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ARE THERE EMPIRICAL CASES OF INDETERMINACY OF TRANSLATION?

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Summary

Quine's writings on indeterminacy of translation are mostly abstract and theoretical; his reasons for the thesis are not based on historical cases of translation but on general considerations about how language works. So it is no surprise that a common objection to the thesis asserts that it is not backed up by any positive empirical evidence. Ian Hacking (1981 and 2002) claims that whatever credibility the thesis does enjoy comes rather from alleged (fictitious) cases of radical *mis*translation. This paper responds to objections of that kind by exhibiting actual cases of indeterminacy of translation.

Introduction

"Gavagai" is a made up word, as are the various translations Quine says it admits—all equally compatible with the behaviors of the made up native speakers, but incompatible with each other. Apparently some of the most impressive cases of indeterminacy of translation are fictitious. My favorite is Jorge Luis Borges's (1964) description of a few pages of the "Eleventh Volume of *A First Encyclopedia of Tlön.*" We are told that the languages spoken on planet Tlön differ radically from the ones we speak on Earth. Commenting on one of those languages, Borges produces a vivid image of what indeterminacy of translation might look like. He mentions a native sentence and two possible translations. One of them is a literal translation; the other has a more natural expression in most human languages:

> The nations of this planet are congenially idealist. […] The world for them is not a concourse of objects in space, but a heterogeneous series of independent acts. It is successive and temporal, not spatial. There are no nouns in Tlön's conjectural *Ursprache*, from which the "present" languages and dialects are derived […]. For example: there is no word corresponding to the

> word "moon," but there is a verb which in English would be "to moon" or "to moonate." "The moon rose above the river" is *hlor u fang axaxaxas mlo*, or literally: "upward behind the onstreaming it mooned." (Borges 1964, 8)

This gives us an illustration of indeterminacy of translation because the native sentence *hlor u fang axaxaxas mlo* apparently can be equally well translated as "The moon rose above the river" and as "Upward behind the onstreaming it mooned." The latter is a more literal translation, but harder for us to understand. The former is easier for us to understand, but might render other portions of the native discourse less readily intelligible: portions of their philosophical and scientific discourse might sound nonsensical to us when translated out of their native idiom. Thus, alternative manuals of translation—one more literal, the other less so—might be thought up which afford *roughly equal fluency* in dialogues and negotiations with the natives of Tlön, but which diverge in the translation of individual sentences. I take this to be a good illustration of Quine's thesis of the indeterminacy of translation.[1]

The question addressed in this paper is whether there is any actual empirical evidence for the thesis. A recurrent objection says that there is none, and that the thesis asserts a mere logical possibility.[2] Quine himself did not do much to prevent this kind of objection from coming up. His reasoning contains very little in terms of direct positive evidence.[3] It relies instead on considerations about how language and translation works in general, not on actual case studies. Quine does not think that the lack of direct evidence counts against the thesis. Rather, he argues that this is to be expected, given how hard it usually is to find a single manual of translation.[4] Once a manual of translation is found that affords fluency in

1. This is how Quine formulates the thesis in *Word and Object*: "manuals for translating one language into another can be set up in divergent ways, all compatible with speech dispositions, yet incompatible with one another" (1960, 27). The notion of 'incompatibility' that figures in this passage is explained in *Pursuit of Truth* in terms of non-interchangeability: the "two translation relations might not be usable in alternation, from sentence to sentence, without issuing in incoherent sequences. Or, to put it in another way, the English sentences prescribed as a translation of a given […] sentence by two rival manuals might not be interchangeable in English contexts" (Quine 1992a, 48).

2. Collin and Guldman (2005, 255), for example, say that "… it remains a striking feature of his account that Quine only argues for the abstract logical possibility of the indeterminacy of translation. He never offers serious examples taken from actual anthropological or linguistic research." See also Bar-On (1993), who argues that indeterminacy of translation is inconsistent with our actual translation practices, and Hacking (1981 and 2002), discussed below.

3. See Quine (1960, chapter 2), (1970), and (1987).

4. "Radical translation is a rare achievement, and it is not going to be undertaken success-

dialogues and negotiations, why keep on seeking for another? Although Quine's reasoning does not require direct empirical evidence, I shall argue his thesis is confirmed by some case studies in radical translation. The cases presented below are offered here also as a response to the claim that indeterminacy of translation is a mere logical possibility that has little to do with our actual translation practices. This suggestion has appeared several times in the literature, but perhaps its most striking appearance has been in Hacking's (1981).

