

# Quine

## Inscrutability of Reference

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## The story so far

- ▶ Naturalism, semantic behaviourism, the context principle, confirmational holism
- ▶ *Radical interpreter* Amy is trying to set up a *translation manual* for an alien language.
- ▶ *Occasion* and *standing* sentences
- ▶ Hypothesis:  $Tr(\text{'Gavagai!'}) = \text{'There is a rabbit!'}$ .
- ▶ Also *stimulus-synonymous* with e.g. 'There is an undetached rabbit part', 'It's rabbitry over there', etc.

# Talk outline

From sentences to words

Pinning down reference

Proxy functions

Conclusion

## An example not about rabbits

- ▶ Consider the French construction 'ne ... rien'.
- ▶ 'Rien': 'anything' or 'nothing'
- ▶ If 'anything', 'ne' could be translated as 'not'.
- ▶ If 'nothing', 'ne' could be taken as pleonastic.
- ▶ The choice is a matter of convenience.

## Back to rabbits

- ▶ How about 'gavagai'?
- ▶ Is it a singular term or predicate?
- ▶ If a singular term, what object should be assigned as its referent?
- ▶ Rabbits, rabbit parts, rabbit time slices?
- ▶ If a predicate, what extension should be assigned?
- ▶ The set of rabbits, the set of rabbit time slices, the set whose sole member is the scattered totality of rabbit?

## Stimulus meaning and reference

- ▶ Sentences can be alike in stimulus meaning while containing terms of varying reference.
- ▶ Amy says that 'Gavagai!' is stimulus synonymous with 'Rabbit!'.
- ▶ She cannot infer that the *reference* of 'gavagai' is rabbits.
- ▶ It could just as well be any of our candidates.

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# Ostension

- ▶ First suggestion: ostension.
- ▶ But rabbits are present exactly when the following are present:
  - ▶ undetached rabbit parts
  - ▶ parts of the mereological fusion of rabbit
  - ▶ the universal rabbithood
  - ▶ times slices of rabbit

# Wittgenstein

*Now, one can ostensively define a person's name, the name of a colour, the name of a material, a number-word, the name of a point of the compass, and so on. The definition of the number two, "That is called 'two' " – pointing to two nuts – is perfectly exact. – But how can the number two be defined like that? The person one gives the definition to doesn't know what it is that one wants to call 'two'; he will suppose that "two" is the name given to this group of nuts! ... That is to say, an ostensive definition can be variously interpreted in any case. (Philosophical Investigations, §28)*

# Ostension

- ▶ Some words, like 'sepia', can be learnt by conditioning and induction.
- ▶ But 'sepia' is a mass term.
- ▶ 'Rabbit' is a term of divided reference.
- ▶ As such, its mastery relies on *individuation*.

## Individuation

*where one rabbit leaves off and another begins ... cannot be mastered by pure ostension, however persistent.*

*Such is the quandry over 'gavagai': where one gavagai leaves off and another begins. The only difference between rabbits, undetached rabbit parts, and rabbit stages is in their individuation. If you take the total scattered portion of the spatiotemporal world that is made up of rabbits, and that which is made up of undetached rabbit parts, and that which is made up of rabbit stages, you come out with the same scattered portion of the world each of three times.  
(Ontological Relativity, p. 32)*

## Pinning down reference

- ▶ Second suggestion: questioning the natives.
- ▶ 'Is this gavagai the same as that one?'
- ▶ But she needs to translate that sentence.
- ▶ In particular, she needs numerical identity.
- ▶ Let's say that Amy manages to come up with an 'analytical hypothesis'.
- ▶ 'Ilg hoc gavagai blub hic gavagai?'
- ▶ The natives say 'evet' (for assent) and 'yok' (for dissent).

# Problem

- ▶ Multiple interpretations are compatible with the evidence.
- ▶ Let's say the native answers 'evet' (yes) to 'lg hoc gavagai blub hic gavagai?'.
  - H1 'blub' is identity; 'gavagai' refers to rabbits
  - H2 'blub' holds between  $x$  and  $y$  just when they are time slices of the same rabbit;  
'gavagai' refers to rabbit time slices
- ▶ Both interpretations lead to assent.
- ▶ There is nothing to choose between these interpretations.

## Real world example

- ▶ Quine elsewhere ('Ontological Relativity') offers a real life example from Japanese.
- ▶ *Classifiers* can be seen as attaching to numerals to form compound numerals.
- ▶ E.g. one classifier will attach to '5' to get a style of '5' suitable for counting animals.
- ▶ Or classifiers can be seen as attaching to terms.
- ▶ E.g. one classifier would do the job of 'sticks of' applied to wood.

## Real world example

- ▶ We can write the Japanese for 'five oxen' in the form ' $NCT$ ', where ' $N$ ' is numeral, ' $C$ ' a classifier and ' $T$ ' a term for oxen.
- ▶ The classifier can be understood as going with ' $N$ ' or ' $T$ '.
- ▶ If it's with ' $N$ ', ' $T$ ' is a predicate referring to oxen.
- ▶ If it's with ' $T$ ', ' $T$ ' is a mass term for 'heads of cattle'.
- ▶  $T$  could either refer to each ox or to cattle generally.
- ▶ 'Between the two accounts of Japanese classifiers there is no question of right and wrong' (p. 38).

