

# QUINE ON OBJECTS AND *DE RE* MODALITY

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## ABSTRACT

This paper discusses Quine's argument against quantified modal logic and *de re* necessity from the point of view of his epistemological conception of objects as posits. Quine's argument is based on an illustration of the interference of descriptive specifications of an object in purported *de re* modal judgments. Quine thinks this sort of interference shows that the notion of necessity does not apply to the fulfillment of conditions by objects at all. To Quine's argument it may be replied that he is only making a meaning-theoretic or an epistemological point that need not have any metaphysical implications. However, in this paper it is argued that Quine's epistemology involves a conception of objects as theory-dependent and inseparable from descriptive conditions. It is argued that Quine's conception of objects makes the interference of descriptive content in purported *de re* modal judgments unavoidable.

**Keywords:** Quine, modality, epistemology, modal logic, theory of meaning, theory of reference

## 1. Introduction

From the early 1940's on, Quine presented considerations against alethic modal logic (Quine 1943). Quine's early critical discussions of modal logic were for the most part targeted against C.I. Lewis' notion of strict modality<sup>1</sup> which Quine (1980, 143) understood in terms of analyticity. Quine criticized the combining of modality and quantification already before Ruth Barcan's pioneer paper (1946), to which he reacted almost immediately, too (Quine 1947). Throughout his career, Quine was unswerving in rejecting quantified modal logic (QML) as meaningless.

This paper focuses on Quine's argument against a non-linguistic notion of necessity that is not to be identified with the (meta) linguistic notion of analyticity. Although alethic modal logic on the analyticity reading of the necessity operator was the starting point of Quine's criticism, his discussions of QML originally dating from the 1950's can be read as containing argumentation also against the non-linguistic reading. This is how I shall understand one of his arguments in the present paper. In his later work Quine (1990; 1991, 270; 1992, 74) explicitly

<sup>1</sup> See (Lewis 1918, ch. 5); (Lewis and Langford 1959, 124, 492–502).

mentions, in a critical tone, ‘metaphysical’ and ‘*de re*’ necessity. These later critical remarks on metaphysical or *de re* necessity are probably meant to be based on the arguments which can be found in Quine’s earlier writings<sup>2</sup>; in the later writings, Quine does indicate that he would have come up with any *new* reasons for the rejection of metaphysical necessity. It must be noted, though, that some interpreters of Quine’s philosophy understand his arguments against QML to be directed only at QML with the necessity operator read as expressing the notion of analyticity. For example, John Burgess (1998), Stephen Neale (2000), and Greg Ray (2000) all read Quine in this way, although each provides a very different reconstruction of Quine’s argumentation. On the other hand, many philosophers have understood some of Quine’s arguments against QML in the same way as I do in the present paper, namely as concerning the non-linguistic notion of objects’ in the domain of discourse being necessarily thus-or-so.<sup>3</sup> Those who favor a reference-theoretic answer to (what they take to be) Quine’s critique usually read Quine in this way. For example, Dagfinn Føllesdal (1986; 2004) and Michael Devitt (1981, 208, fn. 2) take Quine’s critique to concern *de re* necessity proper, not necessity understood as analyticity. Also John Divers, whose evaluation of Quine’s critique will be referred to in section 2 below, interprets Quine along these lines.

In any case, there is undeniable textual evidence that Quine *does* reject *de re* or metaphysical necessity as senseless. Hence, I expect the discussion in the present paper to be of interest also to those readers who take a different line with respect to the interpretation of Quine’s arguments against QML. I attempt to give a reason why QML with the objectual (as opposed to substitutional) reading of the quantifier is difficult to reconcile with Quine’s philosophy. The reason I shall give, based on Quine’s epistemological view of the nature of objects, is not explicitly recognized by Quine himself, and I am not aware of any commentator of his philosophy making this point either.

