

## Puzzles about Intensionality

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### I

Nonextensional notions – such as *necessity*, *possibility*, and especially notions of propositional attitude like *believing that* – raise a number of perplexing philosophical questions, some very old. One issue concerns the sorts of objects that are necessary or possible or are believed or disbelieved. What exactly are they? The standard answer is *propositions*, understood as units of information semantically expressed by declarative sentences but not belonging to any particular language, like the common content of ‘Snow is white’ and the French ‘*La neige est blanche.*’ W. V. Quine (1956) has objected to propositions as the contents of sentences and the objects of belief on grounds of an alleged obscurity of the ‘conditions’ under which a pair of propositions  $p$  and  $q$  are the same. Quine proposes replacing a sentence like

- (1) Chris believes that the Earth is round,

which evidently entails the existence of a proposition (that the Earth is round), with

- (2) Chris believes-true<sub>ENG</sub> ‘The Earth is round,’

which, Quine says, is committed to the existence of an English sentence but not to any proposition thereby expressed. He cautions that *believing-true* a sentence is not to be confused with believing the sentence to be true, since Chris (who may speak no English) can believe that the Earth is round – or as we now put it, Chris can believe-true<sub>ENG</sub> ‘The Earth is round’ – without believing that the English sentence ‘The Earth is round’ is true (i.e. without believing-true<sub>ENG</sub> ‘The Earth is round’ is true<sub>ENG</sub>). On closer inspection this proposal collapses. Quine’s cautionary remark raises the question of just what belief-truth of a sentence is. Quine argues that one who accepts propositions cannot legitimately complain that the notion of belief-truth is obscure, since (2) is definable for the propositionalist as

- (3) Chris believes the proposition expressed<sub>ENG</sub> by ‘The Earth is round.’

On this explanation, the word for Quine's surrogate notion might be more perspicuously spelled 'believes-the-content<sub>ENG</sub>-of.' Truth, it turns out, is beside the point. Contra Quine, however, (3) is exactly how the notion *cannot* be defined. If it is, then (2) is as committed to the proposition that the Earth is round as (1) is. If (2) is to fulfill its mission, its content must be explained without any appeal to the proposition that the Earth is round. Furthermore, Alonzo Church (1956) demonstrated that (3) does not mean the same as (1). Both designate the offending proposition, but (3) merely describes it as whatever is expressed by a certain English sentence whereas (1) identifies the actual proposition more directly. This is easily seen by translating both (1) and (3) into another language, say, French, while preserving literal meaning:

- (1') *Chris croit que la terre est ronde.*  
 (3') *Chris croit la proposition exprimée<sub>ANG</sub> par "The Earth is round."*

It is apparent that these sentences do not carry the same information for a French speaker who speaks no English. Quine concedes Church's point, protesting that he does not claim that (2) has the same meaning as (1), only the same truth value. But if (1) and (2) are alike in truth value, it follows once again that (2) is true only if there is a proposition that the Earth is round. The case for propositions is strikingly powerful, while no viable alternative has yet been offered.

Acknowledging propositions as the objects of belief and other attitudes provides an answer to one question, only to raise a host of further questions. *Kripke's Puzzle* about belief concerns a normal French speaker, Pierre, who on reflection sincerely assents to the French sentence '*Londres est jolie*.' Later, Pierre learns the English language through immersion. Aware that 'London' names the city where he now resides, but unaware that it names the same city he calls '*Londres*,' Pierre sincerely and reflectively assents to 'London is not pretty' – while still sincerely and reflectively assenting to '*Londres est jolie*.' Does Pierre believe (the proposition) that London is pretty? Assuming an extremely plausible Principle of Disquotation, and assuming standard literal translation of French into English, any normal French speaker who sincerely and reflectively assents to '*Londres est jolie*' and who is not under any relevant linguistic confusion culminating in misunderstanding, believes that London is pretty. Whereas by the English version of Disquotation, Pierre's assent to 'London is not pretty' likewise indicates a belief that London is not pretty. Yet Pierre evidently does not contradict himself. Worse, assuming a Strengthened Principle of Disquotation – that a normal speaker who is not reticent or under a relevant linguistic confusion sincerely and reflectively assents to a declarative sentence iff the speaker believes the proposition thereby expressed – Pierre's failure to assent to 'London is pretty' indicates he does *not* believe that London is pretty.