Hacking argues that because Quine's reasons for indeterminacy are so abstract and theoretical, whatever empirical credibility the thesis has must come instead from a few notorious cases of radical *mistranslation*. He then shows that these cases are all fictitious, and concludes it is unlikely that there has ever been a case of radical mistranslation. Hacking seems to suggest that cases of mistranslation offer evidence for indeterminacy of translation. But surely this is not how Quine viewed the matter: indeterminacy of translation says that if a translation manual can be devised, so can others that are equally compatible with the behaviors of the natives but incompatible with each other. So it is a thesis about multiple translatability, not about untranslatability or mistranslatability. Hacking's point, however, is that given the lack of direct empirical support for indeterminacy of translation, it might gain some plausibility from cases of mistranslation; but—and this is his main argument in (1981 and 2002)—the allegedly historical cases of mistranslation are all fictitious. This does not entail that indeterminacy is impossible, but it is meant to drain most of its plausibility. Hacking concludes that given the lack of empirical support, indeterminacy of translation is a logical possibility (something we cannot prove impossible) that is most likely false of the world we live in.[5] Given Hacking's argumentative strategy, the bulk of his reasoning turns on an analysis of three notorious cases of alleged radical mistranslations. One of these cases is that of an alleged mistranslation of the word 'kangaroo':

> On their voyage of discovery to Australia a group of Captain Cook's sailors captured a young kangaroo and brought the strange creature back on board

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fully twice for the same language" (Quine 1992a, 50f.).

5. In his *Historical Ontology* (2002, 152) Hacking added a few extra sentences at the very beginning of his (1981) paper, which is reprinted in the book: "Some readers will protest that this shows nothing about Quine's logical point. I am not so sure. If something is claimed as a logical possibility about translation, which is never known to be approximated for more than a few moments in real life, may we not begin to suspect that the conception of translation that is taken for granted may be erroneous?"

> their ship. No one knew what it was, so some men were sent ashore to ask the natives. When the sailors returned they told their mates, 'It's a kangaroo.' Many years later it was discovered that when the aborigines said 'kangaroo' they were not in fact naming the animal, but replying to their questioners, 'What did you say?'[6]

As Hacking points out, this report is false. In the Guugu Yamidhirr dialect, spoken by Aborigines who lived in the area where Cook landed, the word for kangaroo is "ga*n*urru", where "*n*" is a phoneme that sounds a bit like "ng." According to Hacking (1981, 172), this was "apparently pointed out in a letter to an Australian newspaper in 1898," but only became common knowledge with the work of anthropologist John Haviland in 1972. Travelers in Australia subsequent to Cook apparently either failed to contact speakers of the Guugu Yamidhirr dialect or made contact but failed to pronounce the word properly; hence the myth of the radical mistranslation of "kangaroo." There was no mistranslation, just poor phonetic transcription. Two other cases of alleged mistranslation are likewise analyzed away by Hacking—that of the French word "vasisdas" and that of the English word "indri". Based on his analysis of these cases, Hacking suggests that there is no evidence of there ever having occurred a single case of radical mistranslation.

This paper does not examine the examples brought by Hacking—which are indeed fictitious—but discusses instead cases of radical translations of Amerindian words and phrases that apparently satisfy Hacking's definition of a mistranslation (section 1). Amerindian cosmologies—found especially in native cultures of the Amazon region, but also throughout North, Central and South America—are so much at odds with the cosmologies prevalent in Europe (and throughout the world nowadays) that radical mistranslations in Hacking's sense are bound to occur. I then argue (section 2) that there is something wrong with Hacking's criteria of mistranslation, and that the cases exhibited here are in fact evidence both of indeterminacy of translation and of what one might want to call 'cosmological relativity'. The paper concludes that indeterminacy can be argued for using both top-down (from abstract reasons, as Quine did) and bottom-up (from actual cases of translation, as we do here) strategies, and at the very end answers a couple of objections.

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6. Quoted from Hacking (1981, 175), originally in *The Observer* (London, 1973). See also Banks's entry 14, July 1770, in his (1962).

