# Quine: "Quantifiers and Propositional Attitudes"

## Ambiguity of Belief (and other) Constructions

Belief and other propositional attitude constructions, according to Quine, are **ambiguous**. The ambiguity can be detected most easily by looking at some examples.

Ralph believes that someone is a spy.

Ernest is hunting lions.

I want a sloop.

The ambiguity is due to there being what Quine describes as two senses of the relevant verb ('believes', 'is hunting', 'want')—the "notional" sense and the "relational" sense. The difference is marked by the placement of the implicit or explicit quantifier.

### "Notional":

Ralph believes that $\exists x$ ($x$ is a spy).

Ernest strives that $\exists x$ ($x$ is a lion $\wedge$ Ernest finds $x$).

I wish that $\exists x$ ($x$ is a sloop $\wedge$ I have $x$).

### "Relational":

$\exists x$ (Ralph believes that $x$ is a spy).

$\exists x$ ($x$ is a lion $\wedge$ Ernest strives that Ernest finds $x$).

$\exists x$ ($x$ is a sloop $\wedge$ I wish that I have $x$).

It's easy to see the difference between the notional and relational senses. Does Ralph have someone in mind, or does he just think that there are spies? Is Ernest hunting a particular lion, or is he just lion-hunting? Is there a particular sloop I want, or do I seek "mere relief from slooplessness," in Quine's memorable phrase.

## Why Two Senses and not a Scope Ambiguity?

Quine claims that the ambiguity of these sentences is due to the "attitude" verbs (*believes*, *wants*, etc.) having two different senses—a **semantic** ambiguity. But when the ambiguity is displayed as it is above, it looks like nothing more than a difference of the **scope** of the quantifiers, and hence a **syntactic** ambiguity.

Since in general a scope ambiguity is theoretically preferable to a semantic one (cf. Grice: "keep the dictionary as short as possible"), one must wonder why he opts for the "different senses" view. The answer is that he thinks that if we give 'believe', 'wish that', etc., their normal senses, none of the sentences in the "relational" group above make any sense—they are all **literally nonsense**! Why does he think this? We will examine his argument in a moment. First, we'll see why he thinks there is something here that is worth salvaging.

## The Relational Sense: Objectionable but Indispensable

It's easy to see why these relational readings should be indispensable. Surely Ralph can believe, **of** someone, that he is a spy, and not merely have the vague and general belief that there are spies. (Similar remarks apply to the other cases.)

What does Quine fine objectionable about the relational construction? That it involves **quantifying into a referentially opaque context.** As we will see, Quine maintains that it is **meaningless** to quantify into such contexts, and he devotes much of his essay to attempting to salvage "quantifying in" by minimizing the amount of what he calls "referential opacity."

## Referential Opacity

Referential opacity (and its opposite, transparency) are properties of contexts in which **singular terms** may occur.

Normally, an occurrence of a singular term is what Quine calls "purely referential"— that is, it is used "purely to specify its object." The criterion for a purely referential occurrence is simply obedience to the principle of **Substitutivity of Identity**.

### Transparency and Opacity defined

Quine calls the constructions that he is interested in (e.g., the ones involving propositional attitudes) "modes of containment." Their opacity consists in this fact: a referential position becomes non-referential when placed into the mode of containment in question. Here is Quine's definition (*Word & Object*, §30):

A mode of containment φ is referentially transparent if, whenever an occurrence of a singular term *t* is purely referential in a term or sentence ψ(*t*), it is purely referential also in the containing term or sentence φ(ψ(*t*)).

## Examples

### The Opacity of Quotation

*t* = 'Tully', ψ(*t*) = 'Tully was a Roman', φ = ' … is trochaic', so φ(ψ(*t*)) = ''Tully was a Roman' is trochaic'.

'Tully' is referential in 'Tully was a Roman' (since the sentence remains true when 'Cicero' replaces 'Tully'), but is not referential in ''Tully was a Roman' is trochaic' (since this sentence becomes false when 'Cicero' replaces 'Tully'). Hence, quotation is not referentially transparent, i.e., it is a **referentially opaque construction**.

### The Opacity of 'believes that'

Quine's example on p. 384:

(12) Ralph believes that the man in the brown hat is a spy.

(13) Ralph does not believe that the man seen at the beach is a spy.

The main in the brown hat = the man seen at the beach = Bernard J. Ortcutt.

*t* = 'the man in the brown hat', ψ(*t*) = 'the man in the brown hat is a spy', φ = 'Ralph believes that …', so φ(ψ(*t*)) = 'Ralph believes that the man in the brown hat is a spy'. According to Quine, *t* is referential in ψ(*t*) [t refers to Ortcutt], but is not referential in φ(ψ(*t*)).