One of Quine’s arguments against QML, discussed in section 2 below, is based on an illustration of the interference of different descriptive specifications of an object in our purported *de re* modal judgments. By considering the conception of the nature of objects that is part of Quine’s epistemological model (section 3),<sup>4</sup> I attempt to explain, in section 4, why this sort of interference, which at first sight seems a mere meaning-theoretic or epistemological phenomenon, is actually decisive against QML and the non-linguistic notion of necessity within the context of Quine’s philosophy. According to Quine’s epistemological model, all objects are posits or assumptions of some theory or another. By advocating the theory-dependence of objects, Quine does not mean to claim that objects do not really exist. However, in my view Quine’s epistemology does involve the view that objects are inseparable from descriptive conditions expressed

2 Especially in ‘Three Grades of Modal Involvement’ published in 1953 and ‘Reference and Modality’, which originally came out also in 1953 but was revised twice, for the 1961 and 1980 editions of *From a Logical Point of View*.

3 I argue for this interpretation of Quine in more detail in Keskinen 2010, ch. 2.

4 Many of the details of Quine’s epistemological model as presented in section 3 of the present paper are developed by Quine only from the 1970’s onwards. However, he expresses a conception of objects as posits already in “On What there Is” (1948, 17–18).

by the predicates of a theory—they are objects-*qua*- $F$ , where  $F$  is a descriptive condition. Because of this inseparability of objects from descriptive conditions, I argue, the interference of descriptive specifications in *de re* modal judgments cannot be eliminated.

## 2. Quine's critique of QML

Quine (1953) distinguishes between three grades of modal involvement. The first grade of modal involvement consists in those uses of the adverb 'necessarily' that can be construed as one-place metalinguistic predications. For example, one way of understanding the sentence

(1) 9 is necessarily greater than 7

is as the metalinguistic predication

(2) '9 > 7' is necessary,

which, of course, leaves us with the question what is meant by necessity as a trait of object-language sentences. As possible readings of the 'semantical predicate' of necessity, Quine (1953, 171) considers logical validity or analyticity. Although some such readings, like the notion of analyticity, may turn out defective in other ways, the first grade of modal involvement does not violate extensionality (Quine 1953, 162).

The second grade of modal involvement means taking the adverb 'necessarily' as an object-language operator on closed sentences, as in modal propositional logic. The second grade allows unrestricted iteration and nesting of the necessity operator. And since ' $\square$ ' is considered a genuine object-language operator, the second grade invites one to take the 'momentous step' of attaching the modal operator to open sentences as well (Quine 1953, 168). The third grade of modal involvement, incurred by the champion of QML, provides the linguistic means to say that *an object* is necessarily thus or so. As Quine puts it, in the first grade of modal involvement 'necessity resides in the way in which we say things, not in the things we talk about' (1953, 176). In contrast, the third grade involves the idea that an object may have some of its traits necessarily and some others contingently. In the third grade, it is a matter of whether (n-tuples of) objects in the domain of discourse of the object language satisfy object-language open sentences of the form ' $x$  is necessarily  $F$ '. In my view, though this is a contested point among scholars, Quine thinks that QML precludes the explanation of the necessity operator in terms of a metalinguistic notion like analyticity. His basic reason for this is quite simple: An attempt to quantify into a sentence like (1), explained as

(3) '9 > 7' is analytic,

might produce a sentence such as

(4)  $\square x(x > 7)$  is analytic),

which consists of a vacuous quantifier attached to a trivially false sentence.<sup>5</sup> Quantifying into modal contexts requires a non-linguistic notion of necessity, in the sense that necessity relates to the objects in the domain of the object language as a mode of their being thus or so, not to object-language sentences and their metalinguistic traits.

<sup>5</sup> See (Quine 1953, 172). See also e.g. (Quine 1980, 146–147; 1960, 166; 1992, 70).