1. *Radical "mistranslations" of Amerindian phrases*

We begin with Hacking's criteria for a radical mistranslation:

> (1) Speakers of two very different languages are trying to communicate. (2) A speaker of one language says *s*. Speakers of the other language take him to be saying *p*. (3) This translation is completely wrong. Yet (4) neither party realizes it, although they continue to converse. Moreover (5) the mistranslation persists until it is too late to correct. (1981, 171)

Hacking has in mind cases of mistranslation of names, hence cases of *malostension*, or the misidentification of the object or objects referred to by a name. These occur "when (6) an expression of the first language is taken by speakers of the second language to name a natural kind. (7) It does nothing of the sort, but (8) the second language incorporates this expression as the name of the natural kind in question" (171). Conditions (3) and (7) are meant to rule out "mere differences in nuance, moderate misunderstandings and misclassifications [...], or the taking of the name of an individual as the name of a class" (171). As we shall see next, conditions (1)–(8) are apparently satisfied by some translations of Amerindian words.

Anthropological studies have been pointing out for some time now that most Amerindian peoples do not conceive themselves as the only creatures that see themselves as humans.[7] Like many other cultures, they describe themselves as persons and as human beings, and they also conceive persons as centers of intentionality and agency. But, unlike many cultures, they view the belonging of an individual to a natural kind as something quite different from what we take it to be. For many cultures, this is a matter of having certain natural traits (biological, physical, etc.) which are true of the individuals of that kind regardless of how they are perceived by others. For the Amerindians, on the other hand, belonging to a natural kind is a matter of perspective. The same individual that from a human perspective is a jaguar, is said to be a human being from the perspective of the jaguars (see Lima 2005, 215), and is said to belong to yet another kind from the perspective of other creatures (say, a fish, an armadillo, a monkey, a spirit, or whatever). In other words, for the Amerindians the natural sorting of an individual turns on the species that sees that individual. The kind to which an individual belongs is relative to how it is seen by others. So Amer-

7. See, e.g., Århem (1993), Descola (1996), Lima (1996, 2005), Viveiros de Castro (1996, 1998, 2002), and Vilaça (2005).

indians, like other cultures—European cultures, for example—claim that human beings are persons. But they diverge from others in saying that not only we, humans, see ourselves as humans. They say that seeing oneself as human is a common trait of all creatures, whereas others—Europeans, for example—would tend to say that humanity is what sets us apart from other creatures. They say that humanity is shared, and that what sets creatures apart is instead the kind of body that each has. On their view, the same individual that is a human from one perspective can also be non-human in another. Vilaça (2005, 450) describes the case of the Amazonian Wari' people and provides further references:

> Although they see jaguars as animals, the Wari' know from their shamans that jaguars see themselves as humans: that is, as people pursuing a full social life and endowed with a human appearance. A similar instance among the Carib of British Guiana, taken from Ahlbrinck's work of 1924, is cited by Levy-Bruhl as an example of this extended notion of humanity: "[A]nimals (just as plants and inanimate objects) live and act like humans. In the morning, the animals go 'to work,' as the Indians do. The tiger, the snake and all the other animals leave to go hunting; like the Indians, they must 'look after their family' …" (Ahlbrinck 1924, 221, in Levy-Bruhl 1996 [1927], 30).

Commenting on studies such as these, Viveiros de Castro (1998) offers a more generalized account of Amerindian cosmology:

> Typically, in normal conditions, humans see humans as humans, animals as animals, and spirits (if they see them) as spirits; however, animals (predators) and spirits see humans as animals (as prey) to the same extent that animals (as prey) see humans as spirits or as animals (predators). By the same token, animals and spirits see themselves as humans: they perceive themselves as (or become) anthropomorphic beings when they are in their own houses or villages and they experience their own habits and characteristics in the form of culture—they see their food as human food (jaguars see blood as manioc beer, vultures see the maggots in rotting meat as grilled fish, etc.), they see their bodily attributes (fur, feathers, claws, beaks, etc.) as body decorations or cultural instruments, they see their social system as organized in the same way as human institutions are (with chiefs, shamans, ceremonies, exogamous moieties, etc.). This 'to see as' refers literally to percepts and not analogically to concepts … (470)

Viveiros de Castro and others thus say that Amerindian cosmology has a "perspectival quality." Differences among kinds of creatures are not

accounted for in physical or biological terms as many cultures understand them, but in terms of the perspective afforded by the body of the individual that perceives the individuals at hand. From the perspective of one's own body, one sees oneself as human, and sees other creatures as having different kinds of bodies, some of them non-human. But this is also true of the way all other creatures see themselves and the creatures around them.

