable, we don't know which theory to use.
- If we were smarter or had more time, we could solve the problem of WI by gathering more evidence.
- WI is not Hume's problem of induction.
  - It is just a problem of limitations on evidence.
  - It is not really a philosophical problem.

The Strong Problem of Induction

SI: Even given all possible evidence from the past, we can not know that the laws of nature will not shift radically and unexpectedly.

- SI is Hume's problem.
- Despite Hume's complaints about inductive processes, we do make successful predictions.
- We presume that the laws of nature will remain uniform and stable, even if that assumption is unjustified.

The New Riddle of Induction

from Nelson Goodman

- Consider the property called ‘grue’:
  - An object is grue if it is green until 1/1/2020, when it suddenly turns blue.
  - How can you tell if a plant is green or grue?
  - All evidence for its being green is also evidence for its being grue.
  - Green things and grue things are exactly alike until 2020.
- NRI: Even given that the laws of nature remain stable, we do not know which predicates are confirmed.
  - NRI shows that Hume’s problem is not just about physical laws, but about common terms we use to describe the world, too.
  - Papod

The Persistence of the Problem

- SI and NRI are among the most serious problems in philosophy, especially in the philosophy of science.
- Berkeley had shown that Lockean empiricist principles led to difficulties with our beliefs in an external, material world.
- Hume shows that these problems infect all of science, not merely belief in matter.
- Goodman's riddle shows that the problem infects even our most common uses of language.
- Berkeley thinks that we can continue to speak with the vulgar and think with the learned.
- Hume shows that even the most learned beliefs are unjustified.

Hume's Practical Response

- We have no evidence for our beliefs in laws governing an external world, but we proceed as if the world exists as we perceive it.
- The philosopher who seeks universal truths will be frustrated, but we can just ignore the skeptical questions.
- "The abstruse philosophy, being founded on a turn of mind which cannot enter into business and action, vanishes when the philosopher leaves the shade and comes into open day, nor can its principles easily retain any influence over our conduct and behavior. The feelings of our heart, the agitation of our passions, the vehemence of our affections, dissipate all its conclusions and reduce the profound philosopher to a mere plebeian" (§I, AW 534a-b).
- Berkeley decried skepticism as an immoral philosophy; Hume denies that skepticism leads to immorality.
- Hume sees skepticism as practically defeasible.
- "The great subverter of *Pyrrhonism*, or the excessive principles of skepticism, is action, and employment, and the occupations of common life. These principles may flourish and triumph in the schools, where it is indeed difficult, if not impossible, to refute them. But as soon as they leave the shade an by the presence of the real objects which actuate our passions and sentiments are put in opposition to the more powerful principles of our nature, they vanish like smoke and leave the most determined skeptic in the same condition as other mortals" (§XII.2, AW 597b).

Extreme Skepticism is Self-Refuting

- The Cartesian doubt...were it ever possible to be attained by any human creature (as plainly it is not) would be entirely incurable and no reasoning could ever bring us to a state of assurance and conviction upon any subject (§XII.1, AW 593a).
- "A Pyrrhonian cannot expect that his philosophy will have any constant influence on the mind or, if it had, that its influence would be beneficial to society. On the contrary, he must acknowledge, if he will acknowledge anything, that all human life must perish were his principles universally and steadily to prevail. All discourse, all action would immediately cease, and men remain in a total lethargy until the necessities of nature, unsatisfied, put an end to their miserable existence" (§XII.2, AW 598a).

Psychologistic Rehabilitation

- The empiricists of the modern era believed that they could limit the extravagant speculations of the continental rationalists by paying close attention to our epistemic capacities.
- As early as Hobbes, we saw attention paid to psychological matters, especially the principles governing the connections of our ideas.
- Locke claimed that our ideas of reflection were those produced by memory, comparison, augmentation, and abstraction.
- Hume claims that the connections among ideas are exhausted by the three categories of resemblance, contiguity, and cause and effect relations.
- According to the representational theory, we apprehend only our ideas, which may or may not stand for objects external to us.
  - Contrast with Aristotle's theory of direct perception, in which we are immediately acquainted with the external world.
  - Our experience of the world is mediated by our ideas; we are cut off from the external world.
- Locke and Hume try to reclaim some of our knowledge as psychological knowledge.
  - Causation as a psychological phenomenon
  - Mathematics as relations of ideas

Problems with Psychologism

- “Number is no whit more an object of psychology or a product of mental processes than, let us say, the North Sea is. The objectivity of the North Sea is not affected by the fact that it is a matter of our arbitrary choice which part of all the water on the earth’s surface we mark off and elect to call the North Sea. This is no reason for deciding to investigate the North Sea by psychological methods. In the same way number, too, is something objective. If we say ‘The North Sea is 10,000 square miles in extent’ then neither by ‘North Sea’ nor by ‘10,000' do we refer to any state of or process in our minds: on the contrary, we assert something quite objective, which is independent of our ideas and everything of the sort” (Frege, *Grundlagen*, §26).
- We speak as if the world and the causal laws are objective, existing independently of us.
- But, we are unjustified in believing that.
- Thus, the psychologist is left as a skeptic.

Return of the Two Humes

- The skeptical Hume argues that we have no knowledge of the future or unobserved.
- The naturalist Hume presumes our beliefs in universal scientific laws, and explains them in terms of our natural psychological capacities.
- The two Humes are compatible.
- The Radical Hume
  - We have no knowledge of the laws of nature, causes, the self.
  - "When I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of heat or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception and never can observe anything but the perception" (*Treatise* I.4.6, AW 526a).
  - The future is completely determined; we are not free.
- The Moderate Hume
  - 'Causation' is a mental phenomenon, arising from habit.
  - Mathematical theorems are secure relations of ideas.
  - We believe that nature is uniform.
  - We are free, in the only sense that is important.

Revenge of the Representational Theory of Ideas

- The empiricists of the modern era believed that they could limit the extravagant speculations of the continental rationalists by paying close attention to our epistemic capacities.
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- According to the representational theory, we apprehend only our ideas, which may or may not stand for objects external to us.
  - The representational theory may be contrasted with Aristotle's theory of direct perception, in which we are immediately acquainted with the external world.
  - Our experience of the world is mediated by our ideas.
  - We are cut off from the external world.
- Both Berkeley and Hume may be read, in retrospect, as reductio arguments on the representational theory of ideas.
  - Berkeley shows that this theory, coupled with our sensory apparatus, gives us no reason to believe in a material world.
  - Hume, shows that the combination gives us no reason to believe that we have knowledge of the laws of nature.
- It looks as if something has gone seriously wrong.
- But, what is the alternative?