Quine's notion of *Aristotelian essentialism* is simply this idea of necessity residing in things instead of in language. It is the doctrine that

some of the attributes of a thing (quite independently of the language in which the thing is referred to, if at all) may be essential to the thing, and others accidental. E.g., a man, or talking animal, or featherless biped (for they are in fact all the same *things*), is essentially rational and accidentally two-legged and talkative, not merely *qua man* but *qua itself*. (Quine 1953, 175–176)

Aristotelian essentialism is the view that an object may for example be essentially (that is, necessarily) rational and accidentally (that is, contingently) two-legged *independently* of the context or background set by some particular descriptive specification of the thing. Quine says that commitment to Aristotelian essentialism is a consequence of doing QML (1953, 175). The notion of a necessary trait that *is* relative to some descriptive specification of an object can be accommodated into the first grade of modal involvement: for example, a particular featherless biped might be said to be necessarily rational and contingently two-legged *qua man*, because it was held for example that

(5) ' $\Box x(x \text{ is a man} \rightarrow x \text{ is rational})$ ' is necessary

and that

(6) ' $\Box x(x \text{ is a man} \rightarrow x \text{ is two-legged})$ ' is not necessary.

Aristotelian essentialism allows that an object may for example be necessarily rational and contingently two-legged irrespective of how it happens to be linguistically specified or described, and independently of metalinguistic, for example meaning-theoretic, traits of object-language expressions.<sup>6</sup> In connection with his example of an Aristotelian-essentialist claim quoted above, Quine stresses this point by saying that the man in question is to be essentially rational and accidentally two-legged not merely *qua man* but *qua itself*. Being essentially rational *merely qua man* would only be a case of metalinguistic necessity, captured in (5). Accordingly, in 'Reference and Modality' Quine says that essentialism in his sense is 'abruptly at variance' with the idea of explaining necessity by analyticity,

[f]or the appeal to analyticity can pretend to distinguish essential and accidental traits of an object only relative to how the object is specified, not absolutely. Yet the champion of modal logic must settle for essentialism. (Quine 1980, 155)

It is the absolute distinction between the necessary and contingent traits of an object that Quine thinks is required in QML and that he means by 'Aristotelian essentialism'.<sup>7</sup>

6 For a statement of this conception of QML and essentialism in Quine's later work, see e.g. (Quine 1992, 74).

7 In their textbook on QML, Fitting and Mendelsohn (1998, 89, fn. 15) strike the right note in saying that Aristotelian essentialism just is QML. It means commitment to the intelligibility of the absolute distinction between necessary and contingent traits of a thing, and QML provides the official logical framework for formulating Aristotelian-essentialist statements. It is important to keep in mind that Quine does *not* claim that QML would involve a commitment to any particular essentialist statement, perhaps aside from certain logically trivial claims concerning such universally shared traits as self-identity. For example Charles Parsons (1967) misunderstood Quine's argumentation against QML as depending on the claim that QML does involve more substantial essentialist commitments.

In his 1990 comment on Ruth Barcan Marcus' essay 'A Backward Look at Quine's Animadversions on Modalities' (Marcus 1990), Quine clearly states his view that the non-linguistic or metaphysical notion of necessity involved in QML and the accompanying essentialism make no sense to him:

My logical point about essentialism was that he who accepts quantification into modal contexts as making good sense should not balk at essentialism [...]. If you are going to take the one you must take the other. That was not an argument against essentialism. But it happens further that I do not myself make sense of essentialism, or of metaphysical necessity. (Quine 1990)

According to the way I propose to read him, Quine's argument against the intelligibility of QML and the associated notion of metaphysical necessity is based on example cases, such as the following (Quine 1980, 149): Specified by means of the open sentence

(7)  $x = \sqrt{x} + \sqrt{x} + \sqrt{x} \neq \sqrt{x}$

an object (the number 9) seems to satisfy

(8) necessarily ( $x > 7$ );

but, specified by means of

(9) there are exactly  $x$  planets,

the very same object does not seem to satisfy (8).<sup>8</sup> If some suitable metalinguistic predicate is assumed, this situation may be explained in terms of a relativized, first-grade notion of necessity. For Quine, examples like (7)–(9) indicate that being necessarily greater than seven makes no sense as applied to an *object* (in this case, a number). At best, necessity attaches to a *connection between open sentences*, in this case, between (7) and ' $x > 7$ ' (Quine 1980, 149, 151). The obtaining of such a connection can be expressed by asserting

(10) ' $\Box x(x = \sqrt{x} + \sqrt{x} + \sqrt{x} \neq \sqrt{x} \rightarrow x > 7)$ ' is necessary.