## What is the argument against quantifying in?

From his contention that certain contexts (e.g., quotation, 'believes that', 'wishes that', 'strives that' etc.) are referentially opaque, Quine concludes that quantifying into those contexts is "improper" or "nonsense" (p. 384). For example, Quine argues that because 'the man in the brown hat is a spy' is opaque in (12), it follows that:

(7) ∃*x* (Ralph believes that *x* is a spy).

(which is obtained by "quantifying into" (12)), is nonsense.

But what is the argument? Quine has established, let us suppose, that in (12), the singular term 'the man in the brown hat' does not refer to Ortcutt. But what entitles him to **conclude** from this that (7) is nonsense?

The answer lies in Quine's construal of quantification as **objectual**, rather than **substitutional**. There are two ways to read '$\exists x\ Fx$':

### Objectual

There is an **object** $x$ satisfying the condition '$Fx$'. There is some **person** Ralph believes to be a spy.

### Substitutional

There is some **expression** which can be substituted for '$x$' in '$Fx$' which will yield a true sentence. There is some **word** (or **phrase**) that can be substituted for '$x$' in 'Ralph believes that $x$ is a spy' that will yield a true sentence.

Quine's reasoning now becomes apparent—quantification is to be understood **objectually**. Since it is a **person** that (7) tells us Ralph believes to instantiate spyhood, then this must be because there is a relation between these persons—Ralph, no matter how described, and this suspect, no matter how described—such that one believes the other to instantiate spyhood. But if this is the force of the quantifier in (7), then that force requires that it be **Ortcutt** who is the value of the variable $x$. And that in turn requires that 'the man in the brown hat' must refer to Ortcutt. So quantifying in requires referential transparency. Conversely, referential opacity prohibits quantifying in.

It is also easy to see that the substitutional reading makes sentences like (7) too easy to come by—i.e., too weak to be interesting. Suppose Ralph believes that no two spies are of exactly the same height. He must then believe that there is one spy who is shorter than all the others. Since he clearly believes that all spies are spies, he must also believe that the **shortest** spy is a spy. That means that he believes what (7), on the substitutional reading, asserts, viz:

There is a phrase ('the shortest spy') that can be substituted for '$x$' in 'Ralph believes that $x$ is a spy' that will yield a true sentence.

But this might well be true even if Ralph doesn't have anyone at all in mind. That is, the substitutional reading seems to make 'believing someone to be a spy' to weak to be interesting. So quantification seems best construed as objectual, and this in turn gives considerable force to Quine's rejection of quantifying in.

[The example of the shortest spy is used by Kaplan ("Quantifying In") to make a similar point about what is required for a belief to be **about** someone. As we will see, Kaplan himself makes a proposal which, in effect, combines objectual and substitutional readings of sentences like (7). More about this when we read "Quantifying In".]

## How to salvage quantifying in: Transparent Belief

Because quantifying-in is indispensable, but quantifying into opaque contexts is nonsense, Quine must find a way to insure that the opacity induced by 'believes', etc., is confined to a part of a sentence that is not quantified into.

The technique is to treat 'believes' as univocal (in the notional sense) but as standing for a dyadic relation between a believer and an intension, or a triadic relation between a believer, an intension, and an object, etc.

### Examples

Ralph believes [that Orcutt is a spy].

Ralph believes $z(z$ is a spy) of Ortcutt.

Tom believes $yz(y$ denounced $z)$ of Cicero and Cataline.

All occurrences of singular terms are referential (and can be quantified into) except for those that occur inside the names of intensions.

Thus, in place of the objectionable (7):

(7) $\exists x$ (Ralph believes that $x$ is a spy).

we get the acceptable (17):

(17) $\exists x$ (Ralph believes $z(z$ is a spy) of $x$).

## The Oddity of Transparent Belief

The oddity of the transparent construal of belief emerges when we realize how highly attenuated such beliefs are **as beliefs**. This is because transparent belief has the believer holding her belief of an object, $x$, **no matter how $x$ is described.** Consequently, transparent belief cannot be a reliable guide to what the **cognitive content** of anyone's belief is.

That is: if we are told that Tom believes of Cicero, in the transparent sense (*de re*), that he denounced Catiline, we may not infer that he will assent to the sentence 'Cicero denounced Catiline'. (He may even assent to its negation.) Nor may we even conclude that there is **some** sentence of the form '*N* denounced Catiline' (where '*N*' is replaced by a proper name of Cicero) that Tom **will** assent to. (Tom may not be in possession of **any** name of Cicero and still believe, of him, that he denounced Catiline.)

According to Quine, this is the price of "quantifying in" or allowing substitutivity in belief contexts. Such maneuvers require us to use a sense of 'believe' that does not seem to have much cognitive content in it at all. Transparent belief ends up not sounding much like belief at all.

Here's how Quine presents the case on pp. 384-386:

First, Quine approves of what seems to be an inference-rule he calls "exportation," which lets us infer (15) from (14):

(14) Ralph believes that Ortcutt is a spy.