Ideas, Thoughts, Representations

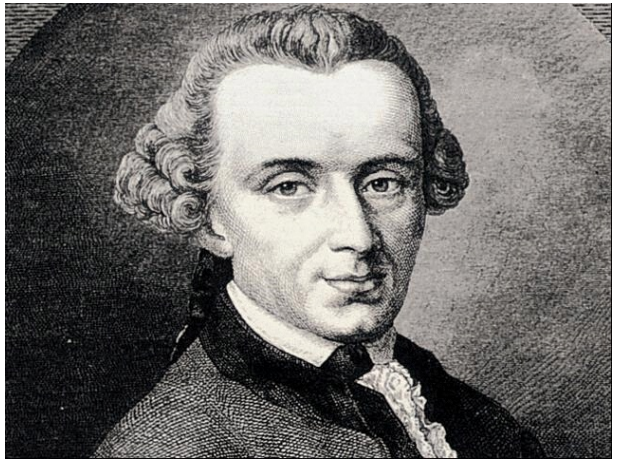
- Aristotle: thinking is sensing.
- Descartes cleaving thought from sensation and isolating the self from the external world, took thought to be representational.
  - We can think clearly and distinctly about things that we can not picture.
  - Conception, rather than Perception
  - But, Descartes's separation was accompanied by a doctrine of innateness.
- The empiricists, rejecting innate ideas, took representation as picturing in the imagination.
  - Sense experience as the source of all beliefs
  - Resemblance Hypothesis
  - Solipsism and skepticism follow.
- Many of our thoughts are representational.
  - Emotions might be an exception.
- We need a theory of mental representation that avoids both innateness and mere picturing.

Toward the Kantian Revolution

- Both Berkeley and Hume may be read, in retrospect, as reductio arguments on the representational theory of ideas.
  - Berkeley shows that this theory, coupled with our sensory apparatus, gives us no reason to believe in a material world.
  - Hume, shows that the combination gives us no reason to believe that we have knowledge of the laws of nature.
- Something has gone seriously wrong.
- Kant attempts a Copernican revolution in philosophy.
  - The empiricists took a weak psychology into a dead end of skepticism.
  - Kant starts with our knowledge, and works backwards to our psychological capacities.
- Transcendental arguments
  - We know we have knowledge of causes, and mathematics.
  - Our experiences are insufficient to support this knowledge.
  - So, there must be psychological capacities which support our knowledge.

Philosophy 203
History of Modern Western Philosophy

Russell Marcus
Hamilton College
Spring 2011



Class 24 - April 21
Kant's Copernican Revolution

Business

- Read the *Critique* slowly, carefully.
  - Kant's jargon takes some getting used to.
- Papers are due on Tuesday.
- I hope to have the "short" list for the final by early next week.

The *Critique of Pure Reason*

- First Critique
  - “Is metaphysics possible?”
  - “If so, how?”
  - What are the limits of human knowledge?
- Two editions
  - A version, in 1781
  - B version, in 1787
- The Second Critique (*Critique of Practical Reason*) concerns moral philosophy.
- The Third Critique (*Critique of Judgment*) concerns aesthetics.
- Kant’s work marks the end of the modern era.
  - Continental v analytic

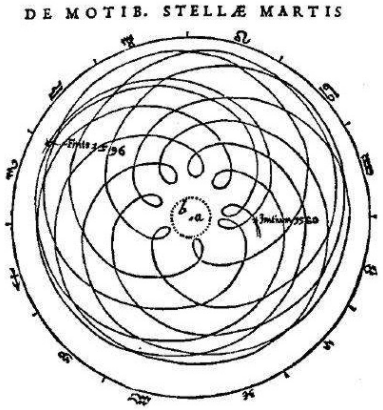
On ‘Critique’

“*Critique* has been used as a verb meaning "to review or discuss critically" since the 18th century, but lately this usage has gained much wider currency, in part because the verb *criticize,* once neutral between praise and censure, is now mainly used in a negative sense. But this use of *critique* is still regarded by many as pretentious jargon...” (*American Heritage Dictionary*, Fourth Edition).

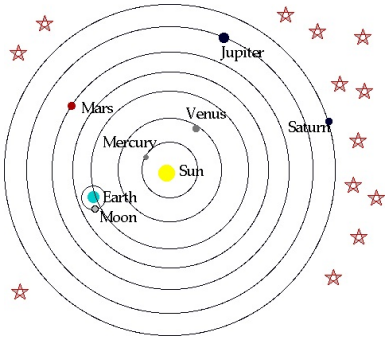
Reason

- Everyone we have read accepts that we have an ability to reason.
- The rationalists and empiricists disagreed about the matter for reason.
  - The rationalists thought that the content of our judgments is provided by innate ideas and sense experience.
  - The empiricists thought that the content is only sensory, and looked to reduce reasoning to some kinds of psychological associations among images.
- Kant rejects both rationalism (dogmatic, going beyond its true abilities) and empiricism (skeptical).
- If we take logic, as Kant does, to be the rules of reasoning in thought, then Kant's project is logical.
  - Reason can determine an object (structure it).
  - Reason can make it actual (pure thought).
  - Some cognition is pure, reason acting on itself.

Copernicus



- Aristoteleans believed that the sun, stars, and other celestial bodies circled the earth.
- But, astronomical discoveries made the cycles of those bodies highly complicated.
- Copernicus and others found that the mathematics became tractable if he posited a moving earth.
  - "Having found it difficult to make progress there when he assumed that the entire host of stars revolved around the spectator, he tried to find out whether he might not be more successful if he had the spectator revolve and the stars remain at rest" (Bxvi, AW 720a).
- Hume and Berkeley found it impossible to justify knowledge of the material world by assuming that our cognition has to conform to objects.
  - We are stuck, either with Berkeley, as idealists, or with Hume, as skeptics.
- But, if the objects have to conform to our cognition, then we might have *a priori* knowledge of those objects.



Subjective Idealism

- One way in which objects conform to our cognition is in imagination, when we fantasize.
- If all of the world were merely one person's fancy, then the objects of that world would necessarily conform to that person's cognition.
- Such a view of the world would be an unacceptable, subjective idealism.
  - Is Berkeley a subjective idealist?

Transcendental Idealism

- In Kant's transcendental idealism, the world conforms to our cognition because we can only cognize in certain ways.
  - The world of things-in-themselves remains, as it did for Hume, inaccessible, completely out of range of our cognition.
  - The noumenal world is beyond the limits of possible experience.
- But, all possible experience has to conform to our cognitive capacities.
  - The phenomenal world, the world of possible experience, is necessarily structured according to those capacities.