This, in turn, indicates a collapse of the presumed absolute, non-linguistic notion of necessity required in QML into a relativized, metalinguistic notion. 'The real insight' provided by examples like (7)–(9), Quine claims, is that

necessity does not properly apply to the fulfillment of conditions by *objects* [...] apart from special ways of specifying them. (Quine 1980, 151)

I would like to single out one central feature in Quine's argumentation, a feature on which some recent attempts to answer Quine's critique have focused. The case Quine makes of (7)–(9) turns on a supposed interference of descriptive conditions like (7) and (9), used in specifying an object, in judgments as to whether or not the object is necessarily thus or so. This interference of descriptive elements is not confined to uniquely satisfied conditions as in Quine's example. In general, if an open sentence ' $Fx$ ' were used in picking out an object  $a$ , the open sentence ' $\Box Px$ ' might be judged true of  $a$  because of a meaning-theoretic connection between the open sentences ' $Fx$ ' and

<sup>8</sup> In 1980, Pluto was still classified as a planet instead of a dwarf planet. For the sake of preserving Quine's original example, I assume throughout this paper that 'there are exactly  $x$  planets' is uniquely satisfied by the number 9.

' $Px$ '. As in (10), the obtaining of such a connection can be expressed by the first-grade sentence

(11) ' $\Box x(Fx \rightarrow Px)$ ' is necessary.

On the other hand, if another open sentence ' $Gx$ ' were used in picking out the object  $a$ , ' $\Box Px$ ' might be judged false of  $a$ , and a philosophical explanation of this reaction might be given by pointing out that

(12) ' $\Box x(Gx \rightarrow Px)$ ' is not necessary.

In terms of Quine's own example in the passage on Aristotelian essentialism quoted above, ' $Fx$ ' may be replaced by 'x is a man', ' $Gx$ ' by 'x is a featherless biped', and ' $Px$ ' by 'x is rational'.

Some proponents of the contemporary non-descriptivist theory of singular reference, for example Føllesdal (1986; 2004) and Devitt, grant Quine the point that descriptive specifications of an object do affect our modal judgments. For example, Devitt gives an account of how descriptive elements in a singular term give rise to a *de dicto* modality that should be distinguished from the non-linguistic *de re* modality (Devitt 1981, 207–217). Devitt's conception of *de dicto* necessity closely resembles the Quinean notion of a necessary trait relativized to a descriptive specification of an object. What may be called the reference-theoretic strategy of answering Quine's critique consists in invoking singular terms<sup>9</sup> whose referential relations to objects are independent of descriptive conditions that speakers may associate with them. The general point of the reference-theoretic solution is that given a non-descriptivist account of the reference of singular terms, we can make sense of the absolute distinction between necessary and contingent traits of an object: a singular term, say ' $b$ ', can be used to specify an object *qua* itself, instead of *qua*  $F$ , where ' $F$ ' is some descriptive condition. Any modal intuition that arises from descriptive elements that a speaker happens to associate with ' $b$ ' may well be explained in terms of meaning-theoretic connections between expressions, while the truth conditions of sentences of the form ' $\Box Fb$ ' are safely anchored to the *object* that is the referent of ' $b$ '.

The reference-theoretic strategy may seem like an unnecessary detour. It could be argued that Quine is simply confusing issues of language and meaning with issues about the non-linguistic world and its objects. Divers (2007, 40–53) argues that Quine is indeed in the grip of such confusion. Divers illustrates how Quine's examples like that of (7)–(9) only concern a 'semantic' (that is, meaning-theoretic) phenomenon, and consequently fail to establish that the modal reality that makes our modal utterances true or false would be hopelessly inconstant and dependent on how we happen to linguistically specify objects. On Divers' reading, Quine mistakes the situation illustrated by (7)–(9) for one concerning the objects talked about by means of language, whereas such examples are really about a semantic phenomenon that only concerns the expressions of the language. Why should the alleged meaning-theoretic connections between expressions have anything to do with proper *de re* modality, namely with whether or not an object itself, instead of the object *qua*  $F$ , is necessarily thus or so?