One significant consequence of this is that in Amerindian tongues the words used to designate what we call "persons" or "humans", and which have been translated accordingly—e.g., *dene* (McDonnell 1984), *masa* (Århem 1993), *matsigenka* (Rosengren 2006), *wari'* (Vilaça 2005)—do not designate persons or humans as we understand them. Instead, those words function as pronouns or indexicals of self-designation—much like "we" or "us"—which vary in content according to who uses them and in which context. It is of course understandable that the Amerindian words just mentioned have been translated for "human beings" or "persons," and it is for us natural to continue to do so, given the fluency in dialogues and negotiations allowed by that choice. The same is true not only of words of self-designation but also of words that we usually translate as names of natural kinds such as jaguar, tapir, arapaima, etc. The Tupinambás (of eastern Brazil), for example, use the word *jauára*—also transcribed as *ya'guara*—to designate creatures of a natural kind (the jaguar), as we do, i.e. creatures that have a certain type of body. But for them, having that body is not something that belongs to a creature's independent nature or essence; rather it is something that a creature has or does not have relative to the perspective from which its body is perceived. The same individual creature may have the body of a jaguar when seen from the perspective of a human body, a body of a human being when seen from the perspective of a jaguar, and yet a different type of body from the perspective of a third creature. In fact, *jauára* works much like the Amerindian words for "person" and "human being": it registers a certain perspective, and functions much like an indexical, such as "you" or "they".

Reporting on his voyages to Brazil in the 16th Century, Hans Staden recalls being made captive by the native Tupinambás. He describes a ritual in which a Tupinambá declared himself to be a jaguar while eating human flesh: *jauára iche* ["I am a jaguar"] (see Staden 2008, 91). Being a *jauára* is in this case the perspective of a creature that eats human flesh, among other things, i.e. the perspective of a predator—but note that from that perspective it is not human flesh that is being eaten. The perspective one has is fixed by one's body, but bodies are in this framework essentially

unstable and can change radically in special circumstances. Vilaça (2005) reports the case of a Wari' child who was invited by her mother to take a trip into the forest:

> Many days go by as they walk around and pick fruit. The child is treated normally by her mother until one day, realizing just how long they have spent away from home, the child starts to grow suspicious. Looking carefully, she sees a tail discreetly hidden between her mother's legs. Struck by fear, she cries for help, summoning her true kin and causing the jaguar to flee. (451)

Reports such as these are quite common in the Amazon region and offer evidence of how radically different from ours the notion of a body is for the Amerindians: it is not a substance or a physical substrate, but primarily a set of "affections or ways of being" (Viveiros de Castro 1996, 128), "a way of being actualized in a bodily form" (Vilaça 2005, 450).

What the Tupinambás and other Amerindians ordinarily see when they look at a jaguar is a jaguar, but this is not how jaguars see themselves, and neither is it what the Tupinambás and other Amerindians see in some special circumstances. The case is likewise for other creatures and even spirits and celestial bodies such as the moon (see Fernandes 1970, 171). This is so because the individuals that we may conceive as jaguars are conceived by the Amerindians as seeing themselves as humans; hence, they too have a language and designate themselves with words that correspond to *wari'*, *dene*, *masa*, *matsigenka*, etc. From their perspective, they also see beings that differ from themselves in bodily appearance, and are accordingly classified as predator or prey—just like we do with other creatures. Snakes and jaguars see themselves as humans, and in turn see humans as tapirs or white lipped peccaries, for example, as prey (see Baer 1994, 224, quoted by Viveiros de Castro 1998, 477). Hence, in Amerindian tongues the words we ordinarily translate as names of natural kinds, such as jaguar, tapir, armadillo, etc. vary in content (extension) according to who uses them and in which context, while not varying in what Kaplan (1989, 505ff.) calls "character." Like the Amerindian words for "human" or "person", they function as indexicals or pointers. They may of course be translated into many *other* languages as jaguar, tapir, armadillo, etc., and this is as good a translation as we will ever get without radical changes in our use of our words.