Our Cognitive Capacities

intuitions and understanding

- Intuition is our mental faculty for having something presented to us.
- Understanding, which is structured according to certain basic concepts, is our mental faculty for determining, or thinking, about objects.
- All objects have to be presented in intuition and determined by concepts in order to be thought.
- Thus, all of experience necessarily conforms to our cognition.
- Logic, as the laws of thought, will help us understand our faculty of cognizing, and will thus help us understand the phenomenal world.

Kant Against Rationalists

- We should distinguish between the realm of objects of possible experience and the world of transcendent objects.
- God, for example, is outside the range of possible experience, and thus can not be an object of knowledge.
  - "In order to reach God, freedom, and immortality, speculative reason must use principles that in fact extend merely to objects of possible experience; and when these principles are nonetheless applied to something that cannot be an object of experience, they actually do always transform it into an appearance, and thus they declare *all practical extension* of reason to be impossible. I therefore had to deny *knowledge* in order to make room for *faith*" (Bxxx, AW724a-b)
- Similarly for freedom, and immortality.
  - Transcendental dialectic; antinomies
- *A priori* knowledge of a mind-independent world is impossible.
- We can not have any proper philosophical knowledge of those topics.

Kant's Central Claim

- Metaphysics is possible, and it consists of synthetic *a priori* judgments.
- Two distinctions
  - Analytic vs synthetic claims
  - *A priori* vs empirical, or *a posteriori*, claims

Analyticity

- A linguistic distinction, a difference between kinds of propositions or statements.
  - For Kant, analyticity and syntheticity are characterizations of judgments, which are mental acts.
- Conceptual containment
- Judgments, for Kant, following Aristotle, are all of subject-predicate form.
  - Problem: ‘I give a rose to Emily’.
  - We’ll not worry about it now.
- A judgment is analytic if the concept of the predicate is contained in the concept of the subject.
- So, ‘bachelors are unmarried’ is analytic because the concept of a bachelor contains the concept of being unmarried.
  - If you’re running then you’re moving.
  - All neurologists are doctors.

Concepts

- Concepts may be taken either as mental objects (thoughts) or as abstract objects.
- If we take concepts to be thoughts, then different people can not share concepts.
  - My thoughts are not your thoughts, even though we can think about the same thing.
- So, it's preferable to take concepts as abstract objects, and to take our thoughts to be about concepts.
- When I think of a concept, like the concept of a bachelor, I perform a mental act which we can call grasping the concept.
- These concepts are structured, so that they can contain, or not contain, other concepts.

Conceptual Containment

two different notions

- Kant uses what Frege (in the late nineteenth century) calls beams-in-the-house analyticity.
  - When we look at a house, if we want to see if it contains a certain structure, we merely peel back the walls.
  - We literally see the beams.
- In contrast, Frege defends a plant-in-the-seeds analyticity.
  - A statement can be analytic as long as it follows from basic axioms according to analyticity-preserving rules of inference.
  - Frege can handle statements that are not in subject-predicate form.
    - ‘I give a rose to Emily’
    - ‘Astrid walks with those with whom she strolls’
  - The latter sentence is analytic, true in virtue of the conceptual containments of its parts.

A Linguistic Distinction and an Epistemological Distinction

- Analyticity and syntheticity concern concepts, whatever we take them to be.
  - This distinction is linguistic or conceptual (or even psychological).
- The analytic/synthetic distinction is independent of the distinction between *a priori* justifications and empirical (or *a posteriori*) ones.
  - This distinction is epistemological.
- Snow is white.
  - We need to see particular snow in order to know that snow is white.
- 2 + 3 = 5
  - We need experiences with no particular objects in order to know that 2+3=5.
  - No empirical experiences with undermine that claim.
    - 2 cups of water plus 3 cups of salt
    - Two chickens added to three foxes

A Metaphysical Distinction

the necessary/contingent distinction

- Some claims hold necessarily, like mathematical claims.
- Other claims are merely contingent, like the claim that snow is white.
- Many philosophers typically, and traditionally, considered claims to be necessary only if they are believed *a priori*.
  - Kant makes that claim explicitly.
  - As Hume argued, one can not arrive at a necessary truth from contingent experiences.
- One might think that all *a priori* claims must be analytic.
  - One reasons to the truth of an analytic claim without appeal to experience.
- Similarly, one might align contingency with empirical justification and syntheticity.
  - A claim is contingent when it is justified by appeal to sense experience and it brings together concepts that are not necessarily related.
- Put aside the necessary/contingent distinction, since Hume and Kant agree on it.

Hume's Alignment

epistemology and semantics

- Relations of ideas are justified *a priori* and analytic.
  - and thus necessary
- Matters of fact are justified empirically (by tracing ideas back to initial impressions) and synthetic.
  - and thus contingent

	A priori	Empirical
Analytic	Relations of Ideas	--
Synthetic	--	Matters of Fact

Kant's Big Claim

	A priori	Empirical
Analytic	Logic/ Beams in the House	--
Synthetic	Most Mathematics, Metaphysics, and Some Physics	Empirical Judgments

- Metaphysics is possible, and it consists of synthetic *a priori* judgments.
- "Experiential judgments, as such, are one and all synthetic" (A7/B11, AW 725a).
  - Hume
- There are also synthetic claims that are not experiential.
  - Kant's innovation

Mathematical Synthetic *A Priori*

Mathematical propositions, properly so called, are always *a priori* judgments rather than empirical ones; for they carry with them necessity, which we could never glean from experience...It is true that one might at first think that the proposition 7 + 5 = 12 is a merely analytic one that follows, by the principle of contradiction, from the concept of a sum of 7 and 5. Yet if we look more closely, we find that the concept of the sum of 7 and 5 contains nothing more than the union of the two numbers into one; but in [thinking] that union we are not thinking in any way at all what that single number is that unites the two. In thinking merely that union of 7 and 5, I have by no means already thought the concept of 12; and no matter how long I dissect my concept of such a possible sum, still I shall never hind in it that 12. We must go beyond these concepts and avail ourselves of the intuition corresponding to one of the two... (B14-5, AW 726a).

Metaphysical Synthetic *A Priori*

- Every effect has a cause.
- The universality of the statement entails that it is not an empirical judgment.
- But, Kant claims that it is not an analytic judgment.
- “In the concept of something that happens I do indeed thing an existence preceded by a time, etc., and from this one can obtain analytic judgments. But the concept of a cause lies quite outside that earlier concept and indicates something different from what happens...” (A9/B13, AW 725b).