9 E.g., Føllesdal's *genuine singular terms* or Devitt's *designational terms*.

In section 4, I will try to give a reason why, in the context of Quine's philosophy, the *prima facie* meaning-theoretic phenomenon of the interference of descriptive conditions in our modal judgments is indeed destructive to QML and Aristotelian essentialism. This reason can be found, I think, in Quine's epistemology, more precisely in the consequences of his epistemological conception of what an object is.<sup>10</sup> Before discussing these consequences, I must lay out some more general points about Quine's epistemological model.

### 3. Objects in Quine's epistemology

The question about the cognitive role of ontology receives much attention in Quine's epistemological investigations. The crucial question in his epistemology of ontology is how we can have beliefs and theories that are about objects, given that our cognitive access to the world is limited to the action potentials in receptor cells. Quine studies the positing of objects (reification) from a genetic perspective,<sup>11</sup> by asking how a theory that makes reference to objects could be acquired on the basis of neural intake. In the present paper, I will not discuss the details of Quine's genetic speculations or their learning-theoretic underpinnings. Instead, I will mainly focus on the picture of the relations between object-talk<sup>12</sup>, theories, and sensory intake that arises out of Quine's genetic story.

*Observation sentences* are occasion sentences on which members of the language community are disposed to give an agreeing verdict (assent or dissent) when jointly witnessing an occasion. They are the linguistic expressions most directly associated with ranges of neural intake. From a learning-theoretic viewpoint, observation sentences are the expressions that can be learned without reliance on previously acquired language—they are the 'entering wedge' into language. Learning an observation sentence is a matter of acquiring a specific standard of perceptual similarity<sup>13</sup>: for example, the similarity of episodes of stimulation caused in part by the sound of the expression 'red' and light rays in the red frequencies (Quine 1974, 29–30). Observation sentences can be combined into what Quine calls the *free observation categorical*, a sentence of the form

(13) When *F*, *G*

where '*F*' and '*G*' are observation sentences.<sup>14</sup> The free observation categorical

10 To avoid any confusion about my intentions here, I should make it clear that I do not in the present paper attempt to argue against *Divers*. My purpose is to see whether *Divers*' critique of Quine holds up when we look at the issue from the point of view of Quine's philosophy, especially his epistemology. *Divers*, of course, would not accept Quine's epistemological views. The point of *Divers*' 2007 paper goes well beyond his remark about Quine's confusion. A scholarly discussion of Quine's philosophy is not among the purposes of his paper. Hence, I am not accusing *Divers* of misinterpreting Quine either.

11 Hylton (2007, 96–99) gives a good clarification of the aims of Quine's genetic approach in epistemology.

12 More specifically, object-talk couched in Quine's canonical notation of first-order logic with identity and without primitive-notation singular terms.

13 On perceptual similarity, see e.g. (Quine 1974, 17–19; 1996, 180; 2000, 1). According to Quine, an organism's standards of perceptual similarity are behaviorally testable.

14 The term 'observation categorical' is introduced only in Quine's later writings; in 1974 it was called simply 'categorical'. The qualifications 'free' and 'focal', which Quine uses e.g. in 1995, 27 and 1992, 10–11, correspond to the

construction is ‘a direct expression of inductive expectation, which underlies all learning’ (Quine 1995, 25). A free observation categorical puts words to an inductive expectation that one kind of episode of stimulation will be followed by another kind of episode of stimulation. Quine speculates about how a free observation categorical sentence can be learned on the basis of prior learning of its component observation sentences by a learning process he calls ‘transfer of conditioning’ (1974, 66–67). The free observation categorical construction is then abstracted from mastered instances by the process which is called ‘analogical synthesis’ in *Word and Object* (Quine 1960, 9) and which is described as the acquisition of a language-dependent standard of perceptual similarity in *The Roots of Reference* (1974, 60).

On Quine’s model of the relation between theory and sensory intake, a theory is tested by logically deriving an observation categorical from it and checking if the prediction the categorical expresses holds. What Quine calls the *empirical content* of a theory is the set of observation categoricals it implies.<sup>15</sup> According to Quine’s holistic model, the theory as a whole takes on empirical content in virtue of implying observation categoricals, and the sentences of the theory, other than the observation categoricals themselves, share in this content only as component sentences of the theory, not in isolation (Quine 1992, 13–17).