## II

Another cluster of issues concerns the distinction of *de dicto* and *de re*. Quine noted that a sentence like 'The number of planets might have been even' may be understood two ways. On the *de dicto* reading, it expresses that the prospect of an even number of planets is a possibility. This is true in some ordinary sense of 'possible' or 'might,' since

there might have been ten planets instead of nine. On the *de re* reading the sentence instead asserts something of the actual number of planets, that is nine: that *it* might have been even instead of odd. This is false on any natural understanding of ‘might.’ The distinction arises also for belief. Thus ‘Smith believes the number of planets is even’ may be understood as expressing that Jones believes there are an even number of planets (*de dicto*), or alternatively, that Smith believes of the number nine that it is even (*de re*). (A common confusion conflates the distinction of *de dicto* and *de re* with Keith Donnellan’s (1966) distinction between two types of uses of definite descriptions: the *attributive* use on which ‘the such-and-such’ is used to mean *whatever is uniquely such-and-such*, and the *referential* use on which the description is used instead to name something in particular to which the speaker is relevantly connected. That the two distinctions are different is proved by the fact that a *de re* reading allows the description to be used referentially or attributively.) Kripke’s Puzzle demonstrates that *de dicto* belief alone generates hard riddles. Adding *de re* attitudes into the mix compounds the mystery. Whether or not Pierre believes that London is pretty, it seems beyond reasonable dispute that Pierre believes of London that it is pretty. But if propositions are the objects of *de dicto* belief, *de re* beliefs appear to be something else again. Is there something – some object – common to all who believe of Socrates that, say, if he is a man then he is mortal? There is the man, Socrates himself, but is there anything else? If so, what?

Related questions took on a distinctly logical flavor, and new questions in philosophical logic arose, when Russell introduced his Theory of Descriptions, with its concomitant distinction between *primary* and *secondary occurrence* – a distinction that for all intents and purposes duplicates *de re* and *de dicto*, respectively, where definite or indefinite descriptions (‘denoting phrases’) are involved. *Russell’s Puzzle* of how George IV could wish to know whether Scott is the author of *Waverley* without wishing to know whether Scott is Scott was solved, in part, by recognizing two senses of wondering whether Scott is the author of *Waverley*: King George may wonder whether Scott and no one else wrote *Waverley* (secondary occurrence); or instead (or in addition), George may wonder concerning *Waverley’s* author (i.e. Scott), whether Scott is *him* (primary). The *de re* is aptly represented using a pronoun (‘him’) or the logician’s variable:

$(\exists x)[x \text{ is sole author of } Waverley \ \& \ \text{George IV wondered whether: Scott} = x]$ ,

$(\exists n)[\text{there are exactly } n \text{ planets} \ \& \ \text{it is possible that: } n \text{ is even}]$

$(\lambda x)[\text{Pierre believes that: } x \text{ is pretty}](\text{London}), \text{ etc.}$

Assuming (with Russell, for the sake of illustration) that ‘Scott’ and ‘London’ are genuine names, the attributed *de re* attitudes are indeed a wonder whether Scott is Scott and a belief that London is pretty. Russell offered an answer to the question of what interrelations of logical dependence exist, given that Scott = the author of *Waverley*, between believing that Scott is the author of *Waverley* and believing that Scott is Scott. His answer is: none. But deep questions concerning their connections remain.

Characteristic of representing the *de re* using the apparatus of first-order logic is the occurrence of a variable within a nonextensional context bound from outside that context. The question of what it is to believe (or wonder, etc.) something *de re* con-

cerning Scott receives a sharpened formulation: what is the proper way to interpret an open sentence of the form

George believes that: . . .  $x$  . . .

under the assignment of Scott as value for the free variable or pronoun? *Quine's Puzzle* about Ralph and Ortcutt is best posed using this apparatus. Given that Ralph believes that the man in the brown hat is a spy but not that the man seen at the beach is a spy, even though it is Ortcutt in both cases, what sense can be made of

