


## Speaker's Reference, Semantic Reference, and Intuition

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**Abstract** Some years ago, Machery, Mallon, Nichols, and Stich reported the results of experiments that reveal, they claim, cross-cultural differences in speaker's 'intuitions' about Kripke's famous Gödel–Schmidt case. Several authors have suggested, however, that the question they asked their subjects is ambiguous between speaker's reference and semantic reference. Machery and colleagues have since made a number of replies. It is argued here that these are ineffective. The larger lesson, however, concerns the role that first-order philosophy should, and more importantly should not, play in the design of such experiments and in the evaluation of their results.

One of the many arguments that Kripke gives against the description theory of names involves a now famous example about Gödel and the unfortunate Schmidt:

Let's suppose someone says that Gödel is the man who proved the incompleteness of arithmetic. . . . In the case of Gödel that's practically the only thing many people have heard about him—that he discovered the incompleteness of arithmetic. Does it follow that [for such people] whoever discovered the incompleteness of arithmetic is the referent of 'Gödel'? . . . Suppose that Gödel was not in fact the author of this theorem. A man named 'Schmidt', whose body was found in Vienna under mysterious circumstances many years ago, actually did the work in question. His friend Gödel somehow got hold of the manuscript and it was thereafter attributed to Gödel. On the view in question, then, . . . since the man who discovered the incompleteness of arithmetic is in fact Schmidt,

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we [who have heard nothing else about Gödel], when we talk about ‘Gödel’, are in fact always referring to Schmidt. But it seems to me that we are not. We simply are not. (Kripke 1980, pp. 83–4)

The judgment Kripke reports here is often regarded as a paradigmatic case of an appeal to ‘philosophical intuition’,<sup>1</sup> and such appeals have been the subject of much recent debate. This particular one attracted the attention, some years ago, of Machery, Mallon, Nichols, and Stich (MMN&S), who were then at the leading edge of the emerging ‘experimental philosophy’ movement. Their paper “Semantics, Cross-Cultural Style” reported the results of experiments that show, or so they claimed, that such intuitions vary cross-culturally. In particular, although ‘Westerners’ do tend to agree with Kripke, ‘East Asians’ tend to disagree.<sup>2</sup>

More precisely, MMN&S presented experimental subjects with the following version of Kripke’s Gödel–Schmidt case:

Suppose that John has learned in college that Gödel is the man who proved an important mathematical theorem, called the incompleteness of arithmetic. John is quite good at mathematics and he can give an accurate statement of the incompleteness theorem, which he attributes to Gödel as the discoverer. But this is the only thing that he has heard about Gödel. Now suppose that Gödel was not the author of this theorem. A man called “Schmidt”, whose body was found in Vienna under mysterious circumstances many years ago, actually did the work in question. His friend Gödel somehow got hold of the manuscript and claimed credit for the work, which was thereafter attributed to Gödel. Thus, he has been known as the man who proved the incompleteness of arithmetic. Most people who have heard the name “Gödel” are like John; the claim that Gödel discovered the incompleteness theorem is the only thing they have ever heard about Gödel. (Machery et al. 2004, p. B6)

MMN&S then asked their subjects the following question:

When John uses the name “Gödel”, is he talking about:

- (A) the person who really discovered the incompleteness of arithmetic? or
- (B) the person who got hold of the manuscript and claimed credit for the work?

(Machery et al. 2004, p. B6)

What they found was that 58% of Westerners gave Kripke’s preferred answer (B), whereas only 29% of East Asians did.<sup>3</sup> MMN&S take this to show that East Asians

<sup>1</sup>As Williamson (2004, 2007, 2016) keeps complaining, it is none too clear what ‘intuitions’ are supposed to be. I’ll assume here, minimally, that they are relatively spontaneous responses and, most importantly, are to be distinguished from the sorts of conclusions one reaches as a result of argument. This is in the ballpark of how Nagel (2012, p. 498) characterizes intuitions.

<sup>2</sup>The difference here is supposed to be cultural, not geographical, but I shall use these labels, as they are common in the literature.

<sup>3</sup>Machery (2012, p. 40) reports the results this way in a later paper. MMN&S reported their results somewhat differently.

tend to have ‘descriptivist intuitions’ whereas Westerners tend to have ‘Kripkean intuitions’, a fact that is supposed to “raise[] questions about the nature of the philosophical enterprise of developing a theory of reference” (Machery et al. 2004, p. B1).

