

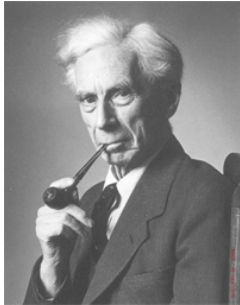
Introduction: Perception and a priori knowledge

Christian Wüthrich

<http://philosophy.ucsd.edu/faculty/wuthrich/>

15 Introduction to Philosophy: Theory of Knowledge
Spring 2010

Sir Bertrand Russell (1872-1970)



- graduated from Trinity College, Cambridge
- *Principia Mathematica* (1910-13), *The Problems of Philosophy* (1912)
- prolific writer, Nobel Prize in Literature in 1950
- one of the founders of modern analytic philosophy
- important contributions to logic, philosophy of mathematics, philosophy of language, epistemology, philosophy of science, ethics, philosophy of religion, political philosophy
- social activist; opposed British involvement in WW1, Soviet Union under Lenin and Stalin, nuclear arms, and American involvement in the Viet Nam war; jailed twice (2nd time at age 89!)

The Problems of Philosophy (1912)

This book is available for free at

<http://manybooks.net/titles/russellbetext04prphi10.html>

- Together w/ G E Moore, he was leading a revolt against the then dominant school in British philosophy, idealism; influential in the formation of “analytical philosophy”
- introduction to many of the basic problems of philosophy
- in particular, problems concerning our knowledge of the physical world
- anti-scepticism; realism concerning material objects and universals
- “representationalism”

XV. The Value of Philosophy

References to the 1997 edition by Oxford University Press, New York, NY.

The doubt arises

“whether philosophy if anything better than innocent but useless trifling, hair-splitting distinctions, and controversies on matter concerning which no knowledge is possible... If the study of philosophy has any value at all for others than students of philosophy, it must be only indirectly, through its effects upon the lives of those who study it. It is in these effects, therefore, if anywhere, that the value of philosophy must be primarily sought... It is exclusively among the goods of the mind that the value of philosophy is to be found; and only those who are not indifferent to these goods can be persuaded that the study of philosophy is not a waste of time.” (153f)

Characterization (Philosophy)

“Philosophy, like all other studies, aims primarily at knowledge. The knowledge it aims at is the kind of knowledge which gives unity and system to the body of the sciences, and the kind which results from a critical examination of the grounds of our convictions, prejudices, and beliefs.” (154)

Russell on science and philosophy

Philosophy, unlike science, has not had much “success in its attempts to provide definite answers to its questions.” (154)

“If you ask a mathematician, a mineralogist, a historian, or any other man of learning, what definite body of truths has been ascertained by his science, his answer will last as long as you are willing to listen. But if you put the same question to a philosopher, he will, if he is candid, have to confess that his study has not achieved positive results such as have been achieved by other sciences. It is true that this is partly accounted for by the fact that, as soon as definite knowledge concerning any subject becomes possible, this subject ceases to be called philosophy, and becomes a separate science.” (154f)

Examples: astronomy, psychology

“Thus, ... the uncertainty of philosophy is more apparent than real: those questions which are already capable of definite answers are placed in the sciences, while those only to which, at present, no definite answer can be given, remain to form the residue which is called philosophy.” (155)

Rarely, if ever, are the answers suggested by philosophy demonstrably true. “Yet, however slight may be the hope of discovering an answer, it is part of the business of philosophy...

- to continue the consideration of such questions,
- to make us aware of their importance,
- to examine all the approaches to them, and
- to keep alive that speculative interest in the universe which is apt to be killed by confining ourselves to definitely ascertainable knowledge.” (156)

What, then, is the value of philosophy?

“The value of philosophy is, in fact, to be sought largely in its very uncertainty. The man who has no tincture of philosophy goes through life imprisoned in the prejudices derived from common sense, from the habitual beliefs of his age or his nation, and from convictions which have grown up in his mind without the co-operation or consent of his deliberate reason... Philosophy, though unable to tell us with certainty what is the true answer to the doubts which it raises, is able to suggest many possibilities which enlarge our thoughts and free them from the tyranny of custom. Thus, while diminishing our feeling of certainty as to what things are, it greatly increases our knowledge as to what they may be; it removes the somewhat arrogant dogmatism of those who have never travelled into the region of liberating doubt, and it keeps alive our sense of wonder by showing familiar things in an unfamiliar aspect.” (156f)

Citizens of the universe

Philosophical contemplation...