(4) Ralph believes that:  $x$  is a spy

under the assignment of Ortcutt to ' $x$ '? Consider first an easier question: is (4) true or false (in English, plus variables) under this assignment? Or in the terminology of Alfred Tarski, does Ortcutt *satisfy* (4)? The obvious reply, as Quine set out the case, is that he does. Quine misled a generation of readers into thinking his puzzle is to some extent a puzzle of philosophical psychology, and is less tractable than it is, by objecting on the questionable grounds that if Ortcutt satisfies (4), then Ralph believes that Ortcutt is a spy even while sincerely and vehemently affirming 'Ortcutt is no spy.' *Pace* Quine, the problem is not how to make Ralph come out consistent. The problem is one of philosophical logic, and is concerned not so much with Ralph as with Ortcutt: is he believed to be a spy? The answer is that despite Ralph's denials, Ortcutt is indeed so believed. If it follows from this (I agree that it does, though most might disagree, perhaps even Quine) that Ralph also believes, *de dicto*, that Ortcutt is a spy, then so he does. Ralph's believing that Ortcutt is a spy while failing to assent to 'Ortcutt is a spy' violates Kripke's Strengthened Principle of Disquotation. But Kripke's own examples demonstrate how dubious that principle is. The principle should be measured against the examples, not the other way around. Belief need not always culminate in assent – even belief with understanding, on reflection, without reticence, etc. – witness Kripke's Pierre. Pierre's doxastic disposition with regard to the question of London's pulchritude parallels Ralph's with regard to Ortcutt's participation in unlawful espionage.

Recognizing that Ortcutt satisfies (4) places an important restriction on the answer to the question of how to interpret (4), but the question still needs an answer. *Neo-Fregeanism* encompasses attempts to provide an answer faithful to the idea that the objects of belief are propositions of a particular sort: Fregean *thoughts*, which are purely conceptual through and through. Neo-Fregeanism faces a number of serious difficulties. Indeed, Hilary Putnam's imaginative Twin Earth thought-experiment seems to demonstrate that *de re* belief and other *de re* attitudes are not adequately captured by Fregean thoughts, since any pair of individuals who are molecule-for-molecule duplicates will entertain the very same set of Fregean thoughts despite having different *de re* attitudes. *Neo-Russellianism* provides a simple alternative solution: (4) attributes belief of a *singular proposition*, which is about Ortcutt in virtue of including Ortcutt himself among the proposition's constituents. Neo-Russellianism does not merely avoid the problems inherent in neo-Fregeanism. It is strongly supported by considerations from philosophical syntax and logic. An English sentence of the form

$\alpha$  believes that  $\phi$ ,

is true if and only if the individual designated by  $\alpha$  believes the proposition expressed by  $\phi$ . Thus, for example, (1) is true<sub>ENG</sub> if and only if Chris believes the proposition expressed<sub>ENG</sub> by ‘The Earth is round,’ to wit, that the Earth is round. Likewise, then, (4) is true<sub>ENG</sub> under the assignment of Orcutt as value for the variable ‘ $x$ ’ if and only if Ralph believes the proposition expressed<sub>ENG</sub> by ‘ $x$  is a spy’ under the same assignment of Orcutt to ‘ $x$ .’ What proposition does ‘ $x$  is a spy’ express<sub>ENG</sub> under this assignment? (Cf. What does ‘He is a spy’ express<sub>ENG</sub> under the assignment of Orcutt to the pronoun ‘he’?) The variable ‘ $x$ ’ has an assigned value (viz., Orcutt) but, unlike the description ‘the man in the brown hat,’ does not have a Fregean *sense* which determines this value. If it did, (4) would be *de dicto* rather than *de re*. The variable’s only semantic content is its value. The proposition expressed is thus exactly as neo-Russellianism says it is: the singular proposition about Orcutt, that he is a spy.

### III

The *de dicto/de re* distinction may be tested by anaphoric links to a descriptive phrase. Consider:

Quine wishes he owned a sloop, but it is a lemon.

Ralph believes a female spy has stolen his documents; she also tampered with the computer.

These sentences strongly favor a *de re* reading. Appropriately understood, each evidently entails the *de re* reading of its first conjunct, even if the first conjunct itself is (somewhat perversely) read *de dicto*. If, as alleged, it is a lemon, then there must be an *it* that is a lemon, and that *it* must be a sloop that Quine wants. Similarly, if she tampered with the computer, then there must be a *she* who is a spy and whom Ralph suspects of the theft. The *de dicto/de re* distinction comes under severe strain, however, when confronted with Peter T. Geach’s (1967) ingenious Hob/Nob sentence:

- (5) Hob thinks a witch has blighted Bob’s mare, and Nob wonders whether she (the same witch) killed Cob’s sow.

