After arguing that there is no legitimate distinction between analytic and synthetic statements, Quine considers the statement

“Everything green is extended” (i.e., extended in space)

and asks: is it analytic or synthetic? (524) He concludes that there is no answer to that question. This is a symptom of the illegitimacy of the analytic/synthetic distinction.

[7.2.5.] The Source of the Dogma.

So what is the source of the dogma that there is a distinction between analytic and synthetic statements?

It is obvious that truth in general depends on both language and extra-linguistic fact. The statement ‘Brutus killed Caesar’ would be false if the world had been different in certain ways, but it would also be false if the word ‘killed’ happened rather to have the sense of ‘begat.’ Hence the temptation to suppose in general that the truth of a statement is somehow analyzable into a linguistic component and a factual component. Given this supposition, it next seems reasonable that in some statements the factual component should be null; and these are the analytic statements. But, for all its a priori reasonableness, a boundary between analytic and synthetic statement simply has not been drawn. That there is such a distinction to be drawn at all is an unempirical dogma of empiricists, a metaphysical article of faith. (525)

Whether a given statement is true depends on both language (what its words mean) and fact (i.e., extra-linguistic fact, facts other than facts about language)

This suggests (incorrectly) “that the truth of a statement can be analyzed into a linguistic component and a factual component.”

This in turn suggests that there can be statements that don’t have a factual component, i.e., true statements the truth of which depends only on language, rather than on facts and language.

But this is false. Whether a statement is true depends on both language and extra-linguistic fact; however, it does not follow from this that there are true statements that are true only because of language.
Quine’s attack on reductionism begins when he considers the idea that sense experience can confirm (of “infirm” – i.e., disconfirm) a given statement. This was an idea shared by the Logical Positivists, who maintained the following distinction (by now familiar to us):

<table>
<thead>
<tr>
<th>cognitively meaningful statements</th>
<th>empirical meaning*</th>
</tr>
</thead>
<tbody>
<tr>
<td>logical meaning</td>
<td>scientific meaning</td>
</tr>
<tr>
<td>mathematics</td>
<td>history</td>
</tr>
<tr>
<td>logic</td>
<td>common-sense empirical</td>
</tr>
<tr>
<td>(i.e., the <strong>analytic a priori</strong>)</td>
<td>statements</td>
</tr>
<tr>
<td></td>
<td>(i.e., the <strong>synthetic a posteriori</strong>)</td>
</tr>
</tbody>
</table>

*Standard of empirical meaningfulness…

the **Verification Principle** (df.): A sentence $S$ is empirically meaningful if and only if $S$ is verifiable by experience, i.e., $S$ can be shown to be true or false by means of the senses.

He now asks about the relationship between a statement and the sense experiences that are supposed to confirm or disconfirm it: “What … is the nature of the relationship between a statement and the experiences which contribute to or detract from its confirmation?” (526)

[7.3.1.] Carnap’s Radical Reductionism.

One view (Quine says it’s the most naïve) of the relationship between a statement and the experiences that help to confirm or disconfirm it is:

**radical reductionism** (df.): every empirically meaningful statement is translatable into a statement about immediate experience.

As Quine indicates, this way of connecting meaningfulness to what is immediately given in experience goes back much farther than the Logical Positivists and their Verification Principle. It is something that unites the members of the philosophical tradition known as **empiricism**, according to which experience (as opposed to reason) is the only, or at least the most important, source of knowledge.

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1 Quine foreshadowed his “Two Dogmas” (1951) criticism of reductionism in our next reading, “On What There Is” (1948):

The physical conceptual scheme simplifies our account of experience because of the way myriad scattered sense events come to be associated with single so-called objects; still **there is no likelihood that each sentence about physical objects can actually be translated, however deviously and complexly, into the phenomenalistic language**. (151)
One common belief of empiricism is that a concept has meaning only if it derived from experience. Two members of this tradition mentioned by Quine are:

**John Locke** (1632-1704, English): *Essay Concerning Human Understanding*[^2]  
- A word used by a given speaker is meaningful iff it refers to an idea in that speaker’s own mind.

**David Hume** (1711-1776, Scottish): *Enquiry Concerning Human Understanding*[^3]  
- A word that does not correspond to a genuine idea (an idea that is a copy of an impression) is meaningless, “jargon.”

**Rudolf Carnap**: *The Logical Structure of the World*  
- His book is popularly referred to as “the Aufbau” (in German the title is: *Die Logische Aufbau die Welt*).  
- Carnap developed a system in which (he hoped) any empirically meaningful statement could be reduced to a logical construction consisting of statements about sense experience or sense data (like “Red here now”). He wanted not just to assert that synthetic statements could be reduced to statements about immediate sensory experience, but to actually show how this could be done.  
- An important change: Locke and Hume were occupied with the meanings of individual words, while Carnap was concerned to explain the meaning of individual statements.[^4]

So Carnap, as a representative of Logical Positivism (a.k.a. Logical Empiricism), is the prime example of a reductionist—or as Quine says, of a radical reductionist.

