LANGUAGE, TRUTH, AND LOGIC
A.J. AYER
Where do Ayer and Russell agree?

• All ordinary things can be reduced to (constructed out of) sense data.

• This is accomplished by translating empirical statements into statements about sense-contents (a.k.a. sense-data)

• If you can’t do this with a statement, then it is not about anything.

• A crucial way of solving philosophical problems is to declare them meaningless.
Where do Ayer and Russell disagree?

• Ayer thinks that much more of philosophy is nonsensical than Russell does: metaphysics, ethics, religion, etc.

• The purpose of philosophy is critical: we should seek out and condemn nonsense, not merely show how truths can be true.

• The truth of a sentence and the meaningfulness of a word aren’t about corresponding to things. They’re about verifiability.
“The criterion which we use to test the genuineness of apparent statements of fact is the criterion of verifiability.”
“We say that a sentence is factually significant to any given person, if, and only if, he knows how to verify the proposition which it purports to express—that is, if he knows what observations would lead him, under certain conditions, to accept the proposition as being true, or reject it as being false.”
“If, on the other hand, the putative proposition is of such a character that the assumption of its truth, or falsehood, is consistent with any assumption whatsoever concerning the nature of his future experience, then, as far as he is concerned, it is, if not a tautology, a mere pseudo-proposition. The sentence expressing it may be emotionally significant to him; but it is not literally significant.”
“...the question that must be asked about any putative statement of fact is not, ‘Would any observations make its truth or falsehood logically certain?’, but simply, ‘Would any observations be relevant to the determination of its truth or falsehood?’ And it is only if a negative answer is given to this second question that we conclude that the statement under consideration is nonsensical.”
Some Examples of Philosophical Nonsense:

• “the assertion that the world of sense-experience is altogether unreal”

• the “dispute concerning the number of substances that there are in the world”

• “the controversy between realists and idealists, in its metaphysical aspect”

• The idea that existence and fictitiousness are properties that things can possess
Oh and also these:

• the idea that universals (and other abstract objects) exist

• all religious doctrines

• all ethical principles
“...the postulation of real non-existent entities results from the superstition...that, to every word or phrase that can be the grammatical subject of a sentence, there must somewhere be a real entity corresponding. For as there is no place in the empirical world for many of these ‘entities’, a special non-empirical world is invoked to house them. and universals whose senselessness, though complete.”
“To this error must be attributed, not only the utterances of Heidegger, who bases his metaphysics on the assumption that ‘Nothing’ is a name which is used to denote something peculiarly mysterious, but also the prevalence of such problems as those concerning the reality of propositions universals whose senselessness, though less obvious, is no less complete.”
Two kinds of meaningful sentences:

- **Synthetic sentences**
  (It passes the verifiability test: some possible experiences could either confirm it or disconfirm it.)
e.g.: propositions about tables, other people, their minds, the self, my own sensations

- **Analytic sentences**
  (Its truth or falsity are guaranteed by the rules of language alone. It is true in virtue of its meaning.)
e.g.: propositions of logic, math, and definitions for translating empirical sentences into sentences about sense-data.
“The problem of giving an actual rule for translating sentences about a material thing into sentences about sense-contents, which may be called the problem of the ‘reduction’ of material things to sense-contents, is the main philosophical part of the traditional problem of perception.”
“When we say that analytic propositions are devoid of factual content, and consequently that they say nothing, we are not suggesting that they are senseless in the way that metaphysical utterances are senseless. For although they give us no information about any empirical situation, they do enlighten us by illustrating the way in which we use symbols.”
Logical Positivism (e.g. Ayer)

Statements about physical objects

LOGICAL CONSTRUCTION

Statements about sense-contents
Logical Positivism (e.g. Ayer)

- **Analytic Statements**
  - Statements about physical objects
- **Synthetic Statements**
  - Statements about sense-contents

**Logical Construction**
Logical Positivism (e.g. Ayer)

Russell’s “Hard Data”

Analytic Statements

LOGICAL CONSTRUCTION

Synthetic Statements

Russell’s “Soft Data”

Statements about physical objects

Statements about sense-contents
Quine’s “Two Dogmas”

1. The analytic/synthetic distinction
2. The idea that everything reduces to sense-data.

Quine thinks both are bogus.
The philosopher’s task differs from the others’...in detail, but in no such drastic way as those suppose who imagine for the philosopher a vantage point outside the conceptual scheme he takes in charge. There is no such cosmic exile. He cannot study and revise the fundamental conceptual scheme of science and common sense without having some conceptual scheme, whether the same or another no less in need of philosophical scrutiny, in which to work. He can scrutinize and improve the system from within, appealing to coherence and simplicity, but this is the theoretician’s method generally.