This puzzling sentence seems to resist both a *de re* and a *de dicto* reading. If there is a *she* whom Nob wonders about, then that *she*, it would appear, must be a witch whom Hob suspects of mare blighting. But the sincere utterer of (5) intuitively does not seem committed in this way to the reality of witches. Barring the existence of witches, though (5) may be true, there is no actual witch about whom Hob suspects and Nob wonders. Any account of the *de dicto/de re* that depicts (5) as requiring the existence of a witch is *ipso facto* wrong. There is a natural reading of (5) that carries an ontological commitment to witches, viz., the straightforward *de re* reading. The point is that the intended reading does not.

A tempting response to Geach’s Puzzle construes (5) along the lines of

- (5<sub>aa</sub>) (i) Hob thinks: a witch has blighted Bob’s mare; and (ii) Nob wonders whether: the witch that (Hob thinks) blighted Bob’s mare also killed Cob’s sow.

Yet this will not do; (5) may be neutral concerning whether Nob has a true belief about, let alone shares, Hob's suspicion. Nob's wondering need not take the form "Did the same witch that (Hob thinks) blighted Bob's mare also kill Cob's sow?" It may be that Hob's thought takes the form "Maggoty Meg blighted Bob's mare" while Nob's takes the form "Did Maggoty Meg kill Cob's sow?" If so, (5) would be true, but no fully *de dicto* reading forthcoming.

Worse, Hob's and Nob's thoughts need not involve the same manner of specification. It may be that Hob's thought takes the form "Maggoty Meg has blighted Bob's mare" while Nob's wondering takes the form "Did the Wicked Witch of the West kill Cob's sow?" This appears to preclude a neo-Fregean analysis along the lines of the following:

- (F)  $(\exists\alpha)[\alpha$  **co-represents** for both Hob and Nob & Hob thinks  $\lceil\alpha$  is a witch who has blighted Bob's mare $\rceil$  & Nob **thinks**  $\lceil\alpha$  is a witch $\rceil$  & Nob **wonders**  $\lceil$ Did  $\alpha$  kill Cob's sow? $\rceil$ ].

Geach himself argues that since (5) does not commit its author to the existence of witches, it must have some purely *de dicto* reading or other. He suggests an alternative neo-Fregean analysis, evidently along the lines of the following:

- (G)  $(\exists\alpha)(\exists\beta)[\alpha$  is a witch-representation &  $\beta$  is a witch-representation &  $\alpha$  and  $\beta$  **co-represent** for both Hob and Nob & Hob **thinks**  $\lceil\alpha$  has blighted Bob's mare $\rceil$  & Nob **wonders**  $\lceil$ Did  $\beta$  kill Cob's sow? $\rceil$ ].

This proposal faces certain serious difficulties, some of which are also problems for (F): The relevant notion of a *witch-representation* must be explained in such a way as to allow that an individual representation  $\alpha$  (e.g. an individual concept) may be a witch-representation without representing anything at all. More important, the relevant notion of *co-representation* needs to be explained so as to allow that a pair of individual representations  $\alpha$  and  $\beta$  may co-represent for two thinkers without representing anything at all for either thinker. Geach does not explicitly employ the notion of co-representation. I include it on his behalf because it, or something like it, is crucial to the proposed analysis. Any analysis, if it is correct, must capture the idea that Hob's and Nob's thoughts have a common focus. Though there is no witch, Hob and Nob are, in some sense, thinking about the *same* witch. It is on this point that *de dicto* analyses generally fail. Even something as strong as (5<sub>dd</sub>) – already too strong – misses this essential feature of (5). On the other hand, however the notion of vacuously co-representing witch-representations is ultimately explained, by contrast with (G), (5) evidently commits its author no more to co-representing witch-representations than to witches. More generally, any analysis along the lines of (F) or (G) cannot forever avoid facing the well-known difficulties with neo-Fregean analyses generally (e.g. the Twin Earth considerations).

An alternative approach accepts the imposingly apparent *de re* character of (5) at face value, and construes it along the lines of the following:

- (6) There is someone whom: (i) Hob thinks a witch that has blighted Bob's mare; (ii) Nob also thinks a witch; and (iii) Nob wonders whether she killed Cob's sow.

This happily avoids commitment to witches. But it does not provide a solution. Hob's and Nob's thoughts need not concern any real person. Maggoty Meg is not a real person, and there may be no one whom either Hob or Nob believe to be the wicked strega herself.

