Recall:

Truth-conditional (possible worlds) proposition:
A proposition can be identified with the set of possible worlds in which it is true.

Problem: (1) and (2) express the same proposition. So (3) seems like it can't be true without (4) being true (lest Sid both believe and not believe the same proposition).

(1) 2 + 3 = 5
(2) 62 - 48 = 14
(3) Sid believes that 2 + 3 = 5
(4) Sid believes that 62 - 48 = 14

Claim: We should "add structure" to propositions so as to "refine" them. But don't possible worlds propositions have structure? Yes but only the minimal structure required by having truth-conditions (which is one of the features we saw was common to many accounts of propositional content).

What's the difference between (1) and (2)? They talk about different numbers, and different operations on those numbers. So maybe a proposition should reflect *information about which entities and relations are spoken of in a sentence*.

Property: a feature, attribute, or modification of an object.
e.g. *being blue*, *being tall*, *being friendly*.

Relation: a property which holds of more than one object.
e.g. *being taller than*, *being equal to*, *being friends with*

Russellian Propositions:
A conception of propositions on which they subsume not only truth-conditional information, but also information about the entities, properties, and relations which determine those truth-conditions.

Russellian propositions are often noted by using angular brackets enclosing names of the entities, properties, relations, and operations which make up the proposition. E.g.

<*writes,* <Mark Twain>>

This is the notation for a proposition "made up of" Mark Twain himself, and the property of writing. NB: the proposition is not made up of words! So

<*writes*, <Sam Clemens>>

Is the *same* proposition.

(1) 2 + 3 = 5
(2) 62 - 48 = 14

So for (1) and (2) we might have the following (if we think of addition and subtraction as three place relations)

<addition, <2, 3, 5>>
<subtraction, <62, 48, 14>>

In this case order can matter. E.g.

<subtraction, <48, 61, 14>>

would be a different proposition: one which is false.

Why is adopting Russellian propositions *adding* structure? Because Russellian propositions *determine* truth conditions (so that structure is already "implicit" in them): they are true in some circumstance just in case the entities referred to in the proposition have the properties, or stand in the relations, the proposition claims them to.

Moving to Russellian propositions resolved our earlier two problems with truth-conditional content. But there are other problems for the Russellian that we already know:

(5) Jack believes Mark Twain writes.
(6) Jack believes Sam Clemens writes.

<believes, <Jack, the proposition that Mark Twain writes>>
<believes, <Jack, the proposition that Sam Clemens writes>>

That is:

<believes, <Jack, *<writes*, <Mark Twain>>>>
<believes, <Jack, *<writes,* <Sam Clemens>>>>

But

<writes, <Mark Twain>> = *<writes,* <Sam Clemens>>

So (5) and (6) say the same thing. But Jack may believe Mark Twain writes while Sam Clemens does not.

Russell himself claimed the names here were disguised definite descriptions. Shortly we'll see some problems for that view. *Naive Russellians* take ordinary names to contribute only their referent to a Russellian proposition. These theorists tend to bite the bullet: they say that Jack has inconsistent beliefs, i.e. he believes a proposition and its negation. The problem is then to explain how this could be intuitive…

Another option.

> **Fregean Propositions**:
> *A conception of propositions on which they subsume not only truth-conditional information, but also information about the **senses** of the entities, properties, and relations which determine those truth-conditions.*

> (7) Mark Twain writes.
> (8) Sam Clemens writes.

Frege did not takes thoughts to have explicit structure (senses as literal parts), but some Fregeans do and it is sometimes convenient to write them out this way.

> $<$sense$_{writing}$, $<$sense$_{Mark\ Twain}>>$
> $<$sense$_{writing}$,$<$sense$_{Sam\ Clemens}>>$

Note: these subscripts *are* referring to words (or, really, the index ways of thinking corresponding to words).

Just as before we have problems:

> (A) Senses? What exactly are these "modes of presentation"?
> (B) Can we find a unique sense to associate with every expression?
> (C) Can senses really be the information carried by sentences? Aren't they "too finely individuated" to be what's shared in communication?

Consider:

> (9) Jones said that Marie went to Tehran shortly after the winter solstice.

The Fregean proposition expressed by (9) contains some particular way of thing about Tehran, some particular way thinking about the winter, etc. Or, worse, perhaps a *sense* of a sense of Tehran, etc.

Keep in mind that to understand this proposition *and know its truth conditions* you must know each of the senses which appears in the embedded proposition. Do you? It gets worse when you must know the senses of senses...

Fineness of Grain

Often philosophers refer to the difference between truth-conditional theorists, Russellians, and Fregeans, as one of how "how fine grained" propositional content is. What does this mean?

> (9) Mark Twain's favorite number is the number which, when multiplied by the diameter of a circle, gives its circumference.
> (10) Mark Twain's favorite number is π.
> (11) Sam Clemens' favorite number is π.

How many propositions are expressed by the sentences above (for "naive" versions of the theorists)?
        According to the truth-conditional theorist?
        According to the Russellian?
        According to the Fregean?