

Quine – Two dogmas of empiricism

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Introductie

- ▶ Willard Van Orman Quine (1908-2000), Amerikaans filosoof en logicus
 - ▶ Foundationalist of coherentist?
 - ▶ (Logisch) Empirist?
 - ▶ Realist of nominalist?
- ▶ Werken die wij gaan lezen/hebben gelezen:
 - ▶ On what there is (1948)
 - ▶ Two dogmas of empiricism (1951)
 - ▶ Word and Object (1960)
- ▶ Twee dogma's:
 - ▶ Onderscheid analytisch-syntetisch [oorspronkelijk van Kant]
 - ▶ Reductionisme: elke betekenisvolle uitspraak kan gereduceerd worden tot een uitspraak over directe waarneming [Carnap]

Eerste dogma: argument

- ▶ **Analyticity:** A statement is analytic when is true by virtue of *meanings* and independently of facts [≠ Kants definitie]
- ▶ **Meanings:**
 - ▶ Meaning ≠ reference [Frege]
 - ▶ Theory of meaning deals with **synonymy** and **analyticity**
 - ▶ Meanings themselves, as obscure intermediary entities may well be abandoned [*contra* Frege]
- ▶ Back to **analyticity**: two classes
 1. Logically true statements: 'No unmarried man is married'
 2. Can be turned into logical truth by putting *synonyms* for *synonyms*: 'No bachelor is married'
- ▶ **Synonymy:**
 - ▶ Via definitions? Lexicographer's definitions, but also Carnap's explications hinge on pre-existing *synonymy*
 - ▶ Via interchangeability *salva veritate*? Intelligible only if notion of *analyticity* is already clear
- ▶ Back to **analyticity**:
 - ▶ Via semantic rules? Either circular or appealing to unexplained phrase 'semantic rule' (meaningless heading)

Synonymy via interchangeability *salva veritate*

- ▶ Voorstel: α en β synoniem desda ze 'interchangeable' zijn *salva veritate*
- ▶ In een 'extensional' taal werkt het niet: niet synoniemen zoals 'creature with a heart' en 'creature with a kidney' zijn ook 'interchangeable' *salva veritate* als taal 'extensional' is
 - ▶ Taal is 'extensional' desda 'any two predicates which agree extensionally are interchangeable *salva veritate*'
 - ▶ Voorbeeld 'extensional' taal: predicaatenlogica
 - (1) a. All and only creatures with a heart are creatures with a heart \Rightarrow
 - b. All and only creatures with a heart are creatures with a kidney
 - ▶ Voorbeeld van een niet 'extensional' taal: modale logica
 - (2) a. Necessarily all and only creatures with a heart are creatures with a heart \nRightarrow
 - b. Necessarily all and only creatures with a heart are creatures with a kidney

'Creature with a heart' and 'creature with a kidney' agree extensionally (i.e. are true of the same objects)

Synonymy via interchangeability *salva veritate*

- ▶ Nieuw voorstel: α en β synoniem desda ze 'interchangeable' zijn *salva veritate* in een taal met 'intensional' uitdrukkingen zoals 'necessary'
- (3) Not 'interchangeable' *salva veritate* \Rightarrow not synonymous
 - a. Necessarily all and only creatures with a heart are creatures with a heart. \nRightarrow
 - b. Necessarily all and only creatures with a heart are creatures with a kidney.
- (4) Interchangeable *salva veritate* \Rightarrow not synonymous
 - a. Necessarily all and only bachelors are bachelors. \Rightarrow
 - b. Necessarily all and only bachelors are unmarried men.
- ▶ Probleem:
 - ▶ 'necessarily ϕ ' true iff ϕ is analytically true [Carnap]
 - ▶ De ingevoerde notie van noodzakelijkheid veronderstelt dat we al weten wat we onder een analytische waarheid verstaan

Eerste dogma: conclusie

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. (p.5)

Tweede dogma

- ▶ Radicaal reductionisme: iedere betekenisvolle uitspraak kan vertaald worden in een uitspraak over onmiddellijke ervaring.
- ▶ Relatie tussen twee dogma's:
 - ▶ Stel reductionisme klopt, dan kan betekenis worden gedefinieerd als verificatie methode (verificationisme); dan kunnen wij synonymie definieren, en dus ook analyticiteit.
- ▶ Reductionisme ('in its attenuated form'): van iedere zin, onafhankelijk van andere zinnen, kunnen wij bepalen of hij waar of onwaar is.
- ▶ Relatie tussen twee dogma's:
 - ▶ '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.' (p. 6)
- ▶ Quine: Niet individuele zinnen 'face the tribunal of experience', maar het geheel van zinnen ('the whole of science') [holisme]

Holisme

'My countersuggestion . . . is that our statements about the external world face the tribunal of sense experience not individually but only as a corporate body.' (p.6)

- ▶ **Duhem-Quinestelling:** cruciale experimenten (experimenten die beslissend zijn voor een theorie) zijn onmogelijk
- ▶ Het is onmogelijk om een afzonderlijke hypothese te testen omdat het niet duidelijk is welk deel van de hypothese precies op de proef wordt gesteld:

(5) Water kookt bij 100 graden Celsius. [HC over Kant]

In een experiment om (5) te testen zegt thermometer 103 graden. Wat nu?