Ludwig seems to have been the first to observe (in print) that the question MMN&S asked their subjects—namely, whom John is “talking about”—appears to be ambiguous:

For anyone at all familiar with work in the philosophy of language, it is immediately evident that the question does not clearly distinguish between two things: whom John intends to be talking about (or speaker’s reference) and who the name John uses refers to, taken literally in the language he intends to be speaking (semantic reference). (Ludwig 2007, p. 150).

A similar point is made by Deutsch (2009, pp. 453–7), and this sort of worry tends, in my experience, to be very widespread among working philosophers of language.

The distinction in question is most familiar from Kripke’s paper “Speaker’s Reference and Semantic Reference”. But, while that paper does introduce this now common terminology, and although the distinction is only developed in detail there, it appears already in a footnote in *Naming and Necessity*, which was first published in 1972. Kripke there gives the following example:

Two men glimpse someone at a distance and think they recognize him as Jones. ‘What is Jones doing?’ ‘Raking the leaves’. If the distant leaf-raker is actually Smith, then in some sense they are *referring* to Smith, even though they both use ‘Jones’ as a name of Jones. (Kripke 1980, p. 25, fn. 3, emphasis original)

As Kripke would later put it: When the men use the name “Jones” in this case, the *semantic* referent is Jones, but the *speaker’s* referent is Smith. Suppose, however, that we were to ask, in ordinary colloquial English, whom these men are “talking about”. Both the answers “Smith” and “Jones” seem reasonable. The same is true of the probe question in MMN&S’s experiment: Both answers seem reasonable. I can see why someone might answer either way. Indeed, I can see why I myself might be inclined to answer either way.

If that is right, then MMN&S’s results do not show that East Asians are more likely to have ‘descriptivist intuitions’ about *semantic* reference. The difference may be due to East Asians’ being more likely to interpret the probe question as asking about *speaker’s* reference. If so, however, MMN&S’s results do not bear at all upon the judgment Kripke makes about his example, which concerns only what the semantic reference of “Gödel” is.

Machery and his collaborators have offered a number of different replies to this objection:

1. The probe question isn’t ambiguous.
2. Even if the probe question is ambiguous, it can be rephrased to eliminate the ambiguity.
3. Even if the ambiguity can’t be eliminated, the vignette can be rephrased so as to neutralize the effect of the ambiguity.

I will be arguing here, in the corresponding sections, that these replies are ineffective. The larger lesson, however, will concern the role that first-order philosophy should, but also should *not*, play in the design of such experiments and in the evaluation of their results. As we shall see, Machery et al. sometimes seem to be supposing that their subjects will appreciate philosophical subtleties that were unknown just a few decades ago.

## 1 Is the Probe Question Ambiguous?

Machery and Stich (2012) have argued that the probe question is not ambiguous in the way Ludwig and others have claimed it is. They first make the following two points:

- (i) One can only ask about the speaker's reference of particular *uses* of a given expression, not about the speaker's reference of an expression as such.
- (ii) What the speaker's reference is, on a given occasion of use, depends upon the speaker's intentions.

That much should be uncontroversial. They then argue as follows:

At the end of the vignette, participants are asked who John is talking about “when he uses the name ‘Gödel’.” Since no specific utterance is mentioned and no contextual information is provided that would enable participants to determine John's communicative intention, it is hard to see how participants could understand the question to be about the speaker's reference of John's utterance of “Gödel”. Rather, we submit, on the only plausible interpretation of the question it is asking about the reference of “Gödel” *qua* type—that is, it is asking about the semantic reference of the term in John's language. If this is right, then... the question in the probes is *not* ambiguous. (Machery and Stich 2012, p. 506, emphasis original)

Machery and Stich's argument in no way depends upon the fact that the expression in question, “Gödel”, is a proper name.<sup>4</sup> Rather, it is supposed to be because “no specific utterance is mentioned and no contextual information is provided” that the probe question has to be read as concerning “Gödel” *qua* type. If so, however, then wording that shares these two features should force the corresponding reading in the case of other sorts of expressions. As we are about to see, however, it does not.

Recall Donnellan's distinction between ‘referential’ and ‘attributive’ uses of definite descriptions. Suppose you are at a party and see someone sipping bubbly liquid from a tulip-shaped glass. “Who is the person drinking champagne?” you ask your friend. As it happens, the person you noticed is not drinking champagne but just sparkling water. Nonetheless, Donnellan (1966, p. 287) insists, you may still have “asked a question about a particular person”, the person you noticed, “a question

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<sup>4</sup>Of course, this *could* be relevant, but we would need to be told how and why. One cannot simply say that the argument was only intended to apply to cases involving proper names.

it is possible for someone to answer". And this is so even if there is someone else at the party who really is drinking champagne. The mere fact that this other person satisfies the condition you specified—being a person who is drinking champagne—does not make your question one about them. By contrast, if you had merely smelled champagne and asked the same question—maybe you want to ask whoever is drinking champagne to share—then you would not have been asking about any particular person but just about whoever it was who was drinking champagne. This is what Donnellan calls an 'attributive' use. The first is what he calls a 'referential' use.