Some proposed solutions to Geach's Puzzle make the unpalatable claim that Hob's and Nob's musings concern a Meinongian Object – a particular witch who is both indeterminate and nonexistent. Many proposed solutions instead reinterpret *de re* attributions of attitude so that they do not make genuine reference to the individuals apparently mentioned therein by name or pronoun. These responses inevitably make equally unpalatable claims involving *de re* constructions – for example, that Nob's wondering literally concerns the very same witch/person as Hob's belief yet neither concerns anyone (or anything) whatsoever, or that *de re* constructions mention or generalize over speech-act tokens and/or connections among speech-act tokens. It would be more sensible to deny that (5) can be literally true on the relevant reading, given that there are no actual witches. The problem with this denial is that its proponent is clearly in denial. As intended, (5) can clearly be true (assuming Hob and Nob are real) even in the absence of witches. Numerous postmodern solutions jump through technical hoops to allow a pronoun ('she') to be a variable bound by a quantifier within a belief context ('a witch') despite standing outside the belief context, hence also outside the quantifier's scope, and despite standing within an entirely separate belief context. These 'solutions' do not satisfy the inquiring mind as much as boggle it. It is one thing to construct an elaborate system on which (5) may be deemed true without 'There is a witch.' It is quite another to provide a satisfying explanation of the content of Nob's attitude, one for which the constructed system is appropriate. How can Nob wonder about a witch, and a particular witch at that – the very one Hob suspects – when there is no witch and, therefore, no particular witch about whom he is wondering? This is the puzzle in a nutshell. It combines elements of intensionality puzzles with puzzles concerning nonexistence and puzzles concerning identity, and has been deemed likely intractable.

#### IV

The solution I urge takes (5) at face value, and takes seriously the idea that false theories that have been mistakenly believed – what I call *myths* – give rise to fabricated but genuine entities. These entities include such oddities as: Vulcan, the hypothetical planet proposed by Babinet and which Le Verrier believed caused perturbations in Mercury's solar orbit; the ether, once thought to be the physical medium through which light waves propagate; phlogiston, once thought to be the element (material substance) that causes combustion; the Loch Ness Monster; Santa Claus; and Meinong's Golden Mountain. Such *mythical objects* are real things, though they are neither material objects nor mental objects ('ideas'). They come into being with the belief in the myth. Indeed, they are created by the mistaken theory's inventor, albeit without the theorist's knowledge. But they do not exist in physical space, and are, in that sense, abstract entities. They are an unavoidable by-product of human fallibility.

Vulcan is a mythical planet. This is not to say, as one might be tempted to take it, that Vulcan is a planet but one of a rather funny sort, for example a Meinongian Object

that exists in myth but not in reality. On the contrary, Vulcan exists in reality, just as robustly as you the reader. But a mythical planet is no more a planet than a toy duck is a duck or a magician is someone who performs feats of magic. A mythical object is an imposter, a pretender, a stage prop. Vulcan is not a real planet, though it is a very real object – not concrete, not in physical space, but real. One might say that the planet Mercury is also a ‘mythical object,’ in that it too figures in the Vulcan myth, wrongly depicted as being gravitationally influenced by Vulcan. If we choose to speak this way, then it must be said that some ‘mythical planets’ are real planets, though not really as depicted in the myth. Vulcan, by contrast with the ‘mythical’ Mercury, is a *wholly mythical* object, not a real planet but an abstract entity inadvertently fabricated by the inventor of the myth. I shall continue to use the simple word ‘mythical’ as a shorthand for the notion of something wholly mythical.

The existence of fictional objects, in something close to this sense, has been persuasively urged by Peter van Inwagen (1977) and Saul Kripke (1973) as an ontological commitment of our ordinary discourse about fiction. Their account, however, is significantly different from the one I propose. Kripke contends that a mythical-object name like ‘Vulcan’ is ambiguous between two uses, one of which is parasitic on the other. It would be less deceptive to replace the ambiguous name with two univocal names, ‘Vulcan<sub>1</sub>’ and ‘Vulcan<sub>2</sub>.’ The name on its primary use, ‘Vulcan<sub>1</sub>,’ was introduced into the language, *sans* subscript, by Babinet as a name for an intra-Mercurial planet. Le Verrier used the name in this way in theorizing about Mercury’s perihelion. On this use, the name names nothing; ‘Vulcan<sub>1</sub>’ is entirely vacuous. Giving the name this use, we may say such things as that Le Verrier believed that Vulcan<sub>1</sub> affected Mercury’s perihelion. Le Verrier’s theory is a myth concerning Vulcan<sub>1</sub>. The name on its secondary use, ‘Vulcan<sub>2</sub>,’ is introduced into the language (again *sans* subscript) at a later stage, when the myth has finally been exposed, as a name for the mythical planet erroneously postulated, and thereby inadvertently created, by Babinet. Perhaps it would be better to say that a new *use* of the name ‘Vulcan’ is introduced into the language. ‘Vulcan<sub>2</sub>’ is fully referential. Using the name in this way, we say such things as that Vulcan<sub>2</sub> was a mythical intra-Mercurial planet hypothesized by Babinet. The difference between Vulcan<sub>1</sub> and Vulcan<sub>2</sub> could not be more stark. The mistaken astronomical theory believed by Babinet and Le Verrier concerns Vulcan<sub>1</sub>, which does not exist. Vulcan<sub>2</sub>, which does exist, arises from the mistaken theory itself. Vulcan<sub>2</sub> is recognized through reflection not on events in the far-off astronomical heavens but on the more local story of man’s intellectual triumphs and defeats, particularly on the history of science.