In a theory written in Quine’s canonical notation, the implied observation categoricals come in the form

$$(14) \Box x(Fx \rightarrow Gx)$$

which Quine calls *focal* in distinction to the free form (13), which can be logically represented as

$$(15) F \rightarrow G.$$

Quine describes the observation sentence as ‘Janus-faced’: it faces *inward* to a subject’s neural intake in being keyed to a specific kind of stimulation of the subject’s receptors, and *outward* to its subject matter (Quine 1993, 109–110). In its outward orientation toward the subject matter, the sentence is conceived as structured, as consisting of component expressions some of which ‘recur in the theory to denote objects the very conception of which is pure theory’ (Quine 1993, 110). From the point of view of neural intake, the observation sentence is an unstructured whole keyed to a range of sensory intake (Quine 1993, 109). In my view, the observation categorical is in a similar sense Janus-faced. Quine notes that there is a kind of difference in strength between the focal and the free aspects of an observation categorical, the focal being stronger (1995, 25–27; 1992, 10–11). In its orientation toward the subject matter of theory, an observation categorical is focal, of the form (14). It contains predicate terms that recur in the theory and are true or false of (n-tuples of) objects; in a word, it is an expression of an inductive expectation *concerning objects*. In its orientation toward neural intake, an observation categorical is free, of the form (15). It faces inward to the subject’s neural intake, and is not refuted as long as each occasion on which the members of the linguistic community are disposed to assent to the antecedent *F* is an occasion on which they are disposed to assent to the consequent *G*; in

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somewhat earlier ‘primitive’ and ‘objectual’ in 1990c, 9.

15 More precisely, the set of *synthetic* observation categoricals it implies: see e.g. (Quine 1992, 16; 1994, 453; 1995, 45).



a word, a free categorical holds as long as each *F*-occasion is a *G*-occasion. In contrast, the focal categorical requires for its truth that each *F*-object is a *G*-object. Considered as focal, the observation categorical is not associated with neural intake in the same direct way that it is as a free one. The reason is that the focal form contains no observation sentences (Quine 1992, 10–11).

Quine speculates on how the focal observation categorical construction could be learned in what he describes as an ‘irreducible leap’ in language acquisition (1974, 99–101). Before this leap, the free observation categoricals merely assert the ‘concomitance or close succession of separately specified phenomena’ (Quine 1995, 25–26), in the manner ‘whenever this, that’, with no ontological import, that is, with no reference to objects (1992, 10). The main learning-theoretic difference between the free and the focal observation categorical constructions is that the focal, unlike the free, cannot be learned by first learning some of its instances on the basis of previous mastery of observation sentences. This learning-theoretic difference corresponds to the epistemological point that the focal categoricals are not connected with neural intake in the same direct way that the free ones are via their component observation sentences. Unlike its free counterpart, a focal observation categorical is not composed of observational language: its conditions of assent and dissent do not reduce to those of observation sentences. It is in this sense that all objects are theoretical constructions, posits, according to Quine’s epistemology.<sup>16</sup> The contribution of ontology, reference to objects by the apparatus of quantification, predicates, and variables, is a purely structural one: by adding to logical structure, this referential idiom establishes logical connections between clusters of theoretical sentences and observation categoricals (Quine 1992, 31–36; 1990b, 360–362).

#### 4. Objects and descriptive conditions

In section 2, the interference of descriptive elements in judgments concerning the necessary and contingent traits of an object was seen as being due to metalinguistic connections between object-language expressions. With regard to Quine’s example (7)–(9), it was noted that the relevant kind of metalinguistic connection might be expressed by the first-grade sentence (10). Within Quine’s holistic model of empirical content, an explanation of the interference of descriptive elements can be given in terms of the maxim of minimum mutilation (Quine 1992, 14–15) as a principle of theory revision.