It remains controversial how we should theorize this phenomenon. Kripke (1977) famously argued that Donnellan's distinction was just a special case of the distinction between speaker's reference and semantic reference: The speaker's reference, in the first of my examples, is the person you noticed; the semantic reference is the person actually drinking champagne. Other philosophers (e.g. Stalnaker 1970 §IV; Devitt 1981 §2.7) have argued that this is a genuine ambiguity: that the *semantic* reference, in that same example, is the person you noticed. But we do not need to resolve this dispute here. For our purposes, the crucial point is just that Donnellan's distinction concerns *uses* of descriptions. All sides are agreed that it would make no sense to say that the *expression* (qua type) "the person drinking champagne" refers, in the language you speak, to the person you noticed.<sup>5</sup>

Consider, then, the following story:

Grace is a ten-year old girl who lives at the Laughing Pines apartments with her family. Grace is *obsessed* with baseball. And all summer long now, her neighbor Bob has been regaling her and some of the other kids with stories about how he used to be a professional baseball player. In fact, however, and unbeknownst to Grace, Bob never even played amateur baseball. He just enjoys the company of the children and is, perhaps, a bit delusional. By coincidence, however, there is an elderly woman, Lily, who also lives at Laughing Pines and who played for several years in the All-American Girls Professional Baseball League.<sup>6</sup> Grace, though, has never met Lily.

Suppose that we now ask the following question:

When Grace uses the phrase "the baseball player who lives at Laughing Pines", is she talking about:

- (A) Bob, who never played professional baseball? or
- (B) Lily, who did once play professional baseball?

<sup>5</sup>Thus, Devitt (2004, p. 281) writes that "the core of the referential meaning of a description token is its reference-determining relation to the particular object that the speaker has in mind in using the description". So different *tokens* will refer to different objects, depending upon which object the speaker has in mind when uttering that token.

<sup>6</sup>The league was founded in 1943, in large part because so many mens' teams had been disbanded after the United States entered into the Second World War. The league was quite successful for a time but was itself disbanded in 1954. There is now an exhibit at the Baseball Hall of Fame dedicated to the women who played in *A League of Their Own*, that being the title of a documentary and then a feature film about the league and the women who played in it.

It seems to me that answer (A) is completely reasonable. If so, however, then the probe question in this case does not have to be heard as being about the reference of the mentioned phrase *qua* type. If it did, then the only reasonable answer would be (B), since it is only of a particular *use* of the mentioned phrase that it would make sense to say that it referred to Bob. And yet, not only do this story and question have the two features that Machery and Stich emphasize—no specific use is mentioned, and no contextual information is provided—but the probe question uses, in relevant respects, exactly the same wording as does MMN&S’s probe question.

One might object that it is an empirical issue how ordinary speakers would interpret the question just mentioned. Haven’t we learned not to rely upon ‘intuition’ in such cases? Shouldn’t we instead do an experiment? I myself think it is just obvious that answer (A) is reasonable—at least as reasonable as answer (B). Moreover, the argument from Machery and Stich to which I’m responding was entirely *a priori*. Nonetheless, I did conduct an experiment along these lines.<sup>7</sup> I presented the above story to thirty-nine subjects. All but one of them chose answer (A): Bob. Only one subject, that is to say, answered in a way that is compatible with their having interpreted the probe question as “asking about the reference of [‘the baseball player who lives at Laughing Pines’] *qua* type” (Machery and Stich 2012, p. 506).

Machery and Stich, I submit, make far too much of fine details of how their story and probe question are phrased. The mere *presence* of the features they emphasize cannot force the question to be heard as one concerning an expression *qua* type. One has, minimally, to notice those features—and then one has to appreciate their alleged significance. But for someone who is just reading a story and trying to answer questions about it, there’s no reason to suspect that such features would even register. Indeed, neither Ludwig nor Deutsch would seem to have picked up on these features—or, at least, made of them what Machery and Stich insist they must. Ludwig (2007, p. 150), one might recall, regards the claim that the probe question is ambiguous as one that “anyone at all familiar with work in the philosophy of language” will find “immediately evident”. And I agree with him, even still.