Quine, *Word & Object*, pp.275–6
Quine’s Argument

Sure, the following concepts can all be defined in terms of each other:

analyticity, meaning, intension, synonymy, self-contradictoriness, definition, necessity...

But these definitions aren’t helpful, because all these notions are all equally mysterious and scientifically unrespectable.
Analyticity, Proposal 1

Analytic truths are statements whose negation would be self-contradictory.

*Quine:*
We don’t have a good definition of ‘self-contradictory’, so this definition doesn’t help. (p.20)
Analyticity, Proposal 2

An analytic statement “attributes to its subject no more than is conceptually contained in the subject” (Kant).

Quine:
—Some statements aren’t subj–pred.
—‘Containment’ is a metaphor here.
Analyticity, Proposal 3

“A statement is analytic when it is true by virtue of meanings and independently of fact.”

Quine:
In order to evaluate this statement, we would need to know what meanings are.
Meaning, Proposal 1

An expression’s meaning is the thing it names/refers to. (cf. Russell)

Quine:
This can’t be right because two expressions can name the same thing but different meanings.
e.g. ‘Hesperus’ and ‘Phosphorus’
Extension vs. Intension
(a.k.a. reference, denotation)  (a.k.a. meaning, connotation)
Extension
(a.k.a. reference, denotation)

the extension of a name is the thing it refers to

e.g. ‘Obama’ refers to

Intension
(a.k.a. meaning, connotation)

Names with the same bearer can have different meanings.

e.g. ‘Ol Dirty Bastard’ vs. ‘Big Baby Jesus’
Extension
(a.k.a. reference, denotation)

the extension of a general term is the set of things it’s true of

‘blue’ refers to the set of blue things

Intension
(a.k.a. meaning, connotation)

General terms with the same extension can have different intensions.

‘creature with a heart’ vs. ‘creature with a kidney’
Therefore meaning ≠ reference

So is there any way of clarifying the notion of meanings in order to make it scientifically respectable?

Quine says no.
Meaning, Proposal 2

An expression’s meaning is an idea—either mental (concepts) or Platonic (universals)

Quine:
“Objects of either sort are so elusive, not to say debatable, that there seems to be little hope of erecting a fruitful science about them” (22).
“It is not even clear, granted meanings, when we have two and when we have one; it is not clear when linguistic forms should be regarded as synonymous, or alike in meaning, and when it should not. If a standard of synonymy should be arrived at, we may reasonably expect that the appeal to meanings as entities will not have played a very useful part in the enterprise” (22).
“Once the theory of meaning is sharply separated from the theory of reference, it is a short step to recognizing as the business of the theory of meaning simply the synonymy of linguistic forms and the analyticity of statements; meanings themselves, as obscure intermediary entities, may well be abandoned.” (22–3).
What does Quine mean by the following statements?

1. “...our statements about the external world face the tribunal of sense experience not individually but only as a corporate body.”

2. “...total science is like a field of force whose boundary conditions are experience.”
Analyticity, Proposal 4

A statement is analytic if “it can be turned into a logical truth by putting synonyms for synonyms”

Quine:
This definition depends on the notion of synonymy, which is just as problematic as analyticity.
Synonymy, Proposal 1

Two expressions are synonymous when one can be defined using the other.

Quine: The notion of definition presupposes the notion of synonymy, which we’ve just said is mysterious.
“…‘bachelor’, e.g., is defined as ‘unmarried man’. But how do we find that ‘bachelor’ is defined as ‘unmarried man’? Who defined it thus, and when? Are we to appeal to the nearest dictionary, and accept the lexicographer’s formulation as law? Clearly this would be to put the cart before the horse. The lexicographer is an empirical scientist, whose business is the recording of antecedent facts; and if he glosses ‘bachelor’ as ‘unmarried man’ it is because of his belief that there is a relation of synonymy between these forms, implicit in general or preferred usage prior to his own work. The notion of synonymy presupposed here has to be clarified, presumably in terms relating to linguistic behavior.” (22–3).
Synonymy, Proposal 2

Two expressions are synonymous when one can be substituted for the other in sentences following “necessarily...” such that the truth of the whole is preserved.

Quine:
This notion of necessity is just the same old notion of analyticity in disguise.
Normally, expressions with the same extensions can be substituted without changing truth values:

Ol Dirty Bastard was a member of Wu Tang.  
Big Baby Jesus was a member of Wu Tang.