Physical Synthetic *A Priori*

- *"Natural science contains synthetic* a priori *judgments as principles*. Let me cite as examples just a few propositions: e.g., the propositions that in all changes in the corporeal world the quantity of matter remains unchanged; or the proposition that in all communication of motion, action and reaction must always be equal to each other" (B17-18, AW 726b).
- Such laws hold necessarily, and so can not be learned from experience.
- Kant's conception of physics is closer to that of Galileo and Descartes than it is to contemporary physicists.
- While some contemporary physics is highly speculative, it is generally held that a mark of a good theory is whether it is testable, or refutable, or otherwise confirmed or contravened by experimental results.
  - String theory
- Kant agrees that some portions of physics must be empirically testable.
- He also believes that certain physical principles are synthetic *a priori*.
- "Experience would provide neither strict universality nor apodeictic certainty..." (A31/B47, AW 733b).

Innate Ideas and Kantian Psychology

- Kant does not argue that innate ideas are built into our minds.
- He argues that there are certain cognitive structures that impose an order to our possible experience.
- The mind has templates for judgments, which are imposed and can be known *a priori*.
- Against those who defend innate ideas, it does not contain judgments themselves.
- If we look at our cognitive structures, turning our reason on itself, we can find the necessary structure of our reasoning, and grounds for synthetic *a priori* claims.
- That process, which Kant calls transcendental reasoning, is the essence of Kant's Copernican revolution.
- Kant's transcendental arguments lead to a description of our subjective conceptual framework, which nevertheless holds necessarily for all possible experience.

Philosophy 203
History of Modern Western Philosophy

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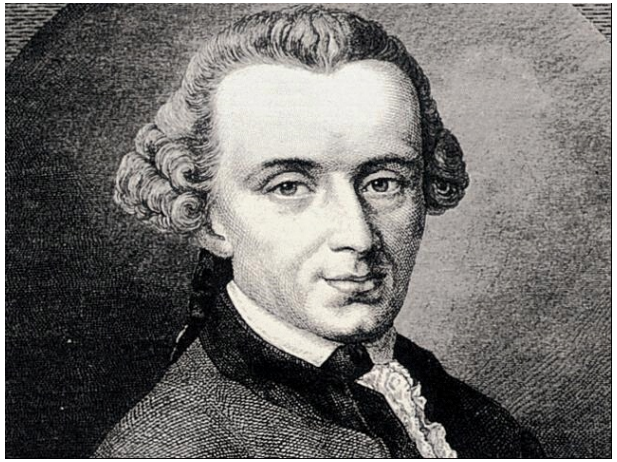
Spring 2011



Class 25 - April 26
The Transcendental Aesthetic

Review

Toward the Transcendental Aesthetic

- To make room for metaphysics, Kant argues that there are synthetic *a priori* judgments.
  - mathematics
  - physics
- Since these judgments are synthetic, and not analytic, they do not follow simply from conceptual analysis.
- Since these judgments are *a priori*, they can not be learned from experience.
  - Hume's claim that we can not learn them from experience led him to skepticism.
- Kant starts with the claim that we know them, and works backwards, or transcendentally, to the conditions that must obtain in order for us to have such knowledge.
- Such conditions will be the necessary structures of our logic, or reasoning.

The Transcendental Aesthetic and the Transcendental Analytic

- These two parts of the Critique correspond to two distinct functions of our psychology.
- The transcendental aesthetic
  - How objects, and the world, are given to us
- The transcendental analytic
  - How our minds understand, or determine, that which is given.
- We are presented, in sensibility, with a world having certain properties.
- We cognize that world, using understanding, according to certain concepts.
- By examining the properties that form the foundations of all our experiences, we will find the necessary properties of our experience.
- By examining the concepts that determine all our understanding, we will find the necessary properties of our thought.

The Transcendental Aesthetic

Intuition

- "The effect of an object on our capacity for representation, insofar as we are affected by the object, is *sensation*. Intuition that refers to the object through sensation is called *empirical* intuition. The undetermined object of an empirical intuition is called *appearance*" (A19-20/B34, AW 729b).
- Not all intuitions must be empirical.
- But, in empirical intuitions we can divide the matter from the form.
  - The matter is what corresponds to sensation.
  - If I am holding a pen and looking at it, I am given some appearance in intuition.
- Additionally, this appearance has certain abstract properties, a form, the particulars of which are unique to my experience of the pen, but which, in general, are properties of all such experiences.
- All experiences take place in space and in time.

Pure Intuitions

- “If from the representation of a body I separate what the understanding thinks in it, such as substance, force, divisibility, etc., and if I similarly separate from it what belongs to sensation in it, such as impenetrability, hardness, color, etc., I am still left with something from this empirical intuition, namely, extension and shape. These belong to pure intuition, which, even if there is no actual object of the senses or of sensation, has its place in the mind *a priori*, as a mere form of sensibility” (A20-1/B15, AW 730a).
- There are some intuitions in which there is no empirical matter.

Getting to Pure Intuitions

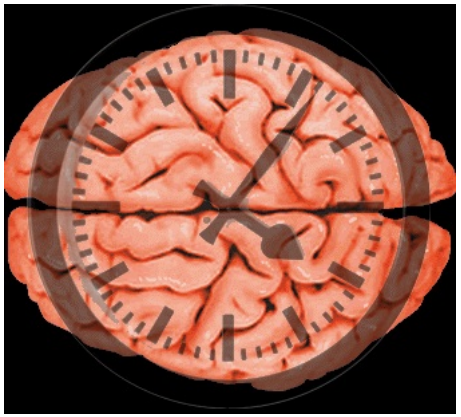
- We can consider pure intuitions by performing what might be thought of as Lockean abstraction.
  - The kind of abstraction that Berkeley did not disallow
  - The consideration of some properties of an idea, rather than others.
- Or, we can consider pure intuitions by thinking about intuitions without any matter.
- But however we arrive at our consideration of pure forms of intuition, Kant does not claim that our knowledge of space and time are derived from abstraction.
- We are discovering that knowledge of space and time is necessarily presupposed in any empirical intuition.
- The psychological process of abstraction is different from the transcendental argument.

Outer Sense

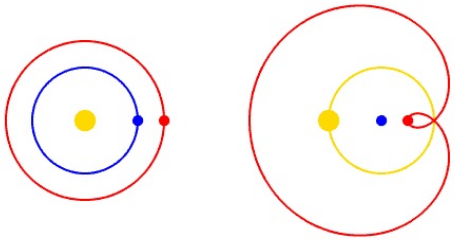
- There are two underlying forms of all intuitions: space and time.
- We represent objects as outside of us using our outer sense.
- All objects outside of us are represented as extended in space.
  - Space is the form of outer sense.
- "The representation of space must already be presupposed in order for certain sensations to be referred to something outside me (i.e. referred to something in a location of space other than the location in which I am)...We can never have a representation of there being no space, even though we are quite able to think of there being no objects encountered in it. Hence space must be regarded as the condition for the possibility of appearances..." (A23-4/B38-9, AW 730b-731a).

