

# Madagascar revisited

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Madagascar entered the literature of the ‘new theory of reference’ almost from the beginning, in the addenda to Kripke (1972). Kripke offers an account on which a name can be passed from speaker X to speaker Y without change of referent simply by Y’s intending to use it as X does. Perhaps some correct, non-circular, uniquely identifying description *usually does* get passed along with the name, but Kripke denies that one *always must*. Thus, it is claimed, non-scientists can acquire ‘Feynman’ as a name for Feynman, though told nothing to distinguish him from Gell-Man, and children can acquire ‘Newton’ as a name for Newton, though told only the silly fable about the apple. Parallel to the real Newton case, on the fantastic hypothesis that the incompleteness theorems were proved by one Schmidt and stolen by Gödel, someone told only ‘Gödel is the author of the incompleteness theorems’ would acquire ‘Gödel’ as a name for the thief, not the true author. Kripke calls his view a ‘chain of communication picture’ and not a ‘causal theory’, disclaiming any ambition to develop a full-blown theory, and warning that not every causal link between speakers succeeds in preserving reference. To illustrate this last point, he cites the shift from denoting something real to denoting something imaginary in the case of ‘Saint Nicholas’. In an addendum he remarks:

Gareth Evans has pointed out that similar cases of reference shift arise where the shift is not from a real entity to a fictional one, but from one real entity to another of the same kind. According to Evans, ‘Madagascar’ was a native name for a part of Africa; Marco Polo, erroneously thinking that he was following native usage, applied the name to an island (Kripke 1972: 768).

Kripke does not highlight the feature of the example that makes the most trouble for his view: that the reference shifts *despite* an intention to preserve it. For the Madagascar case is a case of *inadvertent* reference-shifting, something quite different from the kind of *deliberate* reference-shifting that occurs when Cambridge, Massachusetts is ‘named after’ Cambridge, England. Kripke considers only briefly how to account for the example, mentioning ‘the social character of naming’, but conceding a need for ‘extended discussion’, left for future work. But he has not yet provided any such extended discussion in print.

Evans himself indicates that he considers denotation-change ‘decisive’ against what he calls the ‘Causal Theory of Naming’, but his published account of the key example consists only of a short quotation:

Not only are changes of denotation imaginable, but it appears that they actually occur. We learn from Isaac Taylor’s book: *Names and their*

*History*, 1898: ‘In the case of “Madagascar” a hearsay report of Malay or Arab sailors misunderstood by Marco Polo [or by the scribes who took down the great traveller’s tale] has had the effect of transferring a corrupt form of the name of a portion of the African mainland to the great African Island.’ (Evans 1973: 195, bracketed material from Taylor 1898: 6 omitted by Evans)

He challenges Kripke to explain, without falling back on descriptivist ideas, how the reference of ‘Madagascar’ can shift while that of ‘Gödel’ does not.

Michael Dummett, too, seemed to find the objection decisive, saying to Kripke:

[T]he causal chain really falls away as irrelevant. . . . [Y]ou acknowledge the necessity to put in a qualification ‘with the intention to preserve reference’ in the links of the causal chain, . . . [b]ut now, in view of the fact that reference can indeed shift . . . you have to make the qualification ‘a successful intention to preserve reference’, and at that point the claim that there must be such a chain becomes, it seems to me, virtually empty (Harman et al. 1974: 516).

More recently, Harold Noonan (2013: 120–22) ends a long critique of Kripke by repeating the Evans challenge:

Kripke needs . . . to provide . . . an account of why Schmidt is not the reference of the name in the Gödel scenario, while Madagascar is the reference of the name in the situation Evans describes. But he does not do so.

Let us first look into the facts of the Madagascar case, which may be garbled in Kripke’s account and therewith most of the subsequent literature; long-standing doubts on Kripke’s own part have only just recently surfaced in print (2013: 137). Evans’s quotation is from the prologue to Taylor 1898, but some phrases can hardly be properly understood unless one reads the main entry on ‘Madagascar’ in the body of the book (181–82).