“... enlarges not only the objects of our thoughts, but also the objects of our actions and our affections: it makes us citizens of the universe, not only of one walled city at war with all the rest. In this citizenship of the universe consists man’s true freedom, and his liberation from the thralldom of narrow hopes and fears.” (161)

In conclusion

“Thus, to sum up our discussion of the value of philosophy; Philosophy is to be studied, not for the sake of any definite answers to its questions, since no definite answers can, as a rule, be known to be true, but rather for the sake of the questions themselves; because these questions enlarge our conception of what is possible, enrich our intellectual imagination and diminish the dogmatic assurance which closes the mind against speculation; but above all because, through the greatness of the universe which philosophy contemplates, the mind also is rendered great, and becomes capable of that union with the universe which constitutes its highest good.” (161)

What is “epistemology”?

Metaphysics

study of what there is



Epistemology

study of what we
can know about it

A bit more specifically...

- word derives from Greek *episteme* (“knowledge” or “science”) and *logos* (“word”, “thought”, “reason”, “speech”, “discourse”, “explanation”)
- One could say that epistemology is concerned with three things:
 - ① *nature* of our knowledge: what *is* knowledge?
 - ② *sources* of knowledge: where do we get knowledge from?
Are the sources reliable, do they impart justification?
 - ③ *scope* of our knowledge: what are the limits of our knowledge?
- Related to all three levels, epistemology is concerned with the *justification* of knowledge.

A historical debate: rationalism v. empiricism

Rationalism

v.

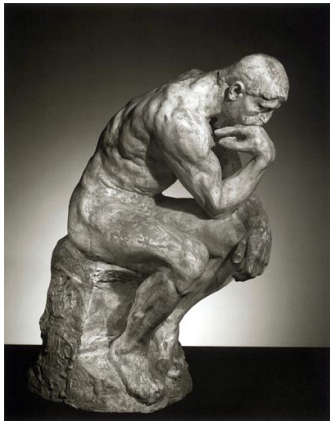
Empiricism

ultimate source of knowledge:

reason

experience

Rationalism



- reason is ultimate source of knowledge
- René Descartes (1596-1650)
- Baruch Spinoza (1632-1677)
- Gottfried Leibniz (1646-1716)
- For Descartes, ideally, by finding the essences of all things, one could then deduce from this knowledge all the mathematical laws needed to explain the physical world

René Descartes (1596-1650): rationalism



- *Meditationes de prima philosophia* (1641): systematic doubts concerning reliability of senses, certainty in “cogito, ergo sum”
- skeptical vantage point of Cartesian philosophy: **doubt**
- ultimate foundation: self-consciousness of doubting subject
- problem: this ego would be confined within the certainty of self-consciousness if it cannot re-establish connection to external world which has been destroyed by doubt
- solution: God

Gottfried Wilhelm Leibniz (1646-1716): rationalism



- pure sensory experience cannot be source of knowledge
 - addition to empiricist formula according to which is in reason which wasn't in the senses before: except reason itself, i.e. innate ideas and structures of apprehension
 - senses are condition for knowledge, but sense data only give rise to probable knowledge
 - knowledge based on reason, however, gives rise to certain knowledge
- ⇒ truths of reason: necessary (their contrary is impossible)
- ⇒ truths of fact: contingent (their contrary is possible)

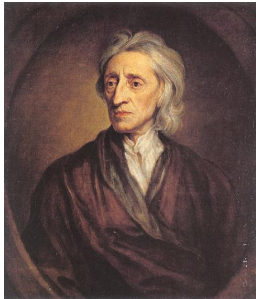
Empiricism



Figure: Louis-Leopold Boilly, Les Cinq Sens
(The Five Senses), 1823

- experience is ultimate source of knowledge
- John Locke (1632-1704)
- Bishop Berkeley (1685-1753)
- David Hume (1711-1776)
- Stress on the source of knowledge; no a priori synthetic truths

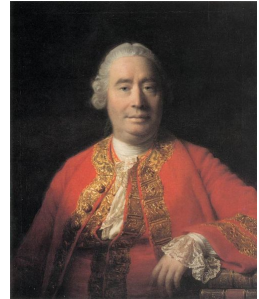
The British empiricists



John Locke (1632-1704)



George Berkeley (1685-1753)



David Hume (1711-1776)

Theories of perceptual knowledge

Huemer, "Perception", 27-31

Perception is an important source of justification and knowledge, so epistemology requires an account of perception which addresses the following questions:

- What is perception?
- What kind of things does perception make us aware of?
- Does perception enable us to gain knowledge about the external world?
- If so, how?