- ▶ Vergelijking met Popper en Kuhn.

Two dogma's: conclusives

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 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. [...] 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 idea of defining a symbol in use was, as remarked, an advance over the impossible term-by-term empiricism of Locke and Hume. The statement, rather than the term, came with Frege to be recognized as the unit accountable to an empiricist critique. But what I am now urging is that even in taking the statement as unit we have drawn our grid too finely. The unit of empirical significance is the whole of science. (p.6)

Empiricism without the dogmas: web of beliefs

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. 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. [...] 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.

Web of beliefs

- ▶ Vraag 11. In welke zin kan het totaal van onze kennis of overtuigingen vergeleken worden met een tapijt?
 - ▶ Alleen de randen van dit tapijt raken de ervaring. Sommige overtuigingen bevinden zich meer in het midden van het tapijt, andere aan de rand.
 - ▶ De overtuigingen staan, net als de draden van een tapijt, met elkaar in verbinding. Als ik iets wijzig in één deel van het tapijt kan dit consequenties hebben voor het hele tapijt. Als ik iets wijzig aan de rand is dit minder dan als ik dit doe in het midden van het tapijt.
- ▶ Waar in het tapijt bevinden zich stellingen als ' $1 + 1 = 2$ '? En waar bevindt zich een stelling als 'Deze tomaat is rood'? Wat betekent dit?

Empiricism without the dogmas: revisions

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. Revision even of the logical law of the excluded middle has been proposed as a means of simplifying quantum mechanics; and what difference is there in principle between such a shift and the shift whereby Kepler superseded Ptolemy, or Einstein Newton, or Darwin Aristotle?

Two effects

‘Both dogmas, I shall argue, are ill founded. One effect of abandoning them is, as we shall see, a blurring of the supposed boundary between speculative metaphysics and natural science. Another effect is a shift toward pragmatism.’ (p.1)

Metaphysics and natural science

'Ontological questions, under this view, are on a par with questions of natural science. Consider the question whether to countenance classes as entities. This, as I have argued elsewhere, is the question whether to quantify with respect to variables which take classes as values. Now Carnap has maintained that this is a question not of matters of fact but of choosing a convenient language form, a convenient conceptual scheme or framework for science. With this I agree, but only on the proviso that the same be conceded regarding scientific hypotheses generally. Carnap has recognized that he is able to preserve a double standard for ontological questions and scientific hypotheses only by assuming an absolute distinction between the analytic and the synthetic; and I need not say again that this is a distinction which I reject.' (p.7)

Pragmatism

'The issue over there being classes seems more a question of convenient conceptual scheme; the issue over there being centaurs, or brick houses on Elm Street, seems more a question of fact. But I have been urging that this difference is only one of degree, and that it turns upon our vaguely **pragmatic** inclination to adjust one strand of the fabric of science rather than another in accommodating some particular recalcitrant experience. *Conservatism* figures in such choices, and so does the quest for *simplicity*.

Carnap, Lewis, and others take a pragmatic stand on the question of choosing between language forms, scientific frameworks; but their pragmatism leaves off at the imagined boundary between the analytic and the synthetic. In repudiating such a boundary I espouse a more thorough pragmatism. Each man is given a scientific heritage plus a continuing barrage of sensory stimulation; and the considerations which guide him in warping his scientific heritage to fit his continuing sensory promptings are, where rational, **pragmatic**.' (p.7-8)

Objecten en goden

- In elke zin zijn fysieke objecten te vergelijken met de goden van Homerus?

As an empiricist I continue to think of the conceptual scheme of science as a tool, ultimately, for predicting future experience in the light of past experience. Physical objects are conceptually imported into the situation as convenient intermediaries – not by definition in terms of experience, but simply as irreducible *posits* comparable, epistemologically, to the gods of Homer. Let me interject that for my part I do, qua lay physicist, believe in physical objects and not in Homer's gods; and I consider it a scientific error to believe otherwise. But in point of epistemological footing the physical objects and the gods differ only in degree and not in kind. Both sorts of entities enter our conception only as cultural posits. The myth of physical objects is epistemologically superior to most in that it has proved more efficacious than other myths as a device for working a manageable structure into the flux of experience.

- Niks in onze ervaring dwingt ons aan te nemen dat er fysieke objecten zijn. Aannemen dat deze objecten bestaan helpt ons echter onze ervaring te verklaren. De goden van Homerus deden in feite hetzelfde.