Strikingly, however, these translations satisfy Hacking's conditions for a radical *mistranslation:* a number of cultures have been in dialogue with Amerindian peoples over the last five centuries, translating words such

as *jauára* for "jaguar". Yet what an English (or Portuguese, etc.) speaker means by "jaguar" differs radically from what the Tupinambás mean by *jauára*; and the difference here is not just a matter of nuance, moderate misunderstanding or misclassification, nor is it mistaking the name of an individual for the name of a class. In translation, "jaguar" ends up meaning a creature that belongs to a set picked out by their physical and biological traits independent of who sees it, whereas by *jauára* the Tupinambás mean a perspective which many individuals of different species can take on, including human beings. This difference, however, did not prevent the word "jaguar" and others like it from being incorporated from the Tupi language into Portuguese, Spanish, English, and other European tongues to designate a natural kind.[8] So we do have here historical cases of radical mistranslation in Hacking's sense.[9] At the same time, it is unclear which alternative translations would be better suited for these cases.

2. *Indeterminacy of translation and cosmological relativity*

The anthropologists mentioned above have pointed out that the cosmologies of the Amerindian peoples differ radically from ours, and they have offered indications on how Amerindians think (the inferences they make) and are inclined to talk on given occasions. For the most part they have not provided better translations, nor are they saying that the translations we do have are wrong. Instead, the suggestion is that in translation we are bound to use the categories with which we are familiar and project them onto native cultures. But this is precisely the point of Quine's indeterminacy of translation: "What the indeterminacy thesis is meant to bring

8. This happened with many other Tupi words as well. The Portuguese word for armadillo, for example, is "tatu", from the Tupi word *ta'tu*; "jaguatirica" (ocelot) comes from the Tupi *îaguara tyryk*; "guapuruvu" (s*chizolobium parahyba*) comes from ïwakuru'mbu.

9. Two interesting additional examples are those of the Wari' expressions *kwere-* and *jam-*, that are usually translated as body and soul (see Vilaça 2005, 452ff.). What we mean by our words "body" and "soul" has no counterpart in the Wari' cosmology. Having a *jam-* (soul) is for the Wari' having the capacity to transform, especially in extraordinary action. *Jam-* is not what gives a person's body feelings, thoughts, consciousness, etc., but what gives it its *instability.* A body—which is conceived by them not as a substance or substrate, but as a set of affections or ways of beings—will change due to its *jam-*. Vilaça reports (453) that "the Wari' insist that healthy and active people do not have a soul (*jam-*)", precisely because they are much less prone to change their affections or ways of being.

out is that the radical translator is bound to impose about as much as he discovers" (Quine 1992a, 49).

Hacking has argued previously for the *determinacy* of translation (see his 1975, 150ff.): he says that two translated sentences *p* and *q* cannot be both correct translations of a native sentence *s*, and at the same time be "contraries".[10] This is true, but it is a misreading of Quine's thesis, which does not say that the translated sentences *p* and *q* are contraries, but merely that the *manuals* that yield each sentence are incompatible in the sense that using them in alternation will bring about an incoherent English text or discourse: the translated sentences *p* and *q* are "not interchangeable in English contexts" (Quine 1992a, 48). The fact that they are not interchangeable does not entail that they cannot both be true. In fact, there is no reason to think that they are not *intertranslatable*: *p* is a translation of *s* which is a translation of *q*—thus *p* is a second-hand translation of *q*; moreover, they must both fit equally well the speech-behaviors of the natives while uttering *s*. So in many cases—though not necessarily in all—they are likely to have the same truth-value, and (by definition) are not contraries. The point is that even when two English sentences are perfectly good translations of *s*—in the sense of allowing for fluency in dialogues and negotiations—if we think of them as conveying meanings (conceived as something distinct from their actual behavior during those dialogues and negotiations), then the meanings of the two English sentences offered as translations of *s* must differ. If they did not differ, then they could for the most part be used in alternation without producing incoherence in the overall English text or discourse. So the fact that a translation relation is transitive—i.e. that if *p* is a translation of *s*, and *s* is a translation of *q*, then *q* is a translation of *p*—does not entail the transitivity of meaning. The sentences *p* and *q* might not be usable in alternation in English contexts, and thus there is hardly any sense in which they can be said to mean the same. In other words, a good translation is not evidence of sameness of meaning. Let's not dwell on Hacking's misreading of Quine's thesis here but merely press that the cases presented above are evidence of the *indeterminacy* of translation.