Kripke’s account is vulnerable to a familiar family of thorny problems: the classical problem of true negative existentials and the more general problem of the content and truth value of sentences involving vacuous names. Vulcan<sub>1</sub> does not exist. This sentence is true, and seems to say about something (*viz.*, Vulcan<sub>1</sub>) that it fails to exist. Yet the sentence entails that there is nothing for it to attribute nonexistence to. Furthermore, on Kripke’s account, Le Verrier believed that Vulcan<sub>1</sub> has an impact on Mercury’s perihelion. What can the content of Le Verrier’s belief be if there is no such thing as Vulcan<sub>1</sub>? Furthermore, is the belief content simply false? If so, then it may be said that Vulcan<sub>1</sub> has no impact on Mercury’s perihelion. Yet this claim too seems to attribute something to Vulcan<sub>1</sub>, and thus seems equally wrong, and for exactly the same



reason, with the claim that Vulcan<sub>1</sub> does have such an impact. Kripke is aware of these problems but offers no viable solution.

I submit that Kripke's alleged primary use of a mythical-object name is itself a myth. To be sure, Babinet believed himself to be naming a real planet in introducing a use of 'Vulcan' into the language. And other users like Le Verrier believed themselves to be referring to a real planet. But this linguistic theory of the name 'Vulcan' is mistaken, and is in this respect exactly like the astronomical theory that Vulcan is a real planet. The two theories complement each other, and fall together hand in hand. The situation should be viewed instead as follows. Babinet invented the theory – erroneous, as it turns out – that there is an intra-Mercurial planet. In doing this, he inadvertently created Vulcan. Indeed, Babinet even introduced a name for this mythical planet. The name was intended for a real planet, and Babinet believed the name thus referred to a real planet (*de dicto*, not *de re!*). But here again, he was simply mistaken. Other astronomers, most notably Le Verrier, became convinced of Babinet's theory, both as it concerns Vulcan (that it is a very real intra-Mercurial planet) and as it concerns 'Vulcan' (that it names the intra-Mercurial planet). Babinet and Le Verrier both believed, correctly, that the name 'Vulcan', on the relevant use, refers to Vulcan. But they also both believed, mistakenly, that Vulcan is a real planet. They might have expressed the latter belief by means of the French version of the English sentence 'Vulcan is a planet,' or other shared beliefs by means of sentences like 'Vulcan's orbit lies closer to the Sun than Mercury's.' These beliefs are mistakes, and the sentences (whether English or French) are false.

Importantly, there is no relevant use of the name 'Vulcan' by Babinet and Le Verrier that is vacuous. So used the name refers to Vulcan, the mythical planet. Le Verrier did *not* believe that Vulcan<sub>1</sub> is an intra-Mercurial planet – or, to put the point less misleadingly, there is no real use marked by the subscript on 'Vulcan' on which the string of words 'Vulcan<sub>1</sub> is an intra-Mercurial planet' expresses anything for Le Verrier to have believed, disbelieved, or suspended judgment about. To put the matter in terms of Kripke's account, what Le Verrier believed was that Vulcan<sub>2</sub> is a real intra-Mercurial planet. Le Verrier's belief concerns the mythical planet, a very real object that had been inadvertently created, then named 'Vulcan,' by Babinet. Their theory about Vulcan was completely wrong. Vulcan is in fact an abstract object, one that is depicted in myth as a massive physical object.