Historically, there have been at least four basic (families of) accounts of perception...

Four theories of perception

- 1 **Representationalism/indirect realism** (Locke, Russell, (Hume))
 - We are *directly* aware of mental states (ideas, impressions, sense data), but only *indirectly* aware of external objects.
 - mental images are “caused” by and “representations” of external objects
 - realism: external objects exist independently of our minds
- 2 **Direct realism** (Reid, Moore)
 - We are *directly* aware of external objects, i.e. our awareness of external objects does not depend on awareness of mental images.
 - We have immediate (non-inferential) knowledge of external world.
 - common sense approach
 - realism: external objects exist independently of our minds

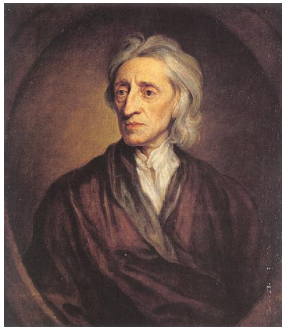
3 Idealism (Berkeley)

- There is no external world, no external objects independently of our minds.

4 Scepticism ((Hume))

- We cannot possibly know whether there exists an external world.
- Difference bw idealism and scepticism: idealist *denies* existence of external world, sceptic merely *suspends judgment* about the existence of external world.

John Locke (1632-1704): representationalism



- *Essay Concerning Human Understanding* (1690)
- main thesis: mind of newborn is blank slate (“tabula rasa”) and all ideas developed from experience, i.e. $\neg \exists$ innate ideas
- experience has two sources: **sensation** (direct sensory perception) and **reflection** (inner self-perception of mind)
- **primary qualities** proper to outer objects of perception (such as extension, shape, density, number) vs. **secondary qualities** representing sensations in subject (such as colour, taste, odour)
- knowledge has to do with internal relations among ideas, but is not of world itself

George Berkeley (1685-1753): idealism



- *A Treatise Concerning the Principles of Human Knowledge* (1710)
- experience producing ideas in us (like Locke), but not caused by external objects
- idealism: (physical) objects are nothing more than bundles of sense data in those who perceive them
- “Esse est percipi” (“To be is to be perceived”)
- reality is ultimately made up of mental objects, properties, and events
- perception is still source of knowledge of physical world

Berkeley's Idealism

Thesis (Idealism)

"[T]here is not any other Substance than Spirit, or that which perceives." (Treatise, §7)

"Proof": "an idea to exist in an unperceiving thing is a manifest contradiction, for to have an idea is all one as to perceive; that therefore wherein colour, figure, and the like qualities exist must perceive them; hence it is clear there can be no unthinking substance or *substratum* of those ideas." (ibid.)

Russell's paraphrase: "Whatever can be thought of is an idea in the mind of the person thinking it; therefore nothing can be thought of except ideas in minds; therefore anything else is inconceivable, and what is inconceivable cannot exist." (*The Problems of Philosophy*, p. 14)

David Hume (1711-1776)



- *A Treatise of Human Nature* (1739-40), *An Enquiry Concerning Human Understanding* (1748)
- advances arguments in favour of indirect realism as well as skepticism: thinks that there are external, mind-independent objects which are represented by our sensory images, but we can never be certain of this, i.e. this belief cannot be rationally defended
- But Hume also thinks that we don't **need** rational justification for all of our beliefs.
- cannot perceive necessary connections \Rightarrow belief in causal relation as psychological habit induced by **constant conjunction** of relata
- problem of induction

Hume's fork: scepticism

“When we run over libraries, persuaded of these principles, what havoc must we make? If we take in our hand any volume; of divinity or school metaphysics, for instance; let us ask, Does 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.iii.12)

Argument from illusion (against direct realism)

Cf. also Russell, *The Problems of Philosophy*, Ch. 1.

- table as we see it decreases in size as we recede from it, but real table of course is not affected by our movement.
- ⇒ *this house, that tree* are nothing but “fleeting representations of other existences” (ibid., 48); we perceive not the table, but only an **image** of the table

Russell's sense data theory: representationalism

Page references, as always when not stated otherwise, are to the Huemer volume.