There are at least two ways of finding out what a native speaker of a foreign tongue means by what she says: we can translate her words into

10. It is not clear what Hacking means by saying that two sentences cannot be "contraries". Perhaps he means that they cannot be logically incompatible, i.e., that they cannot be negations of each other nor contraries in the strict sense (in which one says 'all S is P' and the other says 'no S is P')—in either sense the sentences cannot both be true.

a language we already know, or we learn to speak like her. In the latter case, little or no translation is needed. But in the former, finding out what a person means is the outcome of a translation; hence the meanings assigned to her words cannot be used as a standard for the correction of the translation itself. What we can do is to come up with a better translation—one that allows for more fluency in dialogues and negotiations—and with which the original translation can then be compared and corrected. In any case, if we are to say in our language what she says in hers, some translation will be needed.

To be sure, fluency in dialogues across cultures is bound to be broken here and there: some phrases will be untranslatable or only partially translatable. This surely happens with many Amerindian phrases in translation; and it is a common experience for anyone who speaks more than one tongue: one can know how to say things in a foreign language without ever quite finding a way of conveying it in one's mother tongue. The thesis of indeterminacy of translation has nothing to say about these cases. It is not a thesis about untranslatability, nor is it a thesis about mistranslations.[11] What it does say is that whenever we have a manual of translation that allows for dialogue and negotiations, *however broken*, then other manuals are possible that allow for *roughly equal* fluency in dialogues and negotiations, yet are incompatible with the original manual (in the sense mentioned above, that they cannot be used in alternation—that switching from one manual to another in the course of a translation will yield inconsistency in the translated text).

For the word *jauára* mentioned above, the standard translation is just "jaguar." This is of course the easiest and most natural way *for us* to understand what a Tupinambá says while pointing to a jaguar and uttering the word. But an alternative manual could try to be more faithful to what we now know about Amerindian cosmology by attempting to avoid projecting

11. Hacking (2002, 169) says that indeterminacy of translation "pulls in one direction and the idea of incommensurability"—which is usually defined in terms of untranslatability—"in the other". But here again Hacking's reading of the thesis of indeterminacy is mistaken: it assumes that the thesis entails that there are always "too many translations between schemes" (170). Yet indeterminacy is compatible with untranslatability, i.e. with there being no translation at all for a given set of sentences. And it is also compatible with there being only a few. Indeterminacy is one thing, translatability is another: "This thesis of indeterminacy of translation is by no means a theory of untranslatability. There are good translations and bad, and the two conflicting manuals imagined are good. However, there are also plenty of cases of untranslatable sentences, and they are commonplace even within our own language. A sentence about neutrinos admits of no translation into the English of 1900" (Quine 1992b, 1).

onto them our own theories about what a jaguar is. It could, for example, translate words such as *jauára* for phrases containing "jaguar-perspective" or "jaguar-from-our-perspective" or something of the kind. This would increase the intelligibility *for the Amerindians* of what we say, but at the cost of making what they say less readily intelligible to us. The standard translation (where *jauára* is just "jaguar"), on the other hand, projects our view of what a jaguar is onto the natives, and thus makes it harder for them to understand what we say, but easier for us to speak to them. So in choosing one manual over another, there is a trade off. To be sure, some translations are just wrong, in that the manuals that issue them systematically yield sentences that are incompatible with the speech behaviors of the natives. But the possibility of more than one manual issuing sentences that allow for dialogues and negotiations that are roughly equal in fluency seems to be implied by the differences of our own cosmology and that of the Amerindians. The question of whether by *jauára* the natives really mean "jaguar" or "jaguar-from-our-perspective" is in fact a question about which manual of translation is to be favored. If the manuals that issue them do in fact allow for roughly equal fluency in conversations, and if no other manual is available that allows for increased fluency, then there is hardly any sense in saying that only one of them captures what the natives really say. If translation according to one manual is correct, then so is the alternative. This is not to say that the natives do not know what they mean: certainly they know what they mean just as much as we do. By "jauára" they mean *jauára*, just as we mean jaguar by "jaguar". Surely there are occasions in which people do not know what they mean, and we might even want to say that meaning in these cases is indeterminate. But this is not the thesis of indeterminacy of translation.