It is really not that difficult to see how speakers might come to hear this sort of question as concerning uses (and so, potentially, as concerning speaker’s reference). It is certainly true that no *specific* utterance is mentioned in the probe question in my experiment. But the question does ask to whom Grace refers when she *uses* a certain phrase.<sup>8</sup> The natural understanding of the question thus seems to be as a sort of generic: It invites us to consider typical uses of the phrase that Grace might make and to report to whom she would then be referring. And there is actually quite a lot of information available to someone attempting to imagine such a use. It’s easy to imagine what kind of thing Grace might be saying to her friends, and why. Try it.

<sup>7</sup> See [Appendix](#) for the details.

<sup>8</sup> We’ll discuss re-wordings of the question in the next section. But note that the question actually *has* to ask about uses: The phrase in question is context-sensitive—it uses the present tense—so the phrase itself refers to no particular object. Even if we were asking about *semantic* reference, then, we would have to be asking about (potential) uses of the phrase.

Something similar is true of MMN&S's version of the Gödel–Schmidt case.<sup>9</sup> MMN&S's probe question generalizes over uses and very much has the feel of a generic. It would thus be entirely natural for someone trying to answer that question to imagine a typical use John might make of the name and to respond on that basis. But the only thing John has ever heard about Gödel, we are told, is that he proved the incompleteness theorem. So when I try to imagine John saying something about 'Gödel', the sorts of things that come to mind are very often 'about' the person who proved that theorem, e.g., "Gödel must have studied really hard".<sup>10</sup>

So, I submit, it's easy to see why someone might want to say that, when John uses the name "Gödel", he will (in a typical case) be 'talking about' Schmidt: the person who actually proved the incompleteness theorem. To borrow Donnellan's language, that is who he will 'have in mind'. But anyone who answered the probe question that way, and did so for those sorts of reasons, would be making a claim about speaker's reference, not semantic reference.

There is another phenomenon that is relevant here. In a footnote in *Naming and Necessity*, Kripke notes that there is a certain sort of use of proper names that one might think conforms to the description theory. He reports some people as having wanted to make the following objection.

...[I]f we say, 'Gödel proved the incompleteness of arithmetic', we are, of course, referring to Gödel. But, if we say, 'Gödel relied on a diagonal argument in this step of the proof,' don't we here, perhaps, refer to *whoever proved the theorem?* ... By analogy to Donnellan's usage for descriptions, this might be called an 'attributive' use of proper names. If this is so, then assuming the Gödel–Schmidt story, the sentence 'Gödel proved the incompleteness theorem' is false, but 'Gödel used a diagonal argument in the proof' is (at least in some contexts) true, and the reference of the name 'Gödel' is ambiguous. (Kripke 1980, p. 85, fn. 36, emphasis original)

There really are attributive uses of names,<sup>11</sup> just as there really are attributive uses of descriptions. So it may be that some subjects regard John as 'talking about' Schmidt because they are construing his use of "Gödel" as attributive. It is an empirical question, of course—and one I do not know how to answer—how many, if any, subjects

<sup>9</sup>And it is at least arguable that, even if we want to ask a question about the *semantic* reference of "Gödel", we must still ask about uses of this expression. It is widely held nowadays that proper names are general terms (see e.g. Gray 2014, Fara 2015, and references contained therein): that they do not denote one particular individual but many individuals, e.g., all the people named "Gödel". On this view, which seems to originate with Burge (1973), it is only certain uses of "Gödel" that refer, even in the semantic sense, to particular, though different, Gödels. If that is the correct view of names, then the probe question must be about uses of the name, not about the name itself, even if it concerns semantic reference.

<sup>10</sup>As Sytma and Livengood (2011, pp. 320–1) note, such judgments might vary depending upon exactly we imagine John saying. We'll explore the significance of this point in Section 3.

<sup>11</sup>Devitt (2011, p. 428, n. 9) mentions this sort of phenomenon, too, but he ties it specifically to names of authors. Clearly, however, the phenomenon is more general. One could, e.g., use the name of a warrior attributively when talking about the plans for a certain battle. Just how widespread the phenomenon might be is not so clear, but I'd speculate that it can arise whenever a certain act is associated strongly enough with a given agent.

do suppose that John's typical uses of "Gödel" would be attributive. But it does not seem to me to be implausible that some should.