A common reaction is to charge my proposal with miscasting mythical objects as the objects with which myths are concerned. On the contrary, it is objected, if they exist at all, mythical objects enter the intellectual landscape only at a later stage, not in the myth itself but in the subsequent historical account of the myth. A robust sense of reality demands that the myth itself be not about these abstract objects but about *nothing*, or at most about representations of nothing. No one expresses this sentiment more forcefully than Russell:

[Many] logicians have been driven to the conclusion that there are unreal objects. . . . In such theories, it seems to me, there is a failure of that feeling for reality which ought to be preserved even in the most abstract studies. Logic, I should maintain, must no more admit a unicorn than zoology can; for logic is concerned with the real world just as truly as zoology, though with its more abstract and general features. To say that unicorns have an

existence in heraldry, or in literature, or in imagination, is a most pitiful and paltry evasion. What exists in heraldry is not an animal, made of flesh and blood, moving and breathing of its own initiative. What exists is a picture, or a description in words. . . . A robust sense of reality is very necessary in framing a correct analysis of propositions about unicorns . . . and other such pseudo-objects. (Russell 1919: 169–70)

I heartily applaud Russell's eloquent plea for philosophical sobriety. But his attitude toward 'unreal' objects is fundamentally confused. To repeat, a mythical planet is not a massive physical object but an abstract entity, the product of creative astronomizing. Likewise, a mythical unicorn or a mythical winged horse is not a living creature but a fabricated entity, the likely product of blurred or fuzzy vision, just as mermaids are the likely product of a deprived and overactive imagination under the influence of liquor – creatures not really made of flesh and blood and fur or scales, not really moving and breathing of their own initiative, but depicted as such in myth, legend, hallucination, or drunken stupor.

It is frequently objected even by those who countenance mythical objects that the Vulcan theory, for example, is merely the theory that there is an intra-Mercurial planet, not the bizarre hypothesis that the relevant abstract entity is that planet. Babinet and Le Verrier, it is observed, did not believe that an abstract entity is a massive heavenly object. Quite right, but only if the sentence is meant *de dicto*. Understood *de re* – as the claim that, even if there is such an abstract entity as the mythical object that is Vulcan, Babinet and Le Verrier did not believe it to be an intra-Mercurial planet – it turns mythical objects into a philosophical black box. What role are these abstract entities supposed to play, and how exactly are their myth-believers supposed to be related to them in virtue of believing the myth? In fact, this issue provides yet another reason to prefer my account over Kripke's. On my account, in sharp contrast, the role of mythical objects is straightforward: they are the things depicted as such-and-such in myth, the fabrications erroneously believed by wayward believers to be planets or the medium of light-wave propagation or ghosts, the objects the mistaken theory is about when the theory is not about any real planet or any real medium or any real ghost. It is not merely that being depicted as such-and-such is an essential property of a mythical object, a feature the object could not exist without. Rather, being so depicted is the metaphysical function of the mythical object; that is *what* it is, its *raison d'être*. To countenance the existence of Vulcan as a mythical planet while at the same time denying that Babinet and Le Verrier had beliefs about this mythical object, is in a very real sense to miss the point of recognizing Vulcan's existence. It is precisely the astronomers' false beliefs about the mythical planet that makes it a mythical planet; if no one had believed it to be a planet, it would not *be* a mythical planet. Come to that, it would not even exist.

Another important point: I am not *postulating* mythical objects. For example, I am not postulating Vulcan. Even if I wanted to, Babinet beat me to it – though he postulated Vulcan as a real planet, not a mythical one. Mythical objects would exist even if I and everyone else had never countenanced or recognized them, or admitted them into our ontology, etc. Rather, I see myself as uncovering some evidence for their independent and continued existence, in something like the manner of the paleontologist who infers dinosaurs from their fossil remains, rather than the theoretical physicist who

postulates a new category of physical entity in order to make better sense of things (even if what I am actually doing is in important respects more like the latter).

Perhaps the most important evidence in favor of this theory of mythical objects is its logical entailment by our thoughts and beliefs concerning myths. We are sometimes led to say and think things like “An intra-Mercurial planet, Vulcan, was hypothesized by Babinet and believed by Le Verrier to affect Mercury’s perihelion, but there has never been a hypothetical planet whose orbit was supposed to lie between Mercury and Venus” and “Some hypothetical species have been hypothesized as linking the evolution of birds from dinosaurs, but no hypothetical species have been postulated to link the evolution of mammals from birds.” The distinctions drawn cannot be made without a commitment to mythical objects, that is without attributing existence, in some manner, to mythical objects. No less significant, beliefs are imputed about the mentioned mythical objects, to the effect that they are not mythical. Being wrongly believed not to be mythical is just what it is to be mythical. Furthermore, beliefs are imputed to distinct believers concerning the very same mythical object.