Lima (1996, 30) describes the initial strangeness to her ears of certain Tupi phrases (spoken by the Jurunas, of the Amazonian lowlands) like *amãna ube wï*, literally: "it rained for me". She reports that most of the statements made by the Jurunas have the qualification "for me": it is beautiful *for me*, it turned into a jaguar *for me*, it is true *for me*, etc. For the Jurunas, however, it would make little sense to speak as we do, as if from nowhere. For the purposes of translation, of course, we could just say that *amãna ube wï*, said by a Juruna, is what we mean by "it rained," or "it rained where I was". But in doing so we eventually have to add in some explanation about why they seem to believe in claims that to us are obviously false or senseless, such as "this is blood for me but manioc beer for a jaguar", "while hunting he appeared as a pig to his friends, who then

killed him", etc. Alternatively, we might try a translation that already has that "perspectival quality" built into it, thus allowing for a more literal rendering of sentences such as *amāna ube wï*: it rained for me. In this case it is the translated sentence itself that is harder for us to understand. So, again, in choosing one manual over another, there is a trade-off; and the fact that there is a trade-off is evidence of indeterminacy.

Although we have been speaking here of *the* thesis of indeterminacy of translation, it is in fact a set of theses containing at least two. This was not clear in Quine's earlier writings on the matter but gradually became more transparent. Quine came to speak of the indeterminacy of translation of *sentences* (or holophrastic indeterminacy), as distinguished from the indeterminacy of translation of subsentential parts, especially the indeterminacy of translation of *terms* (or indeterminacy of reference). The latter thesis admits of a proof, with the use of proxy functions:

> A proxy function is any explicit one-to-one transformation, *f*, defined over the objects in our purported universe. By 'explicit' I mean that for any object *x*, specified in an acceptable notation, we can specify *fx*. Suppose now we shift our ontology by reinterpreting each of our predicates as true rather of the correlates *fx* of the objects *x* that it had been true of. Thus, where '*Px*' originally meant that *x* was a *P*, we reinterpret '*Px*' as meaning that *x* is a *f* of *P*. Correspondingly for two-place predicates and higher. Singular terms can be passed over in view of §10.[12] We leave all the sentences as they were, letter for letter, merely reinterpreting. The observation sentences remain associated with the same sensory stimulations as before, and the logical interconnections remain intact. Yet the objects of the theory have been supplanted as drastically as you like. (Quine 1992a, 31f.)

This reasoning for the indeterminacy of reference came to be favored by Quine over the "gavagai" argument used in *Word and Object*, because it can be fleshed out into a full logical proof. This is in stark contrast with the stronger thesis of the indeterminacy of translation of *sentences*, for which there is no proof (see Quine 1992a, §§ 13 and 20). In his later writings Quine comes to describe it as a conjecture.[13] However that may be, both theses have implications for metaphysics. Indeterminacy of reference has

12. In §10 Quine describes a method for eliminating singular terms in favor of definite descriptions. This is essentially Russell's technique, but now extended to all singular terms. This is not to be understood as an interpretation of singular terms—i.e., it does not say or clarify what they mean—nor is it meant to replace singular terms in ordinary or scientific discourse. (Quine 1992a, 25–28)

13. See Quine (1998, 728); for further comments and discussion, see Hylton (2007, chapter 8).

well-known implications for the status of ontology, explicitly drawn by Quine himself in "Ontological Relativity" (1969). Holophrastic indeterminacy has an implication that has been less explicitly explored, which we might want to call "cosmological relativity". Whereas *ontological relativity* states that all existence claims are relative to a manual of translation, *cosmological relativity* says that all claims about the relations among entities are relative to a manual of translation.

The fact that Amerindian cosmologies have the "perspectival quality" described above, whereas other cosmologies do not, suggests cosmological relativity. In our cosmologies the attributes assigned to an individual do not turn on who is describing that individual. Hence, being objective usually means to describe or explain something without letting the particular perspective from which the description is made intrude. In Amerindian cosmologies, by contrast, the attributes assigned to an individual vary according to the bodily perspective from which it is perceived. Hence, the ideal of an objective view from nowhere is out of question. Objectivity is granted, rather, by seeing things from the perspective of the individual that is being described. To know a jaguar objectively is to become acquainted with its perspective, to see the world as it sees it, and so on.[14] These differences are so radical and run so deep that translations from Amerindian into European languages are bound to be quite loose at some points. The radical translator may opt for projecting more or less of his own cosmology into what is said. And this, we conclude, is evidence suggestive of cosmological relativity. Even in cases where the individuals of which Europeans and Amerindians speak can be matched up onto one another, they are conceived in radically different ways. Hence *cosmological* relativity can obtain even if *ontological* relativity does not. In translation, both might be suggested, but the Amerindian cases mentioned above are evidence primarily of the former.