It's a different question, of course, how we philosophers should explain attributive uses of names. Kripke suggests we do so in terms of the distinction between speaker's reference and semantic reference:

It is, perhaps, true that sometimes when someone uses the name 'Gödel', his main interest is in whoever proved the theorem, and *perhaps*, in some sense, he 'refers' to him. I do not think that this case is different from the case of Smith and Jones. . . . If I mistake Jones for Smith, I may *refer*. . . to Jones when I say that Smith is raking the leaves; nevertheless I do not use 'Smith' ambiguously, as a name sometimes of Smith and sometimes of Jones, but univocally as a name of Smith. (Kripke 1980, p. 86, fn. 36, emphasis original)

On the other hand, one might think—as some people do in the case of definite descriptions—that the difference between 'referential' and 'attributive' uses of proper names is not merely pragmatic but semantic (cf. Devitt 1981, pp. 157–60).

Once again, however, it does not matter who is right here. Subjects who regard John's (typical) uses of "Gödel" as attributive, and give the non-Kripkean answer for that reason, are not thereby disagreeing with Kripke's judgment about the Gödel–Schmidt case: If the distinction between referential and attributive uses of names is, indeed, to be understood as a sort of ambiguity, then Kripke's theory applies only to referential uses. If, on the other hand, Kripke is right, as I would argue he is, then subjects who regard John's typical uses of "Gödel" as being attributive are construing the probe question as being about speaker's reference.

The question MMN&S asked their subjects is thus readily interpreted as concerning speaker's reference—or, at least, Machery and Stich have given us no reason to believe otherwise. The reason there is a difference between the responses of Western and East Asian subjects may, therefore, have more to do with how those subjects are interpreting the question MMN&S asked them than with their intuitions about semantic reference.

## 2 Can the Probe Question Be Rephrased?

The obvious strategy for dealing with this problem is to try to rephrase the probe question so as to force the appropriate reading. This is precisely what Machery, Sytsma, and Deutsch (MS&D) attempt to do in their paper "Speaker's Reference and Cross-Cultural Semantics". Instead of asking their subjects the question mentioned above (see page 2), they instead asked them this question:<sup>12</sup>

When John uses the name "Gödel", *regardless of who he intends to be talking about*, he is *actually* talking about:

- (A) the person who really discovered the incompleteness of arithmetic;

<sup>12</sup>It is not clear from MS&D's text whether the emphasis was included in the question itself or whether they have added it to mark the changes. It was presumably the latter, but it won't matter.



(B) the person who got hold of the manuscript and claimed credit for the work.

(Machery et al. 2015, p. 69, emphasis original)

Re-phrasing the question this way had little effect on the results.

It is far from obvious, however, that this re-phrasing “should lead subjects to read the question as asking about semantic reference” (Machery et al. 2015, p. 69). MS&D concede, in fact, that “[i]t is sometimes possible to understand ‘actually talking’ as bearing on speaker’s reference. . .” (Machery et al. 2015, p. 71). In response, they argue as follows:

Although it is true that asking whom a person is actually talking about might sometimes lead to a judgment about speaker’s reference, there are cases in which it is quite unlikely to do so. In the Clarified Gödel Case in particular, if lay people grasp the distinction between speaker’s reference and semantic reference and if our participants paid sufficient attention to the probe question at the end of the Clarified Gödel Case, then it seems unlikely that this probe question could have been understood as being about anything else but semantic reference. One feature of the probe question that supports this assessment is the contrastive nature of the probe question, along with the facts presented to participants in the background story: Our Clarified Gödel Case did not simply ask participants to say who they thought John was actually talking about in using “Gödel,” but asked participants to say whom they thought John was “actually talking about” *in contrast* to whomever he may be “intending to talk about” . (Machery et al. 2015, p. 71, emphasis original)

In the same spirit, Machery (2015, p. 75) elsewhere insists that the changes MS&D made to the probe question “. . . make it clear that participants should ignore the speaker’s communicative intention and thus, by contrast, focus on whoever the proper name refers to according to the rules of English”. What Machery means is presumably that the changes make it clear *to* participants that *they* should do these things. But do they?

MS&D’s entire discussion seems to be insufficiently attentive to what the distinction between speaker’s reference and semantic reference actually is. The distinction is not between the person about whom one *intends* to be speaking and the person about whom one *is* speaking (“actually”, if you like). It is between the person about whom *someone* is speaking and the person to whom a particular *expression* refers, in the language of that same person. To put it differently, the relations have different terms: What we call “speaker’s reference” is a relation between a *speaker* and an object; what we call “semantic reference” is a relation between a *linguistic expression* and an object.<sup>13</sup>

It therefore seems to me that remarks Deutsch once made about MMN&S’s original example apply just as well to MS&D’s modified example:

To my ear, the vignette question. . . nearly forces a speaker’s reference interpretation; it is a question about what *John* is doing with the name—making

<sup>13</sup>Both relations are probably more complicated. The latter makes reference also to a language: that of the speaker. But the gist of the point is nonetheless correct.