Inner Sense

- Similarly, time must be presupposed for all experiences.
- We represent objects according to our inner sense as in time.
  - Time is the form of inner sense.
- “Simultaneity or succession would not even enter our perception if the representation of time did not underlie them *a priori*”(A30/B46, AW 733a).



The Copernican Revolution



Intuition Installment

- Kant's argument for the presupposition of space and time recalls Plato's argument for the doctrine of recollection, or *anamnesis*.
  - In *Phaedo*, Plato argues that our knowledge of equality can not come from looking at equal things.
  - All things are unequal in some way.
  - Even if we were to find some perfectly equal things, like atoms, our concept of equality could not come from our experiences with them.
  - Thus, we must presuppose an idea of the equal in our claims that two objects are equal, and can not learn that concept from unequal objects.
- Kant: our experiences with objects presuppose that they are given in space and time.
- The idea of a possible experience occurring outside of space or time is nonsense.
- Instead of despairing of learning of space and time from experiences which presuppose it, Kant inverts his account to make space and time subjective forms of intuition.
- They are ways in which we structure the world of things in themselves, not ways in which the world exists in itself.

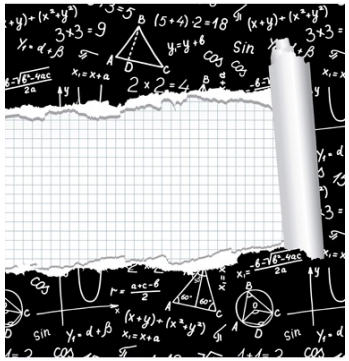
Hume's Influence

- Taking space and time to be forms of intuition, Kant extends Hume's claims about causation.
- Hume reinterpreted 'cause' as a mental phenomenon.
- Kant takes space and time to be forms of our intuition, rather than things in themselves.
- Consequently, Kant is able to take objects in space and time to be empirically real.
- "Our exposition teaches that space is *real* (i.e. objectively valid) in regard to everything that we can encounter externally as object, but teaches at the same time that space is *ideal* in regard to things when reason considers them in themselves, i.e., without taking into account the character of our sensibility. Hence we assert that space is *empirically real* (as regards all possible outer experience), despite asserting that space is *transcendentally ideal*, i.e., that it is nothing as soon as we omit [that space is] the condition of the possibility of all experience and suppose space to be something underlying things in themselves" (A28/B44, AW 732b).

Empirical Realism and Transcendental Idealism

- We can say nothing of the noumenal world of things in themselves.
  - not even that they are in space and time
- Berkeley's empirical (or material) idealism made the mistake of denying an outer, material world on the basis of the transcendence of the noumenal world.
- The rationalists, as transcendental realists, made the mistake of asserting knowledge of things in themselves.
- Kant's claim is that we can have significant knowledge of an external world (of appearances) without claiming any knowledge of the noumenal world.
- Space and time are properties of our representations of the world, and not the world as it is in itself.
- Space and time are real properties of empirical objects.

Geometry, Mechanics, and the Pure Forms of Sensibility



- Kant's transcendental exposition of space and time explains how we can have certainty of both geometry and pure mechanics.
- Geometry is the study of the form of outer sense, of pure, *a priori* intuitions of space.
- Pure mechanics is the study of the form of inner sense, time.
  - "Only in time can both of two contradictorily opposed determinations be met with in one thing: namely, *successively*. Hence our concept of time explains the possibility of all that synthetic *a priori* cognition which is set forth by the - quite fertile -general theory of motion" (A32/B48-9, AW 734a).
- Arithmetic, too, depends essentially on construing addition as successions in time.
- But, constructing numbers in intuition requires the synthetic unity of apperception behind the categories of the understanding.

From Intuition to Understanding

- Kant separates two faculties of cognition.
  - sensibility (the faculty of intuition)
  - understanding
- The faculty of intuition gives us appearances.
  - Appearances are the raw data, the content, of experience.
  - Our intuitions are passive.
- The raw data of intuition is processed in the understanding by the imposition of concepts.
  - "All our intuitions, as sensible, rest on our being affected; concepts, on the other hand, rest on functions. By *function* I mean the unity of the act of arranging various representations under one common representation" (A68/B93, AW 738b).
- This act of arranging what is given in intuition is what Kant calls synthesis of the manifold.
- This synthesis is then cognized by the structured application of concepts in the understanding.
- If the synthesis is empirical, then we have an ordinary empirical cognition.

Pure Synthesis

- If the synthesis is pure, then we can arrive at pure concepts of the understanding, which are nevertheless the conditions of possible experience.
- Intuition and understanding thus work together to produce experience.
- “Thoughts without content are empty; intuitions without concepts are blind” (A51/B76, AW 737b).
- The transcendental aesthetic consisted of Kant’s explications of the pure intuitions of space and time.
- The transcendental analytic is the much longer explication of the categories of the understanding, how we impose our conceptual apparatus on what is given in intuition.

Un-Cognized Appearances

- What is given in intuition is not necessarily structured by the understanding.
- We are given appearances in space and time, but without any conceptual structure.
- “Appearances might possibly be of such a character that the understanding would not find them to conform at all to the conditions of its unity. Everything might then be so confused that, e.g., the sequence of appearances would offer us nothing providing us with a rule of synthesis and thus corresponding to the concept of cause and effect, so that this concept would then be quite empty, null, and without signification. But appearances would nonetheless offer objects to our intuition; for intuition in no way requires the functions of thought” (A90-1/B 123, AW 744a).

Our Conceptual Apparatus

both subjective and objective

- In order to think about those appearances, we have to cognize them.
- We cognize using whatever conceptual apparatus we have.
- That conceptual apparatus is subjective, in that it belongs to us individually.
- But it is also objective, because the world of objects is precisely the world of appearances, what is given in intuition.

For Next Time

- The Transcendental Analytic
  - The deduction
- The most abstract properties of our thought

- Abstracting space and time, we find that the categories were presupposed.
- We do not, via abstraction, create the categories.
- We discover them already imposed on our experiences.
- "The *possibility of experience* is what provides all our *a priori* cognition with objective reality. Now experience rests on the synthetic unity of appearances, i.e., on a synthesis of appearances in general performed according to concepts of an object. Without such synthesis, experience would not even be cognition, but would be a rhapsody of perceptions" (A156/B195, AW 761a).
- The forms of intuition meet up with the categories of the understanding because they are both *a priori* impositions of the subject.
  - "Either experience makes these concepts possible, or these concepts make experience possible. The first alternative is not what happens as regards the categories (nor as regards pure sensible intuition). For they are *a priori* concepts and hence are independent of experience...The categories contain the grounds, on the part of the understanding, of the possibility of all experience as such" (B167, AW 755a-b).
- We don't know about the conditions on objects in the noumenal world.
- We do know that for us, experiences (i.e. appearances of objects in nature) must have certain abstract features.

