Necessity, Analyticity, A Priori

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Lecture I

Definitions

Necessity is a *modal* notion: it has to do with how things might have been.

A true statement is **necessary** *if and only if* it could not have been false.
Otherwise it is **contingent.**

Analyticity is a *semantic* notion: it has to do with meanings.

A true statement is **analytic** *if and only if* its is true in virtue of the meanings of the words contained in it.
Otherwise it is **synthetic**.

A Priority is an *epistemic* notion: it has to do with knowledge and justification.

A true statement is **a priori** *if and only if* it can be known independently of experience.
Otherwise it is **a posteriori**.

(One could also look at false statements, but we will ignore this for simplicity's sake.)

Some true statements

(1) Cambridge is north of London.
(2) There are no motorways in Norfolk.
(3) Every brown horse is a horse.
(4) 5 + 7 = 12
(5) There is no largest prime number.
(6) All bachelors are unmarried.

Which of them are necessary / analytic / a priori?

In philosophy everything is controversial, but here are two ways to carve them up:

Contingent	**Necessary**
A Posteriori	**A Priori**
Synthetic	**Analytic**
(1), (2)	(3)-(6)

or

<table>
<tr><td>Contingent</td><td colspan="2">Necessary</td></tr>
<tr><td>A Posteriori</td><td colspan="2">A Priori</td></tr>
<tr><td>Synthetic</td><td>Analytic</td><td>Synthetic</td></tr>
<tr><td>(1), (2)</td><td>(3), (6)</td><td>(4), (5)</td></tr>
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The A Priori

A natural question: How could *anything* be known independently of experience? Don't we need experience to be able to even *think about* logic, mathematics, and unmarried bachelors?

An important distinction:

> *As far as time is concerned*, then, no cognition in us precedes experience, and with experience every cognition begins. But although all our cognition commences *with* experience, yet it does not on that account all arise *from* experience. (Kant, *Critique of Pure Reason*, B1)

In a *causal* sense, experience is arguably necessary to think about logic and mathematics. But this does not entail that the putative a priori statements of logic and mathematics are *justified* by means of experience.

Frege puts it even more memorably:

> […] I do not mean in the least to deny that without sense impressions we should be as stupid as stones, and should know nothing either of numbers or of anything else; but this psychological proposition is not of the slightest concern to us here. (Frege, *Foundations of Arithmetic,* §105)

To say that logic and mathematics are a priori thus does *not* entail that logical or mathematical concepts are *innate*. They might well be acquired through experience. But once we *have* the concepts we can supposedly come to know statements involving them a priori.

Analyticity

Warning: **Analyticity is messy**! Stay tuned for Quine's attack on the analytic/synthetic distinction.

The basic idea that some statements are true in virtue of meaning is pre-theoretically plausible. Contrast (2) with (6) for instance.

Theories of analyticity, however, come in very different forms, and they often disagree about *which* statements are analytic.

<u>Kant's conception of analyticity: Conceptual containment.</u>

> In all judgments in which the relation of a subject to the predicate is thought […] this relation is possible in two different ways. Either the predicate B belongs to the subject A as something that is (covertly) contained in this concept A; or B lies entirely outside the concept A, though to be sure it stands in connection with it. In the first case I call the judgment *analytic*, in the second *synthetic*. (Kant, *Critique of Pure Reason*, B10)

Sounds good for the unmarried bachelor case. But how about mathematics? Kant argues that arithmetical statements like 5+7=12 are *not* analytic, because the concept of *the sum of 5 + 7* does not contain the concept of *12* as a constituent.

Frege disagrees with Kant on the *scope* of analyticity: for him arithmetic *is* analytic. This follows from a different account of the *nature* of analyticity:

<u>Frege's conception of analyticity: Proof form Logical Laws</u>

> The problem becomes […] that of finding the proof of the proposition, and of following it up right back to the primitive truths. If, in carrying out this process, we come only on general logical laws and on definitions, then the truth is an analytic one […]. If, however, it is impossible to give the proof without making use of truths which are not of a general logical nature, but belong to the sphere of some special science, then the proposition is a synthetic one. (Frege, *Foundations of Arithmetic,* §3)

Two advantages: Frege's account also applies to statements not of the form *S is P*, like (5). And the slightly mysterious notion of conceptual containment is avoided.

But: What about the most general logical laws? Which ones are there, and how are they justified?

<u>Ayer's conception of analyticity: Linguistic Conventions</u>

> [Analytic propositions] simply record our determination to use words in a certain fashion. We cannot deny them without infringing the conventions which are presupposed by our very denial, and so falling into self-contradiction. (Ayer, *Language Truth and Logic,* chapter "The A Priori")

Idea: there are "rules which govern the use of language", and these rules are such that competent language users have to accept analytic statements.

Scope: Like Frege Ayer thinks that arithmetic is analytic. But whereas Kant and Frege held *geometry* to be a priori and synthetic, Ayer takes it to be analytic as well.

Empiricism and Its Discontents

How are a priority and analyticity related? The following is generally accepted:

> If a statement is analytic, then it is a priori.

But the reverse direction is very controversial:

> If a statement is a priori, then it is analytic.

Rationalist philosophers hold that there is *synthetic a priori* knowledge. In addition to mathematics and geometry, Kant for instance thought that it is a synthetic a priori truth that *every event has a cause*.

Empiricists like Hume, however, have famously been sceptical about such alleged philosophical a priori knowledge:

> When we go through libraries, convinced of these [empiricist] 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 about quantity or number?* No.

> *Does it contain any experiential reasoning about matters of fact and existence?* No. Then throw it in the fire, for it can contain nothing but sophistry and illusion. (Hume, *An Enquiry concerning Human Understanding,* §12.3)

Empiricists hold that all knowledge about the world is acquired through sensory experience. Synthetic a priori truths would give us knowledge about the world not mediated through experience, and must thus be rejected.

One might think that empiricists should be even more radical and reject *all* a priori knowledge, and maintain that *every* truth is a posteriori. But empiricists typically want to use logic and mathematics, which seems a priori.

Ayer thus uses the analyticity of logic and mathematics to *explain* why an empiricist can accept some a priori truths:

> […] the reason why [the propositions of logic and mathematics] cannot be confuted in experience is that they do not make any assertion about the empirical world. […] Our knowledge that no observation can ever confute the proposition '7 + 5 = 12' depends simply on the fact that the symbolic expression '7 + 5' is synonymous with '12' […]. And the same explanation holds good for every other *a priori* truth. (Ayer, *Language Truth and Logic,* chapter "The A Priori")

In a slogan: analytic a priori knowledge is acceptable because it is not really *about the world.*