speaker's reference to the man (Schmidt) who actually discovered the proof—not a question about what *the name itself* is doing, which is, on a Kripkean causal–historical theory, semantically referring to the man who stole the proof. (Deutsch 2009, p. 454, fn. 7, emphasis added)

The addition of the remark about intentions, and the emphatic use of “actually”, do not affect this basic point.<sup>14</sup>

When this sort of situation arises in experimental psychology, the appropriate response is not just to modify the probe question but to verify experimentally that the modified question really does force the reading one wants. Thus, we might consider the following variant of Kripke's Smith–Jones case:

One day, Alex and Toni were hanging out on their deck when they saw a person next door doing something in the yard. “What's Smith doing?” Alex asked. “I think he's skimming the pool”, Toni said. Unbeknownst to Toni and Alex, however, it wasn't Smith at all but someone else, Jones, whom Smith had hired, and who just happened to look a lot like Smith.

We can then ask the obvious question:

When Alex says “What's Smith doing?”, regardless of whom Alex might intend to be talking about, whom is Alex actually talking about?

(A) The Hired Pool Person

(B) Their Neighbor

It seems to me, once again, that either answer would be reasonable: just as reasonable as in Kripke's original example. But, just to be sure, I presented forty-three subjects with the story just told and asked them for their responses.<sup>15</sup> Not only did they not tend to choose answer (B), as they should have if they were interpreting the question as concerning semantic reference, but slightly more than half—twenty-three of the forty-three—chose answer (A). Obviously, however, that preference is not statistically significant.

Those of us who regularly teach this sort of material know from experience how easy it is to motivate the distinction between speaker's reference and semantic reference. The phenomenon is striking once one notices it. But getting students to make this distinction reliably is an entirely different matter. Initially, they're just puzzled—much as Donnellan's early readers were.<sup>16</sup> There is really no reason to believe that

<sup>14</sup>One might object that Deutsch's claim can't be true: Many participants do answer “the person who got hold of the manuscript”, and this can't plausibly be understood as an answer to a question about speaker's reference. I'll argue below, however (see page 12), that it can be so understood.

<sup>15</sup>These were students who visited the philosophy department's table at a college event for first-year students in October 2015 (and who, therefore, had little if any prior exposure to philosophy, and certainly not to philosophy of language). Those who were willing to participate were given a printed version of the story and were asked to circle their preferred answer. Thanks to Zachary Barnett and Tatiana Spottiswoode for helping me with this. It was quite the ice-breaker.

<sup>16</sup>This was illustrated by how students reacted to my survey question. There were several quizzical smirks. A few thought it was a trick question; a couple thought it was a riddle; several asked if there was a right answer. (They were told there wasn't and that we were just interested in how people responded to the question.) Many people thought for a long time before answering. Some even felt compelled to justify their answers. These were usually people who gave the ‘speaker's reference’ answer, and they usually said something like, “Well, they're *talking about* Jones”.

“lay people *grasp the distinction* between speaker's reference and semantic reference” (Machery et al. 2015, p. 71, emphasis added). To the contrary, experience teaches that “people without training in philosophy do not spontaneously grasp the distinction between speaker's reference and semantic reference” (Machery et al. 2015, p. 72), a suggestion MS&D attribute to Ludwig.

Of course, in some sense, ordinary speakers are ‘sensitive’ to this distinction: The same examples that serve to motivate it also serve to illustrate one of the ways in which we are all sensitive to it. But MS&D require more of their subjects. They need them first to notice “the contrastive nature of the probe question” and then to use it to resolve a potential ambiguity. Minimally, that is to say, MS&D need their subjects to appreciate that speakers' intentions are irrelevant to questions about semantic reference.<sup>17</sup> But do ordinary speakers appreciate this philosophical point? The mere fact that the subjects are, somehow or other, sensitive to the distinction between speaker's reference and semantic reference does not imply that they must; hence, their being told that they should not consider whom John intends to talk about need not lead them to hear the probe question as asking about semantic reference.<sup>18</sup> And the experiment reported above shows that it does not so lead them. I conclude, therefore, that MS&D, like Machery and Stich, are making far too much of fine details of phrasing.