John is a creature with a heart.  
John is a creature with a kidney.
But this isn’t generally true in the context of words like ‘necessarily...’:

Necessarily, Obama is Obama.
Necessarily, the US president in 2014 is Obama.
Necessarily, creatures with kidneys have kidneys.
Necessarily, creatures with hearts have kidneys.
Words like ‘necessarily’ are “intelligible only if the notion of analyticity is already clearly understood in advance” (30)
Digression on formal languages (like those of logic) (pp.31–34):

We can stipulate the rules of these languages, and so we can stipulate which sentences are analytic. But either:

(a) we’re using ‘analytic’ in the same way as usual (in which case this doesn’t help us to understand it); or

(b) we’re using ‘analytic’ as a stipulated technical term (in which case this point has no bearing on natural languages)
Synonymy, Proposal 3

The meaning of a statement is its method of verification. Two statements are synonymous if they could be verified in all and only the same ways.

Quine:
Statements cannot be verified in isolation.
The Quine–Duhem Thesis
(a.k.a. confirmation holism)

Statements cannot be confirmed (verified) in isolation, but only relative to other background assumptions.
“…our statements about the external world face the tribunal of sense experience not individually but only as a corporate body.”
“The dogma of reductionism, even in its attenuated form, is intimately connected with the other dogma: that there is a cleavage between the analytic and the synthetic. We have found ourselves led, indeed, from the latter problem to the former through the verification theory of meaning. More directly, the one dogma clearly supports the other in this way: as long as it is taken to be significant in general to speak of the confirmation and infirmation of a statement, 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.

The two dogmas are, indeed, at root identical.”
Themes of Quine’s Objections

• Semantic notions (meaning, analyticity, synonymy, definition, necessity, etc.) may be inter-definable, but they’re all equally mysterious.

• Since language is itself part of the empirical world, and statements about language are themselves empirical hypotheses, we shouldn’t pretend that they’re anything else.

• Because sentences can’t be verified in isolation, they can’t be translated into verification conditions one-by-one. We have to be holists.
“The totality of our so-called knowledge or beliefs, from the most casual matters of geography and history to the profoundest laws of atomic physics or even of pure mathematics and logic, is a man-made fabric which impinges on experience only along the edges.”

p.39
The Web of Belief

that I am seeing something beige

that 2+2=4

that I am seeing something beige
“Or, to change the figure, total science is like a field of force whose boundary conditions are experience. A conflict with experience at the periphery occasions readjustments in the interior of the field. Truth values have to be redistributed over some of our statements. Re-evaluation of some statements entails re-evaluation of others, because of their logical interconnections—the logical laws being in turn simply certain further statements of the system, certain further elements of the field.”
“But the total field is so undetermined by its boundary conditions, experience, that there is much latitude of choice as to what statements to re-evaluate in the light of any single contrary experience. No particular experiences are linked with any particular statements in the interior of the field, except indirectly through considerations of equilibrium affecting the field as a whole.”

pp.39–40
“If this view is right, it is misleading to speak of the empirical content of an individual statement—especially if it be a statement at all remote from the experiential periphery of the field.”
“Furthermore it becomes folly to seek a boundary between synthetic statements, which hold contingently on experience, and analytic statements which hold come what may. Any statement can be held true come what may, if we make drastic enough adjustments elsewhere in the system. Even a statement very close to the periphery can be held true in the face of recalcitrant experience by pleading hallucination or by amending certain statements of the kind called logical laws. Conversely, by the same token, no statement is immune to revision.”
Pre-1914 Russell

Statements about physical objects

Causal Inference

Statements about sense-contents

Later Russell/Ayer

Statements about physical objects

Logical Construction

Statements about sense-contents

Quine
Word & Object
Willard Van Orman Quine
Wie Schiffer sind wir, die ihr Schiff auf offener See umbauen müssen, ohne es jemals in einem Dock zerlegen und aus besten Bestandteilen neu errichten zu können.

—Otto Neurath

“Neurath has likened science to a boat which, if we are to rebuild it, we must rebuild plank by plank while staying afloat in it.”

—Quine, p.3
“The philosopher and the scientist are in the same boat. If we improve our understanding of ordinary talk of physical things, it will not be by reducing that talk to a more familiar idiom; there is none. It will be by clarifying the connections, causal or otherwise, between ordinary talk of physical things and various further matters which in turn we grasp with help of ordinary talk of physical things.”

—Quine, p.3
• We learn words for physical objects first.
• This is not surprising, because we learn language in a socially-conditioned way, and other people can give us feedback only on usage about publicly available things.
• We can talk about sense-data often only by analogy to—or by using words originally for—physical things.
Russell held the following views:

**EPISTEMIC FOUNDATIONALISM**
The justification for our beliefs ultimately rests on a foundation of axiomatic certainties.