The ‘portion of the African mainland’ at issue is the region around Mogadishu, variously called *Magadascar*, *Macdasur*, *Macdaschau*, *Magadoza*, or *Magadoxo*. The ‘corrupted form of the name’ is that used in Marco Polo’s *Travels*, appearing in different manuscripts as *Madagastar*, *Magastar*, *Mandeschar*, *Mandegastar*, *Madeigascat*, or *Madeigascar*. What was ‘misunderstood by Marco Polo’ (or his scribe Rustichello da Pisa) was that the region in question is part of the Somali Peninsula, and not an island. A more recent work (Room 1997: 217) suggests more specifically a mistranslation of the Arabic *jazira*, meaning primarily ‘island’, secondarily ‘peninsula’ (as with the Qatari broadcasting network, al-Jazeera, ‘the [Arabian] Peninsula’).

Apart from taking the place to be an island, the bulk of what Marco Polo tells us in book 3, chapter 33 of his *Travels* about his Madagascar agrees

with what ibn-Battuta in the next century reports after his visit to Mogadishu: It lies between Socotra and Zanzibar, the inhabitants are Muslim, they eat camels, the place is very rich, there are many elephants. None of this fits Madagascar at any period. Yet Marco Polo's *Travels* 'has had the effect' of getting the corrupted form 'Madagascar' or 'Madeigascar' of the name 'Mogadishu' or 'Magadoxo' transferred 'to the great African Island'. Taylor strives to explain how.

The *Travels* exerted a considerable influence on European cartography prior to the voyages of discovery: on the Martin Behaim globe of 1492, for instance. The Behaim *Erdapfel* is overall very inaccurate in its representation of Africa, depriving the continent of its horn (its eastward extension near the equator), but endowing it with a tail (an eastward extension at its southern end). The presence of the imaginary tail leaves no room for the real island of Madagascar, in any case unknown to Europeans at the time, but the absence of the real horn leaves room for an imaginary island of Madagascar. Since Marco Polo says there is an island north of Zanzibar, Georg Glockendon, painter of the map on the globe, puts one there. The Hunt-Lenox globe of circa 1510 (see Collingridge 1895: 105) still shows this imaginary northern Madagascar, so labelled, even while also showing what seems to be the real southern Madagascar, unlabelled.

The large African isle was reached in the first decade of the 1500s by Portuguese explorers. The local inhabitants had no native name for the huge island as a whole. The explorers named it after Saint Lawrence, on whose feast day they landed. In later maps the imaginary island disappears and the real one is labelled 'San Lorenzo', then 'San Lorenzo or Madagascar', then 'Madagascar'. Cartographers decided that, despite its location south rather than north of Zanzibar, this island must be the one Marco Polo meant, since exploration had shown there is no other off the East African coast. It is as if, faced with an account of Baja California mistakenly calling the peninsula an island, cartographers had transferred the name 'California' to Vancouver Island, despite the description of a fauna, populace, and *latitude* fitting the Mexican, not the Canadian, place. Thus while on Kripke's account the reference-shift occurs with the 13th-century traveller, on Taylor's it occurs with 16th-century cartographers.

Marco Polo's travels were in Asia, not Africa; nor did Renaissance cartographers personally visit the latter continent. The cartographers at least had indirect acquaintance with Madagascar through the Portuguese. Did Marco Polo have such acquaintance through 'Malay or Arab sailors'? It seems not. He tells us that south of Madagascar lies Zanzibar, but that it is difficult to travel any further south than that, owing to dangerous currents and gryphons. If this is what his informants told him, it is doubtful that they themselves had ever travelled as far south of Zanzibar as Madagascar, which hosts exotic fauna unmentioned in the *Travels*, but no gryphons.