Extrapolating, I am inclined to be somewhat skeptical that *any* re-phrasing of the probe question will both (i) resolve the ambiguity between speaker's reference and semantic reference and (ii) be intelligible to the ordinary speakers whose ‘intuitions’ such experiments are supposed to reveal. The distinction between speaker's reference and semantic reference is, as I have noted, grounded in everyday linguistic phenomena, but it is deeply theoretical. It is not at all obvious exactly what distinction those phenomena illustrate. Kripke (1977), one will recall, essentially accuses everyone who had then contributed to the literature on the referential–attributive distinction of having overlooked *his* distinction. And Kripke's distinction remains controversial. Its nature (how it should be drawn), its location (where it should be drawn), and its significance (why it should be drawn) are all hotly contested. Indeed, much of the controversy can be understood as concerning whether we even *need* the notion of semantic reference. But, whether we theorists need such a notion or not, it may well be that ordinary speakers really do not have much of a grasp of it at all.<sup>19</sup>

<sup>17</sup>And what makes this all the more complex is that only certain sorts of intentions are irrelevant. The ‘ambiguity’ of proper names—the existence of lots of Gödels—suggests that the speaker's intentions are relevant in to determining which Gödel is the reference of any particular use of “Gödel”, though exactly what role these intentions are playing depends upon how we resolve the issues mentioned in footnote (9).

<sup>18</sup>Related points have been made by both Bach (2002) and Lam (2010, p. 326) and are even noted by MS&D themselves (Machery et al. 2015, p. 72). Indeed, the slipperiness of the semantics–pragmatics distinction has been one of the overarching themes of philosophy of language for the last twenty years or so.

<sup>19</sup>Similar remarks might be made about the distinction between saying and meaning, originally due to Grice (1989), of which Kripke's distinction is really just a special case. Deutsch (2009, pp. 460–4) has many sensible things to say about the relevance of this more general distinction to experimental philosophy. Much of it, as Deutsch is well aware, is strikingly similar to things Grice said when first introducing his distinction, though his target was ordinary language philosophy.

Of course, further ingenuity might produce an appropriate probe question in this case. One might suggest, for example, that it should be phrased in something like the way Deutsch (2009, p. 454) implicitly suggests:

To whom does the name “Gödel” refer when John uses it?

Or, incorporating MS&D’s amendment:

Setting aside any concern with whom John might be intending to talk about when he uses the name “Gödel”, to whom does the name “Gödel” refer when John uses it?

But the latter question strikes me as beyond confusing,<sup>20</sup> and the former question still seems to be more about John’s use of “Gödel” than it is about the name itself. In any event, the mere fact that these questions use the same sort of language we philosophers use does not imply that ordinary speakers will understand them the same way we do, nor even that they can understand them at all. Meta-linguistic discourse does not come naturally to people.

### 3 Can the Ambiguity in the Probe Question Be Neutralized?

MS&D are ultimately prepared to concede that their re-phrasing of the probe question may be ineffective (Machery et al. 2015, pp. 71–2). In the later parts of their paper, then, they report the results of two more experiments (Machery et al. 2015 §§3.7–3.8). The story itself is amended with the following material:

One night, John is sitting in his room, reviewing for his mathematics exam by going over the proof of the incompleteness theorem. After a while, he says to his roommate, “Gödel probably got a huge number of awards from mathematical societies [for the proof of the incompleteness theorem]!”

The two experiments differed depending upon whether the bracketed material was included; this apparently made no difference. The probe question was then that from the original experiment. Presumably, using the modified one discussed in Section 2 would have made little difference, as well.

What is the amendment supposed to accomplish? Suppose that some people are indeed interpreting the probe question as being about speaker’s reference. But suppose further that we can force people who are interpreting it that way to give Kripke’s answer. Then anyone who gives the other answer must be understanding the question as asking about semantic reference, in which case they must be expressing a genuine disagreement with Kripke. So MS&D’s modified case is supposed to be one in which a subject can only give the non-Kripkean answer if they are interpreting the probe question as being about semantic reference:

... [T]he speaker intends to be talking about the man who stole the theorem:  
Given the information provided in the vignette, only the man who stole the

<sup>20</sup>If it is irrelevant whom John might be intending to talk about, why do we care to whom the name refers when John uses it?

theorem can be viewed as having won a huge number of awards from mathematical societies. (Machery et al. 2015, p. 72)

That is: The speaker's reference is the person who stole the theorem. If so, then anyone who gives the other answer must understand the probe question as asking about semantic reference and so, again, must be disagreeing with Kripke.

MS&D report that, in response to their 'Award Winner Gödel Case', 74% of American subjects gave the Kripkean answer, whereas only 56% of Chinese subjects did so (Machery et al. 2015, p. 73). So a difference remains. It's worth noting, though, in passing, that the proportion who agree with Kripke in this case is quite a bit higher than it was in the original experiment, where the split was 58% vs 29%. If MS&D are correct that the change they made to the story has the effect they claim, then quite a few people in previous experiments were apparently understanding the question as being about speaker's reference, which is an interesting consequence in its own right.