Further evidence – in fact, evidence of precisely the same sort – is provided by the Hob/Nob sentence. Geach’s Puzzle is solved by construing (5) on its principal reading, or at least on one of its principal readings, as fully *de re*, not in the manner of (6) but along the lines of:

- (7) There is a mythical witch such that (i) Hob thinks: she has blighted Bob’s mare; and (ii) Nob wonders whether: she killed Cob’s sow.

This has the distinct advantage over (6) that it does not require that both Hob and Nob believe someone to be the witch in question. In fact, it allows that there be no one in particular whom either Hob or Nob believes to be a witch. It does require something not unrelated to this, but no more than is actually required by (5): that there be something that both Hob and Nob believe to be a witch – *something*, not *someone*, not a witch or a person, certainly not an indeterminate Meinongian Object, but a very real entity that Nob thinks a real witch who has blighted Bob’s mare. Nob also believes this same mythical witch to be a real witch and wonders about ‘her’ (really: about *it*) whether she killed Cob’s sow. In effect, the proposal substitutes ontological commitment to mythical witches for the ontological commitment to real witches intrinsic to the straightforward *de re* reading of (5) (obtained from (7) by deleting the word ‘mythical’). There are other witch-free readings for (5), but I submit that any intended reading is a variant of (7) that equally commits the author to the existence of a mythical witch, such as:

- (i) Hob thinks: some witch or other has blighted Bob’s mare; and (ii) the (same) mythical witch that Hob thinks has blighted Bob’s mare is such that Nob wonders whether: she killed Cob’s sow.

Significantly, one who accepts Kripke’s account may not avail him/herself of this solution to Geach’s Puzzle. On Kripke’s account it may be observed that

- (i) Hob thinks: Meg<sub>1</sub> has blighted Bob’s mare; and (ii) Nob wonders whether: Meg<sub>1</sub> killed Cob’s sow.

The Hob/Nob sentence (5) is not obtainable by existential generalization on ‘Meg<sub>1</sub>,’ since by Kripke’s lights, this name is supposed to be vacuous and to occur in non-extensional (‘referentially opaque,’ *ungerade*) position. Nor on Kripke’s (1973) account can ‘Meg<sub>2</sub>’ be correctly substituted for ‘Meg<sub>1</sub>’; Hob’s and Nob’s theories are supposed to concern the nonexistent witch Meg<sub>1</sub> and not the mythical witch Meg<sub>2</sub>. Kripke might instead accept the following, as a later-stage observation about the Meg<sub>1</sub> theory:

Meg<sub>2</sub> is the mythical witch corresponding to Meg<sub>1</sub>.

Here the relevant notion of *correspondence* places ‘Meg<sub>2</sub>’ in extensional position. While ‘Meg<sub>2</sub>’ is thus open to existential generalization, ‘Meg<sub>1</sub>’ supposedly remains in a non-extensional position where it is not subject to quantification. It is impossible to deduce (5) from any of this. Geach’s Puzzle does not support Kripke’s account. On the contrary, the puzzle poses a serious threat to that account, with its denial that Hob’s and Nob’s thoughts are, respectively, a suspicion and a wondering regarding Meg<sub>2</sub>.

On my alternative account, we may instead observe that

Maggoty Meg is a mythical witch. Hob thinks she has blighted Bob’s mare. Nob wonders whether she killed Cob’s sow.

We may then conjoin and EG (existential generalize) to obtain (7). In the end, what makes (7) a plausible analysis is that it (or some variant) spells out in more precise language what (5) literally says to begin with. Babinet and Le Verrier provide a real-life case in which the thoughts of different thinkers converge on a single mythical object: Babinet thought he had seen an intra-Mercurial planet, and Le Verrier believed that it (the same ‘planet’) impacted Mercury’s perihelion. The primary lesson of Geach’s Puzzle is that when theoretical mistakes are made mythical creatures are conceived, and in acknowledging that misbelievers are sometimes related as Nob to Hob, or as Le Verrier to Babinet, we commit ourselves to their illegitimate progeny.

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