Rejecting

$$(16) \square x(x = \sqrt{x} + \sqrt{x} + \sqrt{x} \neq \sqrt{x} \rightarrow x > 7)$$

would probably result in a massive redistribution of truth values across the totality of our theories, as is in general the case with sentences of pure mathematics and logic. Such a rejection would go against the maxim of minimum mutilation. On the other hand, the rejection of

$$(17) \square x(\text{there are exactly } x \text{ planets} \rightarrow x > 7)$$

would be much more easily accommodated in this respect. (In fact, rejection of (17) would take place if one more planet were denied planetary status.) Thus, a Quinean

<sup>16</sup> It is important to see that Quine’s view of objects as theoretical is not limited to mathematical or otherwise ‘unobservable’ objects. He extends the doctrine to *all* objects (1981, 20).

explanation of our intuitive propensity to affirm (8) of an object specified by means of (7), but to deny (8) of the same object when it is specified by means of (9), will be based on the epistemological maxim of minimum mutilation.

According to Quine's epistemology, theories are not evidentially related to objects, but rather to observation categoricals understood as free, that is, as compounds of observation sentences. Seen as focal, observation categoricals contain predicate terms which appear also in other sentences of the theory and thus contribute to logical connections that sentences which are not observation categoricals have to the observation categoricals. The positing of objects through linguistic reference is a mere by-product of theories. This point emerges clearly from Quine's reply to Føllesdal's paper (1986) which advocates the reference-theoretic strategy of answering Quine's critique of QML:

I have tended increasingly to depreciate reference[.] [...] Observation sentences are the entering wedge to language and the arbiters of theory, and sentences again are the vehicle of theory itself. I see reference, reification, and ontology no longer as a goal of science, but rather as a spin-off of quantification and the variables, these being in turn a mere technical aid in forging logical links between observation sentences and theoretical sentences. (1986, 115)

In Quine's view, the only kind of epistemologically relevant content a theory can have is what he calls empirical content. Through the implication of observation categoricals, empirical content is holistically distributed to the sentences of the theory. Because of this holistic feature, any change in the fund of implied observation categoricals affects the content of every sentence of the theory, and consequently the content of all predicates appearing in these sentences. The predicates, in turn, are used in describing objects and in differentiating them from each other: some objects are *planets*, others are not; some object *numbers the planets*, and no other object does. All objects being posits, there simply are no 'objects in themselves' in addition to objects-as-represented-in-a-theory. An object is like what the theory says it is like, and there is no room for the question what the object is like independently of the theory.

Because the content of the predicates used in saying what an object is like depends on the whole theory, an object depends not only for its existence, but also for its identity, on the whole theory.<sup>17</sup> From the point of view of Quine's epistemology, the object that numbers the planets is the object that satisfies (7), and there is no 'object in itself' in addition to this object described as being thus or so. These (and other) descriptions of the object within a theory are constitutive of what the object is. From this perspective, the point of examples like (7)–(9) is not limited to questions about the descriptive content that our linguistic means of referring to objects may or may not have. Every way of specifying an

<sup>17</sup> According to Quine, some sentences of a theory may be such that they play no role in the implication of any observation categorical. This kind of sentences would be empty of empirical content, but it is no part of Quine's program to repudiate them on this score (Quine 1995, 48–49). As Panu Raatikainen (2003) points out, Quine does not impose his notion of empirical content as a positivist criterion of meaningfulness. So, to be absolutely precise, according to Quine's epistemology an object depends for its identity on the whole empirically meaningful part of the theory.

object is bound to assume a descriptive classification of the object, because the object itself is irreducibly an object-*qua*  $F$ , where ' $F$ ' is some descriptive condition.

At this point, the reader may feel that I am grossly misinterpreting Quine. The view of objects as theory-dependent that I have just attributed to Quine smacks of linguistic or epistemological idealism of the most extreme kind—a view that the world is our construction, a mere product of our linguistic habits. A doctrine according to which objects depend for their existence on us—our cognition, language, theories, or such—is exactly what Devitt (2010, 32–33) calls the metaphysical doctrine of 'anti-realism'. The view of objects I have attributed to Quine is an epistemological view; a transition from this to a metaphysical view that concerns the nature of objects themselves and not just the nature of our beliefs or conceptualization of objects may seem unwarranted. And regardless of this transition from epistemology to metaphysics, it may seem that my attribution plainly contradicts Quine's professed 'robust realism', namely his 'unswerving belief in external things—people, nerve endings, sticks, stones' (1981, 21).