Philosophy 203
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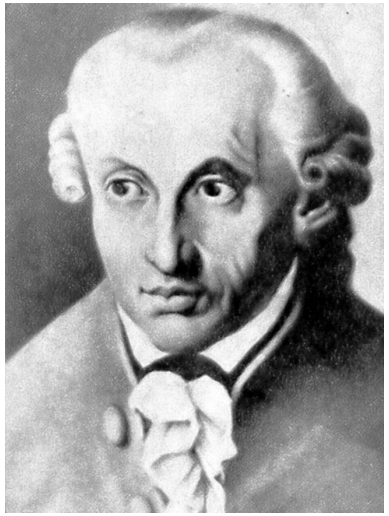


Class 27 - May 3
Overview of the Deduction
The Refutation of Idealism
The First Antinomy

Van Cleve on the Deduction

1. *The Unity Premise*: All representations of which I am conscious have the unity of apperception.

2. *The Synthesis Premise*: Representations can have such unity only if they have been synthesized.

3. *The Category Premise*: Synthesis requires the application of Kant's categories.

Conclusion: The categories apply to all representations of which I am conscious.

Unity and Synthesis

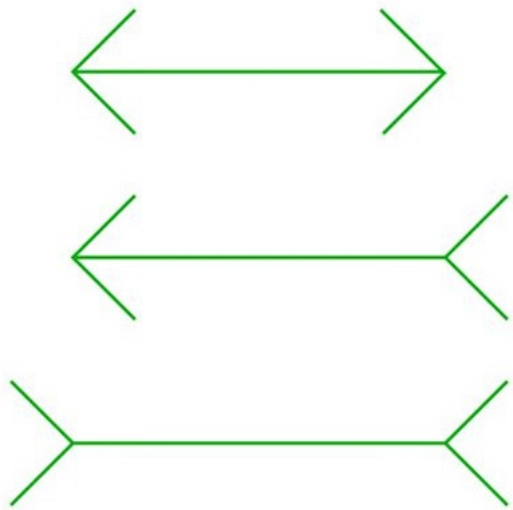
1. *The Unity Premise*: All representations of which I am conscious have the unity of apperception.

2. *The Synthesis Premise*: Representations can have such unity only if they have been synthesized.

3. *The Category Premise*: Synthesis requires the application of Kant's categories.

Conclusion: The categories apply to all representations of which I am conscious.

- The unity is both objective and subjective.
  - It is subjective because it is my unity.
  - "Just as appearances exist not in themselves but only relatively to the subject in whom the appearances inhere insofar as the subject has senses, so the laws exist not in the appearances but only relatively to that same being insofar as that being has understanding" (B164, AW 754b).
  - It is objective, since it represents to me external objects
  - "We must now explain how it is possible, through *categories*, to cognize *a priori* whatever objects *our senses may encounter* - to so cognize them as regards not the form of their intuition, but the laws of their combination - and hence, as it were, to prescribe laws to nature, and even to make nature possible" (B159-60, AW 753a).
- Contrast:
  - 'if I support this body, then I feel a pressure of heaviness'
  - 'this body is heavy'
- Since we have knowledge of physical laws, we are able to make the latter claim.
- Unless the subjective unity of apperception were also objective, we could only make the former claim.



Objectivity

- Relations among appearances are not merely arbitrary or accidental.
- We know of causal relations.
- Thus, we must be able to make objective claims about objects, not merely subjective claims.
  - Hume's skepticism was problematic precisely because we do know about causal relations.
  - Balls of uranium and balls of gold
- Intuitions become objects for an individual, but they are still objects.
- Instead of opposing subjectivity merely to objectivity, Kant is making a three-part distinction:
  - subjective
  - objective
  - transcendental/noumenal
- We are not making the noumenal world possible.
- But, nature is not a property or aspect of the noumenal world.
- It is a result of our structuring the raw data of experience that we are given in intuition.
- We can distinguish between fantasies and appearances.

The Category Premise

1. *The Unity Premise*: All representations of which I am conscious have the unity of apperception.
2. *The Synthesis Premise*: Representations can have such unity only if they have been synthesized.
3. *The Category Premise*: Synthesis requires the application of Kant's categories.

Conclusion: The categories apply to all representations of which I am conscious.

- Establishing the Category Premise is a long affair, taking Kant deep into the Analytic of Principles.
- Kant shows that the categories apply to all creatures that use intuition, that represent the world.
- Even my own existence is known only through the categories, only as an appearance.
  - "Although my own existence is not appearance (still less mere illusion), determination of my existence can occur only in conformity with the form of inner sense and according to the particular way in which the manifold that I combine is given in inner intuition" (B157-8, AW 752b).
- An infinite mind might work by direct awareness, not by representation.
  - That mind would have no use for the categories.
- Any pure concepts will only apply to objects of possible experience.
  - Mathematical propositions hold only for objects of possible experience.
  - "The pure concepts of the understanding, even when they are (as in mathematics) applied to *a priori* intuitions, provide cognition only insofar as these intuitions...can be applied to empirical intuitions... Consequently the categories cannot be used for cognizing things except insofar as these things are taken as objects of possible experience" (B147-8, AW 751a).

The Categories and Inner and Outer Sense

- When I turn the empirical intuition of a house into a perception by apprehending the intuition's manifold, then in this apprehension I presuppose the *necessary unity* of space and of outer sensible intuition as such; and I draw, as it were, the house's shape in conformity with this synthetic unity of the manifold in space. But this same unity, if I abstract from the form of space, resides in the understanding, and is the category of the synthesis of the homogeneous in an intuition as such, i.e. the category of *magnitude*. Hence the synthesis of apprehension, i.e. perception, must conform throughout to that category (B 162, AW 754a).
- This synthetic unity, as an *a priori* condition under which I combine the manifold of an *intuition as such*, is - if I abstract from the constant form of *my* inner intuition, i.e., from time - the category of cause; through this category, when I apply it to my sensibility, *everything that happens is, in terms of its relation, determined* by me *in time as such*. Therefore apprehension in such an event, and hence the event itself, is subject - as regards possible perception - to the concept of the *relation of effects and* causes; and thus it is in all other cases (B163, AW 754a).