It is hard to see how Marco Polo could have been referring to Madagascar if he lacked any connection with it even indirectly through informants. Taylor's account is more plausible than Kripke's because it seems that *a name N that X uses to refer to A can inadvertently come to be used by Y to refer to B only if Y is sufficiently acquainted with B to be able to form the de re belief about B that it is what X is using N to denote*. This is the principle, I suggest, that makes possible an answer to the Evans challenge. In so saying I am taking inspiration from some hints in Berger (2002) and from the very few further words on Madagascar that Kripke adds in passing in a little-noted subsequent discussion:

When someone picks up the name he forms first an intention to use it with the same reference as he heard it. Now he may also form other intentions which he thinks coincide with this...but which in fact diverge. Namely...that *that* island is Madagascar, or what have you (Harman et al. 1974: 513).

Suppose X is using N to denote A. The statement that Y intends to use N as X does covers at least three distinguishable cases: (1) Y forms the *de dicto* intention to use N to denote what X uses it to denote, *whatever it might be*, as Jephtha vowed to sacrifice the first creature that met him on his return, *whatever it might be*. (2a) Y is acquainted with A and correctly infers from things X says using N that X is using N to denote A, and forms the *de re* intention to use N to denote A. (2b) Y is acquainted with B and erroneously infers from things X says using N that X is using N to denote B, and forms the *de re* intention to use N to denote B. Inadvertent reference-shifting occurs only in case (2b).

On either Kripke's or Taylor's account, the Madagascar example is such a case, with N='Madagascar', A=the region in Somalia, B=the great African island. On Kripke's account X=Malay or Arab sailors and Y=Marco Polo, while on Taylor's account X=Marco Polo and Y=European cartographers. Taylor's version is more plausible than Kripke's insofar as it seems that the cartographers did, while Marco Polo did not, have sufficient acquaintance with B.

The first part of the Evans challenge is to explain how inadvertent reference-shifting can occur, as in the Madagascar case. The second part of the Evans challenge is to explain why inadvertent reference-shifting is rare. This is usually expressed, as we saw Noonan expressing it, in the form of the challenge to explain why such a shift does not occur in the Gödel case. But it seems that a shift *can* occur in the Gödel case, provided Y is acquainted with Schmidt and can form the relevant *de re* belief about him. If reference-shifting would rarely happen in the Gödel case, it is because this proviso would rarely be met.

To illustrate, suppose Y<sub>1</sub> knew Schmidt in her youth, as a reclusive mathematician who would not tell anyone his name, but who showed her his

incompleteness proof, of whose subsequent publication history she knows nothing, while  $Y_2$  has just heard of the incompleteness theorems, though no one has shown him any proof of them or told him anything about their authorship. Surely any philosopher who grants that there is a reasonably clear distinction between *de dicto* and *de re* belief will hold that  $Y_1$  is, while  $Y_2$  is not, in a position to form *de re* beliefs about Schmidt. Both now hear X say ‘Gödel is giving a lecture next week.’ Both ask, ‘Who is this Gödel?’ Both are told, ‘The author of the incompleteness theorems.’ Case (2b) may arise with  $Y_1$ , and she may acquire ‘Gödel’ as a name for Schmidt, saying ‘I knew Gödel in my youth, and he even showed me his incompleteness proof, though he never told me his name’. Case (1) alone can arise with  $Y_2$ , and he will acquire ‘Gödel’ only as a name for Gödel. It is because  $Y_2$ ’s situation is so much more common than  $Y_1$ ’s that reference-shift would be rare in the Gödel case.

And what of the role of ‘the social character of naming’ mentioned by Kripke? Because of it, even if a rare reference-shift occurs in the Gödel case, it is unlikely to persist. To be sure, if  $Y_1$  herself becomes a recluse, she may go on using ‘Gödel’ as a name for Schmidt in her private diary until the end of her days. But if  $Y_1$  goes around using the name ‘Gödel’ in public, it is likely that she will encounter other users of the name, that they will do more than simply repeat X’s assertion ‘Gödel is the author of the incompleteness theorems’, and that things they say will eventually make  $Y_1$  doubt her conclusion that others are using ‘Gödel’ as a name for the recluse she once knew. Since her intent all along has been the ‘social’ one of using the name as others use it, she will then cease using ‘Gödel’ as a name for Schmidt. As a general rule, subject to particular exceptions, a usage that goes astray is likely though not certain to be corrected eventually.