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## Proxy functions

- ▶ A *proxy function* is a one-to-one function taking each thing the natives refer to on one scheme to things they refer to on another.
- ▶ E.g. a proxy function could map each object to its 'cosmic complement': everything in the universe except that object.
- ▶ Singular term ' $t$ ' can be interpreted as meaning 'proxy of  $t$ '.
- ▶ Predicate ' $F$ ' as 'proxy of an  $F$ '
- ▶ Relation ' $R_{xy}$ ' as 'what  $x$  is the proxy of bears  $R$  to what  $y$  is the proxy of'.

## Example

- ▶ Consider the native sentence:  
S Kanye Soowoop Kim.
- ▶ We could translate this as:  
S' Kanye loves Kim.
- ▶ Or we could translate it as:  
S'' What Kanye's proxy is the proxy of loves what Kim's proxy is the proxy of.
- ▶ We've permuted the ontology here but clearly S' and S'' mean the same.

## Observation sentences

- ▶ Some occasion sentences are *observation* sentences.
- ▶ Sentences are observational to the extent that different speakers agree on stimulus meaning.
- ▶ 'Red!' is highly observational.
- ▶ 'Bachelor!' is highly non-observational.
- ▶ Stimulus meaning is only an approximation for highly observational sentences.

## Observation sentences

- ▶ That theories can be interpreted in many ways is well known.
- ▶ What is surprising is what these deviant interpretations leave intact.
- ▶ The evidence for a sentence depends on two associations:
  1. of an observation sentence with sensory excitations that are part of their stimulus meanings
  2. the intersentential association of that sentence to others
- ▶ E.g. you assent to 'Today is Tuesday' because of your willingness to assent to 'Yesterday was Monday'.

# Association 1

- ▶ Reinterpretation by proxy function leaves both associations unaffected.
- ▶ *Nothing* in the use of an observation sentence forces you to assign one referent rather than another.
- ▶ You may protest: 'I say 'Rabbit!' when I see a *rabbit*, not a *proxy-rabbit*!'
- ▶ But you also say 'Rabbit!' when you *proxy-see* a *proxy-rabbit*.
- ▶ Only *sentences* are associated with sensory inputs and reinterpretation leaves stimulus meaning intact.

## Association 2

- ▶ How about intersentential connections?
- ▶ Quine holds that entailment only depends on *logical* structure.
  1. No *F*s are *G*s; so no *G*s are *F*s.
  2. No rabbit is a proxy-rabbit; so no proxy-rabbit is a rabbit.
  3. No proxy-rabbit is a rabbit; so no rabbit is a proxy-rabbit.
- ▶ Logical form, in other words, is indifferent to reinterpretation by proxy-function.

## Association 2

- ▶ Not all entailment is logical.
- ▶ 'Corey is taller than Ryan, Ryan is taller than Claire; so Corey is taller than Claire'.
- ▶ Non-logical entailments are also indifferent to reinterpretation by proxy function.
- ▶ 'Taller than' now picks out the pairs  $\langle x, y \rangle$  s.t.  $x$  is the proxy of something taller than the proxy of  $y$ .
- ▶ Generally, reinterpretations that preserve truth-value can never affect entailments.
- ▶ As Quine writes in 'Structure and Nature' (1992): 'save the structure and you save all'.

## Inscrutability of reference

- ▶ The native words can be reinterpreted in ways compatible with all relations to the world and to other sentences.
- ▶ Does this show that we should stop at the level of sentences?
- ▶ No: remember *compositionality*. For a manual to be finitely graspable, we *must* assign significance to the words.
- ▶ Quine's point is that the objects being described by the natives is not intrinsic to their language.
- ▶ It is *imposed* from without.

## Epistemology and metaphysics

- ▶ More than one reference scheme is compatible with the best *evidence* of the natives' behaviour.
- ▶ But the point is not merely epistemological.
- ▶ Reference is not determined by the *facts*.
- ▶ As a physicalist, facts for Quine are physical.
- ▶ So physics does not fix reference.

## Convention

*An actual field linguist would of course be sensible enough to equate 'gavagai' with 'rabbit', dismissing such perverse alternatives as 'undetached rabbit part' and 'rabbit stage' out of hand. ... The implicit maxim guiding his choice of 'rabbit', and similar choices for other native words, is that an enduring and relatively homogeneous object, moving as a whole against a contrasting background, is a likely reference for a short expression. ... It is a very sensible imposition, and I would recommend no other. But I am making a philosophical point. (Ontological Relativity, p. 34)*

## Pinning down reference

- ▶ It is not that *nothing* can fix reference.
- ▶ No *facts* can fix reference.
- ▶ But *conventions* can.
- ▶ These are *merely* conventional, however.

## Putnam

*the received view ... tries to fix the intensions and extensions of individual terms by fixing the truth-conditions for whole sentences. ... That it won't work has been shown by Quine. I shall extend previous 'indeterminacy' results in a very strong way. I shall argue that even if we have constraints of whatever nature which determine the truth-value of every sentences in a language in every possible world, still the reference of individual terms remains indeterminate.*  
(Reason, Truth and History, 1981, p. 32-3)

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- ▶ Last week, we saw an argument for the *indeterminacy of translation*.
- ▶ This week, we've seen two arguments for the *inscrutability of reference*.
- ▶ First, there was the particular argument based on the familiar rabbit example (with French and Japanese parallels).
- ▶ Second, there was the general argument based on *proxy functions*.
- ▶ This was all us imposing schemes on the languages of others.
- ▶ Next week, we turn the machinery on ourselves.