(15) Ralph believes $z(z$ is a spy) of Ortcutt.

("The kind of exportation which leads from (14) to (15) should doubtless be viewed in general as implicative," p. 386 top left. As we'll see, Kaplan correctly criticizes this inference.)

Then Quine applies this principle to (12) and (20), which are both supposed to be true:

(12) Ralph believes that the man in the brown hat is a spy.

(20) Ralph believes that the man seen at the beach is not a spy.

Thereby obtaining:

(15′) Ralph believes $z(z$ is a spy) of the man in the brown hat.

(21) Ralph believes $z(z$ is not a spy) of the man seen at the beach.

But since:

- The man seen at the beach = the man in the brown hat = Ortcutt

- 'the man in the brown hat' is referential in (15′)

- 'the man seen at the beach' is referential in (21)

We may infer:

(15) Ralph believes $z(z$ is a spy) of Ortcutt.

(22) Ralph believes $z(z$ is not a spy) of Ortcutt.

That is, in the transparent sense of belief, Ralph believes of Ortcutt both that he is, and that he is not, a spy. Although this falls short of attributing logical inconsistency to Ralph (for it does not have him believing $z(z$ is a spy $\wedge$ $z$ is not a spy) of Ortcutt), it comes close.

### Quine's Slingshot:

Indeed, according to Quine, the consequences of transparent belief are odder still. Although he does not argue the point in this essay, elsewhere he argues that in the **transparent** sense of belief, the following two results obtain:

1. Anyone who believes anything that is true believes everything that is true.

2. Anyone who believes anything that is false believes everything that is false.

On the plausible assumption that each person has at least one true belief and at least one false belief, it follows that:

3. Anyone who believes anything believes everything.

The argument Quine uses to establish this result is a version of the Slingshot. The idea is this: transparent belief allows substitutivity of identity. Once substitutivity is allowed, you get (via the slingshot) **full extensionality**. That is, any two expressions with the **same extension** can be inter-substituted in any referentially transparent context. Since any two sentences with the same truth-value have the same extension, this means that if $p$ and $q$ have the same truth-value, they can be inter-substituted in any transparent context. Hence, if you believe (transparently) that $p$, you also believe (transparently) that $q$.

## Quine and Frege Compared

### Frege:

Frege's way of dealing with what Quine calls "opaque contexts" is to maintain the principle of substitutivity, but insist on a **shift of reference**—singular terms in oblique contexts denote their customary senses.

**Quine:**

Quine gives up the principle of substitutivity for propositional attitude constructions (construed opaquely). He rejects the reference shift move, and instead **denies that terms in such constructions are referential** at all.

In Quine's view, the occurrence of 'Cicero' in 'Tom believes that Cicero denounced Catiline' no more refers to Cicero than the 'Mary' in 'summary' refers to Mary.

Quine describes the difference between him and Frege thus (*Word & Object*, §31):

> "Failures of substitutivity of identity … were in Frege's view unallowable; so he nominally rectified them by decreeing that when a sentence or term occurs within a construction of propositional attitude or the like it ceases to name a truth-value, class, or individual and comes to name a proposition, attribute, or 'individual concept'. … I make none of these moves. I do not disallow failure of substitutivity, but only take it as evidence of non-referential position; nor do I envisage shifts of reference under opaque constructions."

Quine rejects Frege's solution precisely because that solution appeals to propositions, senses, intensions (with an 's')—what Quine calls "creatures of darkness" (p. 385, top left). His objections to such entities are both methodological and ontological.

**Methodological**

Propositions, attributes, intensions, etc., all lack adequate criteria of identity. The usual appeal is to the notion of logical equivalence (p. 387), but Quine finds this notion itself dubious. He concludes that "the intensions are at best a pretty obscure lot."

**Ontological**

Quine is a physicalist who doubts or denies the existence of any such non-physical entities. Science (within which Quine includes philosophy) should make no appeal to any objects but physical objects.

## The Aftermath of Quine

Can we allow quantifying-in where substitutivity fails? Or is Quine right that they stand or fall together?

Can we construe the sentence 'Ralph believes that the man in the brown hat is a spy' in such a way that:

1. It resists wholesale substitutivity (not every co-referential replacement for 'the man in the brown hat' preserves truth-value)

2. Its occurrence of 'the man in the brown hat' refers to Ortcutt

3. It is open to "quantifying in"?

Quine denies this, but it seems as if all three should be possible. For it seems as if our sentence does say something **about** Ortcutt (2), and so allows us to say that it asserts a relation between Ralph and **someone** (3), but still **resists substitution** of 'the man seen at the beach' for 'the man in the brown hat' (1). This is the problem of "quantifying in," for which there is as yet no universally accepted solution. We will turn next to David Kaplan's attempt to solve this problem in his article "Quantifying In."