3. *Two objections*

(1) Given the anthropological evidence presented above, one might want to say that we do in fact have good reasons for translating Amerindian

14. This in part explains why Amerindians were apparently so easily converted into Western religions, and also why they would so easily fall back into their own rituals. "Professing" the new faith was their way of finding out what it was about; the Europeans, however, mistook this as evidence of faint-heartedness (see Viveiros de Castro 2002, chapter 3).

sentences more literally: we have good anthropological evidence of how they think and what they believe in, and we should translate them accordingly. "*Amãna ube wi*" would then really mean "It rained for me" and not "It rained where I was."—This is an interesting objection, because it is indeed true that we have good anthropological evidence of a perspectival cosmology among Amerindians. This in turn provides clues as to which translations are empirically adequate. But it does not rule out alternative translations which have *roughly* equal adequacy. There is an issue here as to what exactly is to count as part of a translation: is it just the sentences translated, or those sentences and whatever else a translator might add so as to facilitate its understanding—say, footnotes, introductory remarks, explanations, gestures, etc.? "It rained for me" can only work as a good translation of "*Amãna ube wi*" when offered in a context of an explanation of how the Amerindians behave and think (why they are inclined to speak the way they do). So several other sentences have to be added to the translation so as to make it intelligible to us and usable in conversations with the natives. These other sentences include remarks to the effect that the Jurunas say "*Amãna ube wi*" in contexts where we would most likely just say "It rained where I was." These other remarks link the literal translation of the original sentence with sentences that are idiomatic in our own tongue. In effect we have here layers of translation. The translation "It rained for me" is at an intermediate level, between "*Amãna ube wi*" and "It rained where I was." The choice is then not between "It rained for me" and "It rained where I was", but between "It rained for me" plus an explanation of how we can understand this in our terms and "It rained where I was" plus an explanation of why this is not what the Jurunas literally say. The translated sentence itself is not the same in each case, but both alternatives will afford roughly equal fluency in dialogues in negotiations, given the explanatory remarks that accompany each translation. There is a trade-off between how much of the natives' views to build into the translated sentence and how much to convey by way of explanations and side remarks. So a translation which builds more of the natives' cosmological views into the translated sentences themselves and adds further remarks as to how to understand those sentences can do an equally good job of affording fluency in dialogues and negotiations as a translation that conveys less of the natives' cosmological views into the translated sentences but explains more of it in introductory and side remarks. Regarding which of these alternatives better captures what the natives really mean, there is indeterminacy: it is not something settled by our anthropological knowl-

edge of the Amerindian cosmology; in fact, it is empirically irrelevant for anthropology. Both translation manuals seem equally compatible with our current anthropology.

(2) A related objection (see Hacking 2002, chapters 11 and 12) says the translation is not the issue in cases such as these. Rather, the difficulty lies in understanding the *style of reasoning* of the native speakers. The inferences they make are unlike the ones we make, as well as their ontology and cosmology.—This is in fact true, but why should this not render indeterminacy of translation even more plausible? If the style of reasoning of the natives differs radically from ours, then more introductory remarks, explanations and footnotes will be crucial to the understanding of the translated sentences. It is less likely that a straightforward single solution will clearly present itself as the translation of any given sentence. At least in some cases, it is likely that several translations will be roughly equally adequate, each accompanied by a different set of explanations, introductory remarks, footnotes, etc.

Conclusion

This paper has argued that Quine's original writings on the thesis of indeterminacy of translation can be supported by empirical evidence from actual cases of translation. Although Quine's views on the matter do not require direct evidence of the thesis—indirect, holistic considerations suffice—the fact that we can marshal some empirical support for this thesis fits nicely with Quine's empiricism and naturalism. Furthermore, it responds more straightforwardly to authors such as Hacking who take the lack of direct empirical support as evidence of the implausibility of the thesis. The paper has also indicated—without developing the point, however—that the thesis of ontological relativity, which is a direct consequence of the indeterminacy of reference, can be complemented with a thesis of cosmological relativity, which is a direct consequence of holophrastic indeterminacy. This is an issue that deserves further attention and has not been adequately handled here.[15]

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