### [7.3.2.] Against “Moderate” Reductionism.

**Carnap later took this project to have been a failure and abandoned radical reductionism.**

But still, says Quine, reductionism is still hanging around in a less explicit, subtler form:

> The notion lingers that to each statement, or each synthetic [non-analytic] statement, there is associated a unique range of possible sensory events such that the occurrence of any of them would add to the likelihood of truth of the statement, and that there is associated also another unique range of possible sensory events whose occurrence would detract from that likelihood. This notion is of course implicit in the verification theory of meaning. (527)


[^4]: In a later article, “Naturalized Epistemology” (1969), Quine says that this shift from taking words as the basic unit of meaning to taking entire statements as the basic unit of meaning occurred before Carnap, in the work of Jeremy Bentham. See p.242 of your textbook.
In other words... despite the failure of Carnap’s radical reductionism, some philosophers still accept:

**moderate reductionism** (df.): for each synthetic (empirically meaningful) statement $S$, there corresponds some possible sense experience(s) that, were it (they) to occur, would increase the likelihood that $S$ is true. [“moderate reductionism” is my phrase, not Quine’s. I mean for it to contrast with his phrase “radical reductionism”. Quine himself describes this form of reductionism as “attenuated.”]

(This is similar to Ayer’s Verification Principle after Ayer specified that it involves *weak* verification rather than *strong* verification: what’s required by the Principle is not that there be possible sense experiences that would *conclusively prove* that a statement is true or false, but only that there be possible sense experiences that are *relevant* to showing that a statement is true or false.)

**Moderate reductionism implies that a solitary statement, considered by itself and apart from any other statement, can be supported (shown to be more likely to be true) or undermined (shown to be more likely to be false) by sense experience.**

In other words, it implies that a *single statement can be tested against experience all on its own.*

E.g. “There is an apple under this paper towel”—the empirical meaning of this one statement is a possible sense experience, perhaps the visual experience I would have were the napkin lifted—I would have the experience of a red (or green), roundish-object in space. The idea is that some possible sense experience could serve to confirm this single statement, considered on its own, apart from other statements.

Quine says that *individual statements cannot be confirmed or disconfirmed by themselves: “our statements about the external world face the tribunal of sense experience not individually but only as a corporate body.”* (527)

This is Quine’s so-called confirmation holism:

**confirmation holism** (df.): the view that entire theories, not individual statements, are confirmed (or disconfirmed) as a whole; single statements themselves cannot be confirmed or disconfirmed separately.

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5 A tribunal is something or someone that has the power of determining or judging, such as a court of law.

6 Ned Block uses the phrase “confirmation holism” to describe Quine’s position, in “Holism, Mental and Semantic,” an article in the *Routledge Encyclopedia of Philosophy*, URL=<http://www.nyu.edu/gsas/dept/philo/faculty/block/papers/MentalSemanticHolism.html> . I don’t know who coined this phrase. The idea is also sometimes called the Quine-Duhem thesis; Quine refers to Pierre Duhem in this regard in footnote 9 of “Two Dogmas.”
Here’s an example to illustrate Quine’s confirmation holism:7

- Suppose that scientists come across a strange physical substance.
- They conjecture that the substance has a specific chemical composition, say XYZ.
- They already believe that anything that has composition XYZ will turn green when heated to 200°.
- So they set out to test whether the new substance is XYZ by heating it to 200° F; they heat it and observe the results.
- Suppose that it doesn’t turn green... **What have they confirmed or disconfirmed?**

<table>
<thead>
<tr>
<th>It might seem that they have confirmed that the substance is not XYZ…</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>But this is NOT the case:</strong></td>
</tr>
<tr>
<td>• their belief that <em>every instance of XYZ turns green when heated to 200° F</em> may be false -- this may be an instance of XYZ that does not turn green when raised to 200° or...</td>
</tr>
<tr>
<td>• their belief that <em>they have heated this strange substance to 200° may be false</em> (it is possible that their thermometer is broken and they only heated it to 150°)</td>
</tr>
<tr>
<td>• their belief that <em>their own eyes are functioning properly</em> may be false (it is possible that the substance was in fact heated to 200° and did in fact turn green, but they simply are not seeing that it has changed to that color!)</td>
</tr>
<tr>
<td>• most radically, even their belief in <em>the principle of excluded middle</em> (either p or not-p, or either S is P or S is not P) could turn out to be false! (it is possible that the substance is neither XYZ nor not-XYZ!)</td>
</tr>
</tbody>
</table>

So an assumption of Carnap’s radical reductionism and of a more moderate reductionism turns out to be **false**: the assumption that **for any synthetic statement, there is one or more sense experiences that count as the sense experience(s) that would show that statement, considered on its own, to be true or false.**

[7.3.3.] The Connection Between the Two Dogmas.