- Argument similar to Hume's argument from illusion \Rightarrow distinction bw "appearance" and "reality"
 - illustration w/ example of painter who has to "unlearn the habit of thinking that things seem to have the colour which common sense says they 'really' have, and to learn the habit of seeing things as they appear." (65)
 - table doesn't have any particular color, there's no such thing as "the" color of the table; texture, shape etc: similar considerations apply (for both primary and secondary qualities)
- \Rightarrow "The real table, if there is one, is not **immediately** known to us at all, but must be an inference from what is immediately known. Hence, two very difficult questions at once arise; namely, (1) Is there a real table at all? (2) If so, what sort of thing can it be?" (66)

Sense data, sensation, and matter

Definition (Sense data)

“Let us give the name of ‘sense data’ to the things that are immediately known in sensation: such things as colours, sounds, smells, hardnesses, roughnesses, and so on.” (66)

Definition (Sensation)

“We shall give the name ‘sensation’ to the experience of being immediately aware of these things.” (66)

Definition (Matter)

“The real table, if it exists, we will call a ‘physical object’ [...] The collection of all physical objects is called ‘matter’.” (66)

- ⇒ Questions: what is the relation bw sense data and physical objects? And: can matter exist independently of our minds?
- Russell's (crude) characterization of idealism: "Whatever can be thought of is an idea in the mind of the person thinking of it; therefore nothing can be thought of except ideas in minds; therefore anything else is inconceivable, and what is inconceivable cannot exist." (67)
 - may use Descartes's method of systematic doubt to address second question above
 - Russell's conclusion will be: although we cannot strictly prove it, it is rational to assume existence of material objects.

How is existence of matter grounded?

- subjective, immediate experiences have most certainty
- ⇒ “solid basis from which to begin our pursuit of knowledge” (70)
- need material objects as the objective sameness which accounts for the similarity of our experiences
- “if there are to be public neutral objects, which can in some sense be known to many different people, there must be something over and above the private and particular sense-data which appear to various people. What reason, then have we for believing that there are such public neutral objects?” (70)
- testimony of other people about their sense data, plus laws of perspective and reflection of light \Rightarrow ? public neutral objects

- No, begs the question bc testimony consists of sense data.
- ⇒ We must find something in our own private experiences that implies or points to existence of public neutral objects.
- ⇒ We can never strictly **prove** existence of material objects (or of anything but ourselves and our experiences).
- Appeal to simplicity: solipsist scenario “less simple” hypothesis to account for facts of our own life than hypothesis that there are material objects which cause our sensations.
- **Inference to the best explanation**, explanatory inference (abductive inference) for realism about external objects.
- Cat example illustrates how assumption of existence of cat is simpler than a set of sense data.

Instinctive beliefs

- instinctive beliefs that there are objects corresponding to sense data simplify and systematize our experience
- whole building of knowledge can be built upon instinctive beliefs, and if they are rejected, nothing is left
- type of coherentist argument for hierarchy of instinctive beliefs when harmony of system justifies our acceptance of system
- We cannot have a reason to reject entire system except on grounds of another belief.

“Hence, by organizing our instinctive beliefs and their consequences, by considering which among them is most possible, if necessary, to modify or abandon, we can arrive, on the basis of accepting as our sole data what we instinctively believe, at an orderly systematic organization of our knowledge, in which though the *possibility* of error remains, its likelihood is diminished by the interrelation of the parts and by the critical scrutiny which has preceded its acquiescence.”
(72)

Kant's analytic-synthetic distinction

- **analytic statement** (explicative) is true or false in virtue of the meaning of terms it contains alone, regardless of state of world; according to Kant, concept of the subject contains the concept of the predicate (“All bachelors are unmarried”)
- truth of a **synthetic statement** (ampliative) depends on state of world (“All bachelors are bald”)
- **a priori** propositions/knowledge (independent of experience) vs. **a posteriori** propositions/knowledge (dependent on experience)
- Kant: \exists synthetic a priori knowledge, e.g. in elementary mathematics such as arithmetic

	analytic	synthetic
a priori	✓	✓
a posteriori	×	✓

A priori knowledge

- rationalists believe that \exists synthetic a priori knowledge
- empiricists deny this (by claiming either that there's no a priori knowledge at all, or that all a priori knowledge must be analytic)
- distinction: a priori vs. innate knowledge (= existing at birth)
- innate knowledge \subset a priori knowledge
- non-innate, a priori knowledge justified by faculty of reason
- distinction: belief **caused** by experience vs. **justified** by experience
- rationalism: \exists knowledge not justified by experience, although experience may have caused role in production of this knowledge