**THE INSIDE-OUT PERSPECTIVE**
Our knowledge of the “outer” world is based on our knowledge of the “inner” world.

**THE GIVENNESS OF EXPERIENCE**
Our knowledge of our own experiences (e.g. sense-contents) is perfect and unmediated.

To what extent does Quine agree?
Ways of Learning Words

- By ostension
- By analogy
- By description

- Contextually, by learning a sentence or a whole theory in which the word plays a part
“...the physicist’s understanding of what he is talking about must depend almost wholly on context: on knowing when to use various sentences which speak jointly of photons and of observed phenomena of light.”

—Quine, p.14
“Such sentences are like cantilever constructions, anchored in what they say of familiar objects at the near end and supporting the recondite objects at the far end. Explanation becomes oddly reciprocal: photons are posited to help explain the phenomena, and it is those phenomena and the theory concerning them that explain what the physicist is driving at in his talk of photons.”

—Quine, p.14
According to Russell and Ayer, meaning (like knowledge) has a hierarchical structure: words for physical objects are defined in terms of words for sense data.

What about for Quine?
SAUL KRIPKE
NAMING AND NECESSITY
DESCRIPTIVISM A LA FREGÉ

“In the case of an actual proper name such as ‘Aristotle’ opinions as to the sense may differ. It might, for instance, betaken to be the following: the pupil of Plato and teacher of Alexander the Great. Anybody who does this will attach another sense to the sentence ‘Aristotle was born in Stagira’ tha will a man who takes as the sense of the name: the teacher of Alexander the Great who was born in Stagira. So long as the referent remains the same, such variations of sense may be tolerated, although they are to be avoided in the theoretical structure of a demonstrative science and ought not to occur in a complete language.”

‘On Sense and Reference’, footnote 2
FREGE’S DESCRIPTIVISM

“An object can be determined in different ways, and every one of these ways of determining it can give rise to a special name, and these different names then have different senses; for it is not self-evident that it is the same object which is being determined in different ways.”

DESCRIPTIVISM A LA RUSSELL

“Thus when, for example, we make a statement about Julius Caesar, it is plain that Julius Caesar himself is not before our minds, since we are not acquainted with him. We have in mind some description of Julius Caesar: 'the man who was assassinated on the Ides of March', 'the founder of the Roman Empire', or, merely 'the man whose name was Julius Caesar'. ... Thus our statement does not mean quite what it seems to mean, but means something involving, instead of Julius Caesar, some description of him which is composed wholly of particulars and universals with which we are acquainted.”

The Problems of Philosophy, ch.5
Cluster Descriptivism (a la Wittgenstein, Searle)

1. For every name ‘n’ there is a cluster of properties \( \varphi \) such that S believes ‘n is \( \varphi \).

2. One of the properties, or some conjointly, are believed by A to pick out some individual uniquely.

3. If most, or a weighted most, of the \( \varphi \)’s are satisfied by one unique object \( y \), then \( y \) is the referent of ‘n’.

4. If the vote yields no unique object, ‘n’ does not refer.

5. The statement, ‘If n exists, then n has most of the \( \varphi \)’s’ is known a priori by the speaker.

6. The statement, ‘If n exists, then n has most of the \( \varphi \)’s’ expresses a necessary truth.
Kripke’s Three Arguments

The semantic argument
Descriptivism makes bad predictions about what names actually refer to.

The modal argument
Descriptivism makes bad predictions about names in modal contexts. (Names, but not descriptions, are rigid designators.)

The epistemic argument
If a name N has the same meaning as some description D, then ‘N is D’ should be knowable a priori. But this is seldom the case.
The Semantic Argument
A speaker can use a name to refer to someone even if they can’t accurately and uniquely describe them.
The epistemic argument
If a name N has the same meaning as some description D, then ‘N is D’ should be knowable a priori. But this is seldom (if ever) the case.
The modal argument
Descriptivism makes bad predictions about names in modal contexts.
(Names, but not descriptions, are rigid designators.)
The modal argument

Obama might not have been the US president in 2015.

Obama might not have been Obama.
Modal Contexts
Possible Worlds
Rigid Designators
Kripke's causal theory picture of names

A name is connected to its referent by a causal chain:

- The first link is an act of naming (a "baptism")
- After that, each person who uses the name intends to use it to refer to the same person who the person they learned it from was referring to.
Kripke says that identity statements like these are a posteriori necessities:

‘Hesperus is Phosphorus’

‘Cicero is Tulley’

‘Ghostface Killah is Tony Starks.’

‘Ol’ Dirty Bastard is Big Baby Jesus’
Necessary / Contingent
A Priori / A Posteriori
Analytic / Synthetic