That is why Evans had to resort to so *recherché* an example as the Madagascar case. What is distinctive about that case is that one single individual, Marco Polo, was the sole link between the original users of the name and Europeans: There was no prospect of European cartographers being corrected by contact with other users of the relevant name. (The ‘corruption’ of the name further guarantees that even if a Renaissance cartographer had been captured by pirates and carried off to Mogadishu, he would have been unlikely to guess that he was then in ‘Madagascar’.)

Consider an intermediate case:  $Y_3$  has closely studied the great incompleteness paper, and in the German original, but with the author’s name redacted. Being astute at guessing features of mathematicians’ personalities from their proof and prose styles – as some can recognize philosophers just from the style of their ‘proofs that  $p$ ’ – she has divined several character traits of the genius Schmidt, not shared with the thief Gödel. Is that enough acquaintance to allow her to form *de re* beliefs about Schmidt? Might she acquire ‘Gödel’ as a name for Schmidt? The response to the Evans challenge being contemplated suggests that the two questions should receive the same answer.

That is compatible with its being unclear what the answer should be. (Kripke, discussing a hypothetical commentator whose remarks are strictly limited to the proof, and who says ‘Here Gödel does this, there Gödel does that,’ seems inclined to say that the reference is to Schmidt; but he may be speaking of what he was in Kripke (1977) to call the *speaker’s reference* rather than the *semantic reference*.)

Philosophers have expressed suspicion about the distinction between *de re* and *de dicto* attitudes on which the suggested response to the Evans challenge relies, and for various reasons: (i) there are too many unclear cases (like the example just given), (ii) the distinction seems too context-dependent (a line taken by Noonan), (iii) the distinction trivializes, with every *de dicto* belief being ‘exportable’ to a *de re* belief. Kripke (2011) is devoted to arguing against (iii), which is also a ‘Philosophy of Mind’ opposed in Evans (1973). But the other objections would need to be addressed as well, which is one reason it must be conceded that ‘extended discussion’ is still needed before the Evans challenge can be claimed to have been met.

Another reason is that different explanations may be required to account for certain other examples: the Madagascar mammal *indri*, mentioned by W. V. Quine (Davidson et al. 1974: 500), of which an anonymous referee has reminded me; the switched-baby example that Evans cites alongside Madagascar case; and the example Kripke himself first cited, of the loss of reality on the part of the referent of ‘Saint Nicholas’ over the millennium and a half between his attendance at the Council of Nicæa in 325 and his visit *chez* Clement Moore in 1823. All I claim here is that cases like that of Madagascar are not as ‘decisive’ against the chain of communication picture as critics from Evans on seem to have supposed.

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## *Semantic paradox and alethic undecidability*

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In what follows, I use the principle of truth-maker maximalism, *TM* below, to provide a new solution to the semantic paradoxes:

*TM*: If a sentence is true (or false), then it is true (or false) in virtue of non-alethic facts.

In *TM*, the term *non-alethic facts* means facts that have nothing to do with the truth or falsity of sentences, like the fact that snow is white. The solution I propose works this way. Call *being grounded* the property a sentence *S* has when it has a truth- or falsity-maker that is a non-alethic fact, and *ungrounded* the property *S* has when it lacks such a truth- or falsity-maker. A common view about paradoxical sentences, for example, *L*, is that they are *ungrounded* and thus, given *TM*, that they lack truth-value:

*L*: *L* is not true

I show below that the argument concluding that *L* is ungrounded is flawed. I demonstrate that we can neither *affirm* that paradoxical sentences are grounded, nor *affirm* that they are ungrounded. It's undecidable whether they are grounded or not. That's due to their grounding status being *infinitely deferred* as a result of the looping or infinitely descending referential chains these sentences exhibit. (I say more about those below.) Given *TM*, it follows that paradoxical sentences are *alethically undecidable*, that is, we cannot assert, in principle, whether they are true, false, either true or false, neither true nor false, both true and false, and so on. Call this the alethic undecidability solution or *AUS*.