However, I am convinced that I am not misinterpreting Quine with regard to his position on the nature of objects. To give a detailed demonstration of the correctness of my interpretation is beyond the scope of the present article; I have given this demonstration elsewhere (Keskinen 2012). In the present discussion, I will simply assume the main conclusions of this earlier research, namely the following: (i) The real objects in the real world are, according to Quine's epistemology, always objects of some theory or another, hence theoretical posits. But this fact does not make objects less than real; the notions 'real' and 'reality' are themselves always part of some theory or another, and we cannot, according to Quine, do better than occupy the point of view of one or another theory.<sup>18</sup> (ii) There is no inconsistency or tension between the view of objects as theory-dependent that I have attributed to Quine and Quine's self-professed realism. (iii) The *metaphysical* realism–anti-realism distinction does not make sense at all from the point of view of Quine's philosophy.

Quine's point about the interference of descriptive conditions in modal predication is not merely a meaning-theoretic or an epistemological point about our ways of specifying or theoretically representing objects. An object cannot be separated from the predicates used to describe it in a theory; the object is what the theory says it is, and there is no sense to the question what the object is *really* like independently of any theory. The theory is constitutive of what the object, for example the number nine, is. A picture of objects as theory-independent 'subject matter' *of which* something could be said in a theory is not supported, indeed is rejected, in Quine's epistemology. Because of Quine's holism, the statement that the number nine numbers the planets is just as constitutive of what that number is as is, say, the statement that it succeeds the number eight. And an analogous point can be made of any object, concrete or abstract. Due to Quine's

<sup>18</sup> As Paul A. Gregory (2008, 115) also points out, Quine's conception of objects as theoretical posits undermines the idea that objectivity would derive from our theories measuring up to transcendental, pretheoretic, or unconceptualized objects. Although it is meaningful to say that a theory is right or wrong about objects in the external world, this statement itself must be made from within some or another theory to which this notion of the external world also belongs.

conception of objects as theory-dependent, the interference of descriptive conditions in modal predication cannot be eliminated.<sup>19</sup>

## 5. Conclusion

The use Quine makes of his example (7)–(9) relies on our modal intuitions, intuitions which should reveal the kind of interference of descriptive elements that Quine sees as problematic to QML. The answers to Quine’s critique briefly discussed in section 2 turn on the idea that irrespective of such intuitions, and irrespective of the fact that we can, and often do, specify an object *as* falling under a descriptive condition (for example *qua* a man or *qua* numbering the planets), it is fully intelligible that the *object itself* may have a trait necessarily or contingently. But for Quine this way out is blocked. There are no objects independently of a theory in which they are posited through linguistic reference. An object is what the theory says it is, and hence all objects are, so to speak, irreducibly bound up with descriptive conditions. For this reason, the interference of descriptive elements in our modal judgments is decisive against QML and Aristotelian essentialism, from the point of view of Quine’s epistemology.

Within Quine’s epistemological framework, the only sense that can be made of the distinction between the necessary and contingent traits of an object is as relativized to one or another descriptive specification. The whole notion of a necessary trait derives from the interference of descriptive elements in our modal judgments; a Quinean explanation of this interference can be given in terms of a subject’s differing propensities to give up one sentence rather than another, as suggested in section 4. But this notion of a necessary trait is explicitly a first-grade, metalinguistic one. In ‘Two Dogmas in Retrospect’, Quine gives this kind of account of the putative necessity of mathematics and goes on to say that he makes no deeper sense of necessity anywhere, adding that *metaphysical* necessity has no place in his naturalistic view of things (1991, 270). In the present paper, I have attempted to spell out one important reason, not explicitly recognized by Quine himself, why metaphysical or *de re* necessity should indeed have no place in his naturalistic view of *things*.

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<sup>19</sup> This conception of objects does not threaten the intelligibility of non-modal contexts that are extensional, since in extensional contexts it is immaterial (with respect to truth, at least) how the object of which something is predicated happens to be linguistically specified.

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