**Moderate reductionism supports the view that there is a clear distinction between analytic statements and synthetic ones:**

as long as it is taken to be significant in general to speak of the confirmation and infirmation of a statement [as opposed to an entire theory or set of statements], it seems significant to speak also of a limiting kind of statement which is vacuously confirmed, *ipso facto*, come what may; and such a statement is analytic. (528)

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In other words …

If we accept

**moderate reductionism**
which implies that we can confirm or disconfirm statements
by way of sense experience
one at a time, in isolation from other statements

then it makes sense to think that
there are individual statements that will be confirmed
come what may, no matter what
sense experiences we have, i.e., that
there are analytic statements.

Eventually Quine concludes that **the two dogmas are really one:**

The two dogmas are, indeed, at root identical. We lately reflected that in general the truth of statements does obviously depend both upon language and upon extra-linguistic fact; and we noted that this obvious circumstance carries in its train, not logically but all too naturally, a feeling that the truth of a statement is somehow analyzable into a linguistic component and a factual component. The factual component must, if we are empiricists, boil down to a range of confirmatory experiences. In the extreme case where the linguistic component is all that matters, a true statement is analytic. But I hope we are now impressed with how stubbornly the distinction between analytic and synthetic has resisted any straightforward drawing. I am impressed also, apart from prefabricated examples of black and white balls in an urn, with how baffling the problem has always been of arriving at any explicit theory of the empirical confirmation of a synthetic statement. My present suggestion is that it is nonsense, and the root of much nonsense, to speak of a linguistic component and a factual component in the truth of any individual statement. Taken collectively, science has its double dependence upon language and experience; but this duality is not significantly traceable into the statements of science taken one by one.

… The unit of empirical significance is the whole of science. (528)

In summary:

- All of our scientific knowledge (which previous philosophers have characterized as “synthetic”) depends on *both* language and experience.
- But this does not mean, nor is it true, that in a true statement, there is a linguistic component and a factual component that can be isolated from one another and that somehow work together to make the statement true.
- **An individual statement, considered in isolation from every other statement, does not mean anything,** and neither does an individual word considered apart from the rest of our language. The **smallest unit of meaningful language is the whole of science itself.**

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8 By 1969’s “Epistemology Naturalized,” Quine’s view seems to have softened a bit. He has come to acknowledge that there are “observation sentences” that are “minimal verifiable aggregate[s]” of language. See p.249 of your textbook.
[7.3.4] Quine’s Pragmatism.

Quine maintains that any belief could be held to be true in the light of any experiences whatsoever, if we are willing to make the needed changes to other beliefs in our “web of belief”.

As we have already seen, in the above example, we could continue to believe that the substance is XYZ even if it doesn’t turn green by maintaining that our eyes are malfunctioning, or that we are hallucinating.

If any number of beliefs can be “adjusted” (accepted as true or rejected as false) to accommodate experiences, how should we decide which one(s) to adjust? Quine suggests an answer at the end of “Two Dogmas”:

Each man is given a scientific heritage [a collection of beliefs already held to be true] plus a continuing barrage of sensory stimulation; and the considerations which guide him in warping [changing] his scientific heritage to fit his continuing sensory promptings are, where rational, pragmatic. (530)

He suggests two pragmatic considerations that we use for determining how to adjust our collection of beliefs to accommodate new experiences:

1. “conservatism”: change your beliefs only as much as absolutely necessary to accommodate the new experience; conserve as many of our existing beliefs as possible;
2. “simplicity”: keep your beliefs (including your scientific theories and your metaphysical commitments) as simple as possible (this is a reflection of Quine’s commitment to Ockham’s Razor—we will talk more about this when we discuss “On What There Is.”).

(There may be other considerations that are not rational, e.g., emotional considerations.)

This is why Quine says at the beginning of the article that an effect of rejecting the two dogmas is “a shift toward pragmatism.” (518)

Stopping point for Wednesday November 12. For next time, begin reading Quine, “On What There Is,” pp.143-147 (to the end of the first full paragraph on 147).

Here are some questions to help guide you through this article:

1. What is the problem that Quine calls “Plato’s beard”?
2. How does McX solve that problem, and why does Quine think that he is mistaken?
3. How does Wyman solve that problem, and why does Quine think that he is mistaken, as well?
4. How does Quine think we should solve the problem?

9 There is a longer story here than we have time for. Very briefly, Quine is hinting that his view of confirmation places him in a tradition called pragmatism, which originated with the work of the American philosophers Charles Peirce (1839-1914) and William James (1842-1910). Quine mentions Peirce as someone who accepted a form of “the verification theory of meaning” (526). It is debatable, though, whether Peirce should really be viewed as a partisan of verificationism, and it is also debatable how accurate it is to view Quine as a member of the tradition of pragmatism. That tradition is the subject of PHIL 3120, American Philosophy, which is being taught in spring 2015.