Philosophy 101: Introduction to Philosophy, Queens College, Spring 2005
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Lecture Notes, April 20

I. Matters of Fact and Relations of Ideas

Locke tried to provide an empiricist foundation for all of science.
See Book I, Chapter I, §1.
Berkeley showed that Locke's principles could not support materialism.
One might try to defend science as descriptive of the world of ideas, even though Berkeley would not.
Hume's claim is that the process of science itself is indefensible.
The problem for empiricists is even worse than Berkeley depicted.

While Hume urges getting rid of empty metaphysics, he does not urge burning the mathematics books.
He divides human reasoning into matters of fact, which are scientific, broadly construed, and relations of ideas, which are of mathematics and logic, p 15.
Matters of fact are a posteriori, contingent.
This is a philosophical use of the phrase, not used as in "as a matter of fact".
Relations of ideas are a priori, necessary, deductive.
They derive from the law of contradiction: anything whose denial entails a contradiction is necessarily true, p 11.
In logic, we represent the law of contradiction as 'not-(p and not-p)'.
Other contradictions: 'not (p = not-p)', and 'not (p <> p)'.
The denial of 7+5=12, for example, leads to a contradiction.

Consider $7 + 5 \neq 12$
Equals subtracted from equals yield equals.
Subtract 5 from each side.
You have: $7 \neq 7$
Since every object is self-identical, this is a contradiction.

II. Review questions from Hume Handout, I.

Questions 1-4 all refer to matters of fact.
Our knowledge of these can be traced to original impressions, according to Hume.
This turns out to be trickier than he thought.
The project was pursued in the 20th century by logical positivists, like Rudolph Carnap.
See A.J. Ayer, *Language, Truth, and Logic*.
We won't worry about it here.

Another complication has to do with our knowledge of ourselves.
Remember Berkeley's contortions over this problem.
Hume also thinks we have no impression of self.

Question 5 refers to a mathematical fact.
Mathematical sentences express relations of ideas.
Their denial is a contradiction.
Descartes had hypothesized that the reason we can know such sentences is that they are innate ideas.
For Hume, the meanings of words make these sentences true or false.
The classic example, “Bachelors are unmarried,” makes this clearer.

The first five examples are plausibly known.
What about the last three? Are they relations of ideas?

Questions 6 and 7 refer to physical laws.
While the sun does not actually rise, we use that sentence as shorthand for the rotation of the Earth on its axis.
This is not a relation of ideas.
The denial does not lead to a contradiction.

Compare denials of questions 5 and 6.
‘2+2=5’ is false because of the way the terms, or their referents, ‘2’ and ‘5’, are related.
‘The sun won't rise tomorrow’ is possible.
We thus can have no certainty that the sun will rise tomorrow, p 22.
We can not discover that the sentence is wrong by mere process of thought, as we can with relations of ideas.

III. Physical laws are matters of fact

Questions 6 through 8 are thus matters of fact.
Can we really know them to be true?
If they are matters of fact, they have to be traceable back to original sense impressions.
Scientific laws refer to causal connections between events.
But we have no sense impressions of the terms used.
We have experience of the events, but not their causes.
Effects are distinct from their causes, 17.
Examples: billiard balls, knife in flesh, gravity, Adam.
We have no experience of the cause.
We only see the effects.
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.
Thus we can not establish the truth of laws of nature, p 19.

All 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.

So 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.
This could be consistent with physical laws.
The problem is that the laws could suddenly shift, from what we think they are.
This is called Hume’s problem of induction.