Transcendental Discovery of the Categories

- Abstracting space and time, we find that the categories were presupposed.
- We do not, via abstraction, create the categories.
- We discover them already imposed on our experiences.
  - "The *possibility of experience* is what provides all our *a priori* cognition with objective reality. Now experience rests on the synthetic unity of appearances, i.e., on a synthesis of appearances in general performed according to concepts of an object. Without such synthesis, experience would not even be cognition, but would be a rhapsody of perceptions" (A156/B195, AW 761a).
- The forms of intuition meet up with the categories of the understanding because they are both *a priori* impositions of the subject.
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- We don't know about the conditions on objects in the noumenal world.
- We do know that for us, experiences (i.e. appearances of objects in nature) must have certain abstract features.

After the Transcendental Deduction

- Kant explains, or transcendentally deduces, all of the particular categories.
- Then, he shows how his transcendental idealism applies to a variety of traditional philosophical problems and paradoxes:
  - the question of the existence of an external world
  - whether space and time are absolute or relational
  - whether we have free will
- In some cases, Kant sides with the rationalists, claiming that we have knowledge.
  - certainty of mathematics
  - knowledge of an external world
- In other cases, Kant fins the rationalists' claims overly dogmatic, exceeding the limits of pure reason.

Three Last Topics in Kant's *Critique*

1. The refutation of idealism
2. Whether the universe is finite or infinite
3. The ontological argument for the existence of God

The Refutation of Idealism

Overview of the Refutation

- Kant argues that neither Berkeleyan idealism nor Humean skepticism are justified, given the conclusions of the Transcendental Analytic.
  - "**Theorem** The mere, but empirically determined, consciousness of my own existence proves the existence of objects in space outside me" (B275, AW 782a).
- First, Kant distinguishes between problematic idealism, which he attributes to Descartes, and dogmatic idealism, which he attributes to Berkeley.
  - The dogmatic idealist complains that space and time must be properties of the noumenal world.
  - But, since we can't know anything of the noumenal world, then we must have no knowledge of space and time.
- By taking space and time to be pure forms of intuition, Kant provides a context for rejecting dogmatic idealism.
  - We can take them to be objective properties without committing to knowledge of the noumenal world.
- Thus, the real problem for Kant is the problematic idealist.
  - The skeptic of the First Meditation
  - "Problematic idealism...alleges that we are unable to prove by direct experience an existence apart from our own...The proof it demands must...establish that regarding external things we have not merely *imagination* but also *experience*. And establishing this surely cannot be done unless one can prove that even our *inner* experience, indubitable

Tlumak's Version of the Refutation, Part I

1. I am judging.
2. Some act of judging is occurring.
3. Any act of judging is an act of consciousness or awareness.
4. Acts of consciousness or awareness are representative (have a content).
5. Awareness of the instantaneous is impossible.
6. So the content of awareness is non-instantaneous.
7. Any non-instantaneous content is a successive content, that is, a series of items occurring in an order, and not all at a single instant.
8. So judgmental awareness is of a succession of items.
9. Awareness of succession implies awareness of a plurality of items as a plurality - awareness of a diversity or manifold.
10. Awareness of a plurality of items as a plurality requires that the plurality be apprehended as a numerically identical collection over the time during which the awareness is occurring.
11. This identity of the manifold over time requires that the act of awareness of this identical manifold connect up or relate the various elements which comprise it, that is, be aware of all the elements together.
12. Such a connective awareness requires that earlier items in the series be recognized together with the later items, and that all the items be recognized as belonging to this unity over time.
13. Only a persisting, identical subject of awareness can be connective; a series or collection of diverse subjects of consciousness is incapable of such connective activity.
14. So any act of judgment requires a persisting judger.

Tlumak's Version of the Refutation, Part II

15. An identical judger must be able to be aware of his unity of consciousness.

16. But awareness of an objectless awareness itself is impossible. I can be aware of consciousness only by being aware of the object of consciousness.

17. So awareness of a persisting consciousness requires awareness of a persisting object of consciousness.

18. So awareness of succession requires awareness of something persisting.

19. This something persisting cannot be an item in the series, or of the succession, since only by being aware of it can I be aware of the series.

20. This series of items (of acts of representation) constitutes my mental life.

21. So the persisting something is not part of my mental life.

22. But if something is not part of my mental life, it is existentially and attributively independent of me.

23. And since it is something which I can perceptually identify and which persists, it is re-identifiable.

24. So the persisting something required for awareness of succession, which in turn is required for judging, is an objective particular.

25. So I am aware of an objective particular.

Philosophy 203
History of Modern Western Philosophy

Russell Marcus
Hamilton College
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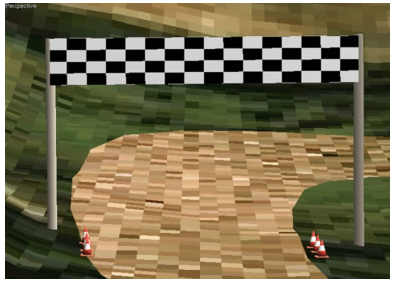
Class 28 - May 5
First Antinomy
On the Ontological Argument



Business

- I'm sorry that I don't have the papers, yet.
- Final Exam
  - Tuesday 7pm
- Review Session
  - Monday 10am
- Please complete your on-line course evaluations.
- I welcome personal comments about particulars of the course.

First Antinomy

Three Antinomies

- Kant presents three antinomies, or paradoxes, to supplant his claim that reason has limits.
- While some proper metaphysics can be established using synthetic *a priori* reasoning, other topics (e.g. God, free will) are beyond our ken.
- Our reason, wanting answers to such questions, speculates.
- The problem with such speculation is that we can argue on either side of the debate.
  - We can establish that the universe is infinite.
  - We can also establish that it is finite.
- Since such antinomies can not hold, Kant sees such proofs as demonstrating that reason has exceeded its limits.
  - We can commit such arguments to the flames.
    1. The temporal and spatial finitude of the universe
    2. The existence of simples (atoms, monads)
    3. Free will and determinism

For Finitude

- An infinite series can not be completed.
- If the universe existed from infinitely long ago, the present time would be the end of an infinite series.
- So, there must have been some beginning.
- For spatial finitude, Kant claims that the concept of simultaneity presupposes a spatially finite universe.
- If the universe were infinitely large, we could not think of all of the universe as existing simultaneously.

For Infinitude

- In Time
  - Creation is logically impossible.
  - If there were a beginning point, there would have to be something before it.
  - But, that time would have nothing in it, since the universe has not been created yet.
  - So the universe would have no way to begin.
- In Space
  - Imagine you were to go to the end of the universe.
  - Stick out your arm past the edge.
  - You could always perform this task.
  - Thus, the container has to be infinite.
- Remember, space is an *a priori* form of intuition, presupposed by all possible experience.