Plato (Πλάτων, 428/7-348/7 BCE)



- “The safest general characterisation of the European philosophical tradition is that it consists of a series of footnotes to Plato.” (Alfred North Whitehead, *Process and Reality*, 1929).
- framed many philosophical issues in epistemology, metaphysics, political philosophy, ethics
- philosophical work in forms of dialogues (early, middle, late)
- *Meno* is usually considered a transitional dialogue between the early and middle periods
- *Theaetetus*: what is knowledge? True judgment with an account (although even that is ultimately unsatisfactory)

Plato's Theory of Forms

- \exists realm of abstract objects called “Forms”
- these Forms exist independently from human mind, unchanging, eternal, perfect
- explain what multiple concrete, particular things have in common (“universals”)
- realm of Forms constitutes reality and is more perfect than dim reflection of it that humans experience and thus enables us to have concepts of perfect things (e.g. perfect circle)
- What we know as red is only afterimage or a corporeal display of the Form of Redness.
- Examples of virtues and bees: Socrates: “even if [the Xs] are many and various, they must still all have one and the same form which makes them [X].” (132)
- conceptual analysis should result in definition, i.e. the Form of what we're interested in

The “paradox of knowledge”

“Meno: And how are you going to search for [the nature of virtue] when you don’t know at all what it is, Socrates? Which of all the things you don’t know will you set up as target for your search? And even if you actually come across it, how will you know that it **is** that thing which you don’t know?” (134)

Characterization (Paradox of knowledge)

Either you do or do not know something particular. If you don’t know it, then how could you possibly recognize it when you see it? If you do know it, then you don’t need to look for it. So why should we bother attempting to gain knowledge?

Meno: Innate knowledge

- solution in the *Meno*: people have innate knowledge that they can recall
- exemplified in slave boy who “knows” geometrical principles, but must be helped in recovering them from memory
- Theory of Anamnesis (recollection): soul is immortal, being constantly reincarnated, knowledge is forgotten in shock of birth, learning is bringing back or recollecting this hidden knowledge in ourselves
- Socrates is not really teacher, but “midwife” aiding rebirth of knowledge

Question

How could an empiricist react to this account? How could a rationalist who doesn't believe in innate knowledge give an alternative explanation of the slave boy's “learning”?

Immanuel Kant (1724-1804): transcendental idealism



- one of the most influential thinkers of modernity, influence on both analytic as well as continental philosophy
- 1770: appointed Professor of Logic and Metaphysics at U of Königsberg, and briefly thereafter was awakened from his “dogmatic slumber” by Hume
- 1770-1781: silent decade
- 1781/7: *Critique of Pure Reason*
- influential work in metaphysics, epistemology, ethics, aesthetics, political philosophy, philosophy of religion

Critique of Pure Reason (1781/87)

- rational human agent at center of cognitive activity
- synthesis of rationalist and empiricist positions
- rational order of world cannot simply be accounted for by sense perceptions
- conceptual unification and integration by active mind using “precepts” (space, time) and following “categories of understanding” (cause, substance) operating on manifold of sense perceptions
- consequently, objective causal structure of world depends upon mind
- mind makes ineliminable constitutive contribution to knowledge

Synthesis of rationalism and empiricism

“There can be no doubt that all our knowledge begins with experience. (B 1)... Thoughts without content are empty, intuitions without concepts are blind. (B 75) [Sometimes paraphrased as ‘Concepts without percepts are empty, percepts without concepts are blind.’]... Thus all human knowledge begins with intuitions, proceeds from thence to concepts, and ends with ideas. (B 730)” (*Critique*)

Kant's synthetic *a priori*

- *a priori* principles indispensable for possibility of experience (in order to endow experience w/ certainty)
 - *a priori* knowledge delivers “precepts” (space, time) and “categories of understanding” (cause, substance) which operate (unify, integrate etc) on manifold of sense impressions and make experience possible
 - all our *a priori* speculative knowledge must ultimately rest on synthetic/ampliative statements
- ⇒ metaphysics contains synthetic *a priori* judgments (e.g. “Everything which happens has a cause.”)
- natural science (physics) contains synthetic *a priori* judgments as principles (e.g. conservation principles)