Resolving the Antinomy

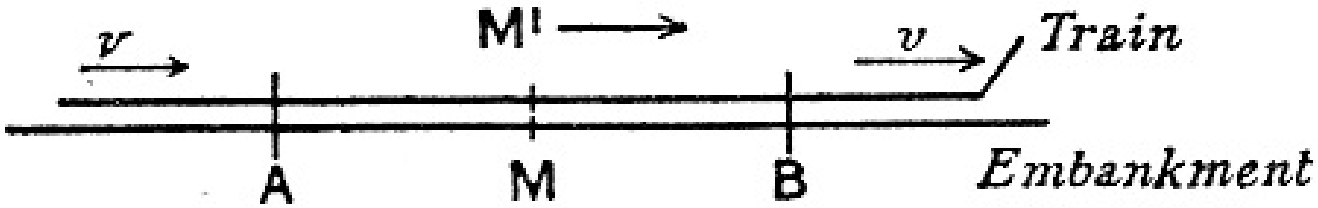
- Kant has argued, *a priori*, to both sides of a contradiction.
- He concludes that pure reason has exceeded its reach.
- There is no knowledge to be had of whether the universe is finite or infinite.
- Like a Humean empiricist, Kant concludes that we can not know any facts of the matter.

Are There Facts About Finitude?

- Kant assumes that claims about whether the universe is finite or infinite are matters for *a priori* metaphysical reasoning.
- But there are some mathematical and physical facts that undermine his claims.
- Kant: the universe must be spatially bound because otherwise we could have no definite concept of simultaneity.
- According to the theory of relativity, simultaneity and time itself are not definite concepts.
- They depend on the arbitrary choice of a frame of reference.

Einstein on Simultaneity

"Events which are simultaneous with reference to the embankment are not simultaneous with respect to the train, and vice versa (relativity of simultaneity). Every reference-body (co-ordinate system) has its own particular time; unless we are told the reference-body to which the statement of time refers, there is no meaning in a statement of the time of an event" (Einstein, *Relativity: The Special and General Theory*, Chapter IX).



Kant on Infinity

- Kant assumes an obsolete concept of infinity.
  - “The true (transcendental) concept of infinity is this: that the successive synthesis of unit[s] in measuring by means of a quantum can never be completed” (A432/B460, AW 793a).
- George Cantor’s work on transfinite numbers established that there are different sizes of infinity.
  - To count from one size of infinity to the next, we consider the smaller infinity as complete.
- We define a set to be infinite if it can be put into one-one correspondence with a proper subset of itself.
  - the integers and the even integers

Kant on Mathematics and Non-Euclidean Space

- Kant argues that we have *a priori* knowledge of Euclidean geometry arising from its role as a form of pure intuition assumed in all appearances.
- Kant: All space is necessarily Euclidean.
  - "Our exposition...establishes the *reality*, that is, the objective validity, of space in respect of whatever can be presented to us outwardly as object" (*Critique* B44/A28).
  - We construct our intuitions in Euclidean space.
  - Our knowledge of geometry is *a priori* knowledge of the necessary structure of space.
  - Our knowledge of arithmetic is *a priori* knowledge of the necessary structure of "combinatorial" aspects of space and time.
- But there are different kinds of space: Euclidean and non-Euclidean.
  - Consider an interstellar triangle.
  - The sum of its angles will not be 180°, due to the curvatures of space-time corresponding to the gravitational pull of the stars, and other large objects.
  - Space-time is not Euclidean, but hyperbolic.
- Given the different structures of space, Kant would have to argue that we can know, *a priori*, which space we are using in our intuition.

Kant on the Ontological Argument

Descartes's Ontological Argument

- Existence is part of the essence of the concept of God.
  - having angles whose measures add up to 180 degrees is part of the essence of a 'triangle'.
  - the concept of a mountain necessarily entails a valley.
- The essence of the concept of God is perfection.
  - the three omnis
  - existence

On Existence

- Gassendi said that existence is not a perfection, but no one believed him!
- “The idea of existence, then, is the very same with the idea of what we conceive to be existent. To reflect on any thing simply, and to reflect on it as existent, are nothing different from each other. That idea, when conjoined with the idea of any object, makes no addition to it. Whatever we conceive, we conceive to be existent. Any idea we please to form is the idea of a being; and the idea of a being is any idea we please to form” (Hume, *Treatise* §I.II.VI).
- Kant, following Hume, claims that existence is not a property in the way that the perfections are properties.
- Existence can not be part of an essence, since it is not a property.
- “A hundred real thalers do not contain the least coin more than a hundred possible thalers” (AW 822a).

Real (Determining) Predicates and Logical Predicates

- A logical predicate serves as a predicate in grammar.
- Any property can be predicated of any object, grammatically.
- The Statue of Liberty exists.
- Seventeen loves its mother.
- A real predicate tells us something substantive about an object.
- The Statue of Liberty is over 150 feet tall.

Existence is a grammatical predicate, but not a real predicate.
Grammatical form is not a sure guide to logical form.

Kant and Caterus

- Kant's objection accounts for the objection from Caterus
  - the necessarily existing lion
- Both urge us to distinguish concepts from objects.
- In predicating existence of a concept, we are just restating the concept.
- We are not saying anything about the object.

Is Existence a Predicate?

- Kant: existence is too thin to be a real predicate.
- We do not add anything to a concept by claiming that it exists.
- The real and possible thalers must have the same number of thalers in order that the concept match its object.
- So, we do not add thalers when we mention that the thalers exist.
- But, do we add something?

Debates About Existence

- The tooth fairy
- Black holes
- We seem to consider an object and wonder whether it has the property of existing.
- We thus may have to consider objects which may or may not exist.
- E.g. James Brown

Meinongian Subsistence

- Meinong attributes subsistence to fictional objects and dead folks.
- James Brown has the property of subsisting, without having the property of existing.
- Kant's claim that existence is not a real predicate, while influential, may not solve the problem.

The Fregean Argument for Kant's Solution

- First-order logic makes a distinction between predication and quantification.
- In our most austere language, existence is not a predicate.
- '$(\exists x)Gx$' or '$(\exists x)\ x=g$'
- Note the distinction between the concept (represented by the predicate or object) and existence (represented by the quantifier).

Kant and First-Order Logic

- First-order logic was developed a full century after Kant's work
- But, it uses the distinction he made between existence and predication.
- The quantifiers deal with existence and quantity
- The predicates deal with real properties, like being a god, or a person, or being mortal or vain.
- First-order logic is supposed to be our most austere, canonical language, the *Begriffsschrift*'s microscope.
- But, is first-order logic really the best framework for metaphysics?

The End