The model character of mathematics

- model of how far *a priori* knowledge can be extended beyond scope of experience: mathematics
- ⇒ mathematical judgments are all synthetic *a priori*
- arithmetic: “ $7 + 5 = 12$ ” is synthetic bc concepts of “7” and “5” do not contain concept of “12”
- analytic geometry: “straight line bw points is shortest” synthetic bc “straight” doesn’t contain quantitative information

Bertrand Russell: *The Problems of Philosophy*

Chs. 8-10

This book is available for free at
<http://manybooks.net/titles/russellbetext04prphi10.html>

VIII. How *a priori* knowledge is possible

- Kant deserves credit for:
 - ① having realized that we have synthetic *a priori* knowledge
 - ② having shown the relevance of a theory of knowledge
- empiricists: mathematical knowledge is derived by induction from particular instances
- Russell: this is inadequate bc (1) validity of inductive principle cannot be inductively known, and (2) we can have certain knowledge of mathematical truths without large inductive basis.
- problem: mathematical knowledge is **general**, whereas experience is always of **particulars**

Kant: two elements in all experience

- 1 one originating in object (which is essentially unknowable)
- 2 one due to our own nature

“[Kant] considers that the crude material given in sensation—the colour, hardness, etc.—is due to the object, and that what we supply is the arrangement in space and time, and all relations between sense-data which result from comparison or from considering one as the cause of the other or in any other way.” (154)

- phenomena are joint products of us and thing in itself
 - *a priori* knowledge does not apply outside of experience
- ⇒ we cannot know things in themselves

Russell's objection:

- “explanandum” (that which is to be explained) is our certainty that facts never fail to conform to logic and mathematics and certain categories
- mere attribution of *a priori* knowledge to us doesn't do the job
- there's no certainty that our nature will always remain constant bc it is a fact of external world
- this seriously undermines the certainty and universality of arithmetic propositions and other *a priori* knowledge
- when we judge that 7 plus 5 is 12, we are not making a judgment about our thought, but about the addition of actual or possible sets of seven and five members
- *a priori* knowledge is concerned with entities which don't exist on par with hands and trees
- these entities (such as properties) must nevertheless exist in world bc otherwise there would be no truth-makers of propositions such as “I am in my room”

IX. The world of universals

- What are these entities which have this different kind of existence, and in which sense is their existence different?
- Plato's thy of Forms as attempt to solve problems of universals
- “a **universal** will be anything which may be shared by many particulars, and has those characteristics which [...] distinguish justice and whiteness from just acts and white things.” (157)
- universals are properties/qualities (expressed by adjectives and substantives) and relations (expressed by verbs and prepositions)

Definition (Universals)

*“A **universal** is a property or relation that can be instanced, or instantiated, by a number of different particular things: each yellow thing provides an instance of the property of yellowness, and each square thing the property of being square. The things covered by a universal are thus similar in some respect.” (Simon Blackburn, Dictionary of Philosophy, Oxford (1994), 387)*

- Berkeley, Hume: denial of “abstract ideas”
- problem: what unites different particulars (e.g. white objects) must be determined by a resemblance relation **and this resemblance must itself be universal** (a relation)
- different kind of existence: **subsistence**
- subsistence is neither material nor mental, neither is it in space and time

X. On our knowledge of universals

- distinction of knowledge by acquaintance vs. knowledge by description
- knowledge of universals by acquaintance:
 - 1 sensible qualities
 - 2 relations holding bw different parts of single complex sense-datum (e.g. spatial relations bw parts of single page), spatial, temporal relations, resemblance, greater than...

A priori knowledge according to Russell

Thesis

All a priori knowledge deals exclusively with relations among universals.

Example:

- “Any two and any two are four.”
- “Any collection formed by two twos is a collection of four.”

⇒ we need no knowledge of particulars to understand what these propositions assert!

- **but:** no fact concerning anything capable of being experienced can be known independently of experience
- **general** props are *a priori*, but their application to particulars depends on experience
- difference bw *a priori* general props and empirical generalizations is **not in meaning**, but **in nature of evidence**
- e.g. all our knowledge about physical bodies is *a priori* bc no actual instance can be (immediately) given!
- summary of Russell's position in second to last paragraph on page 164