In fact, however, it seems doubtful that the changes MS&D made actually do have the effect they claim. MS&D seem to expect their subjects to reason roughly as follows:

When John said "Gödel probably got a huge number of awards from mathematical societies for the proof of the incompleteness theorem", he cannot have intended to refer to the person who actually proved the theorem, because that person was dead before it was ever published. He must have intended to refer to the person who stole and published the theorem,<sup>21</sup> since only that person can have won any awards for it.

This strikes me as really quite complicated reasoning. Should we really expect MS&D's subjects to register all these details of the story and to think through their implications in this way?<sup>22</sup> What's more worrying, though, is that the reasoning in question is fallacious. Even if it is true that John intends to refer to the person who published the theorem, it simply does not follow that he does not *also* intend to refer to the person who proved it. John, after all, has no reason to believe that the person who published the theorem is different from the person who proved it, and John does not know that the person who proved the theorem died before it was published by someone else. To be sure, it should be obvious to subjects that John does not intend to refer to *Schmidt*, but, once again, it just doesn't follow that John doesn't intend to refer to the person who proved the theorem. He may and, in fact, does.

Of course, MS&D may have expected their subjects to make one or more of the mistakes just mentioned. If so, however, they do not say why.

<sup>21</sup>Or, perhaps better, to the person who is (wrongly) known as the author of the theorem. I'll speak, though, of the person who published it, for ease of exposition. (Note, by the way, that if the description theory were correct, Gödel would *not* be *wrongly* known as the author of the theorem. Schmidt would be so known, though under the name "Gödel". Which is part of Kripke's point.)

<sup>22</sup>And if they did, would they still be reporting their 'intuitions'? Or would they be making reasoned judgments?

This case is in some ways analogous to Kaplan's famous Carnap–Agnew case:

Suppose that without turning and looking I point to the place on my wall which has long been occupied by a picture of Rudolf Carnap and I say: [That] is a picture of one of the greatest philosophers of the twentieth century. But unbeknownst to me, someone has replaced my picture of Carnap with one of Spiro Agnew. I think it would simply be wrong to argue an “ambiguity” in the demonstration, so great that it can be bent to my intended demonstratum. I have said of a picture of Spiro Agnew that it pictures one of the greatest philosophers of the twentieth century. (Kaplan 1978, p. 239)

Kaplan is here arguing against the view that the referent of an uttered demonstrative should be identified with the object to which the speaker intended to refer.<sup>23</sup> His claim is that, when he points behind him and utters “that”, he thereby refers to the picture of Agnew, even if it was his intention to refer to the picture of Carnap.

But Kaplan *does* intend to refer to the picture behind him. That is why he points back there. If that seems wrong, then that is probably because one is confusing the question whether Kaplan intends to refer to *the picture behind him* with the question whether he intends to refer to *the picture of Agnew*. The fact that these happen to be the same picture does not imply that the intentions are the same unless one is interpreting the ascription of intention *de re*. If we are interested in the details of Kaplan's psychology, however, the ascription needs to be read *de dicto*. And, for the same sort of reason, Kaplan's intending to refer to the picture behind him does not preclude his also intending to refer to the picture of Carnap. He can and does have both of these intentions. Indeed, I think we can say more. Kaplan not only has both of these intentions, but they are intimately related: He intends to refer to the picture of Carnap *by* referring to the picture behind him; he thinks that he can do this because he thinks that the picture behind him *is* the picture of Carnap. Facts unknown to Kaplan, of course, frustrate this intention, and in that sense his intentions conflict. Such is life as a finite being.<sup>24</sup>

Similarly, then, in MS&D's case. It's just false that John doesn't intend, *de dicto*, to refer to the person who discovered the theorem. He does. John may also intend, *de dicto*, to refer to the person who published it. Even if he does, however—and even if we modify the story so that John makes some remark about Gödel winning lots of awards for *publishing* the theorem—that in no way undermines the fact that John also intends, *de dicto*, to refer to the author of the theorem. The relation between these intentions seems less clear in this case and might well differ depending upon how exactly it was elaborated. But, once again, the two intentions are in no way contradictory, even though, given facts not known to John, they cannot both be satisfied. Indeed, it should now be obvious that John may have more intentions still, such as to refer to the person who answers to the name “Gödel”.

It follows that there is no reason at all to assume that someone who gives the non-Kripkean answer in the ‘Award Winner Gödel Case’ must be understanding the

<sup>23</sup> Kaplan (1989§II) would later change his mind about this issue.

<sup>24</sup> I've discussed such cases in more detail elsewhere (Heck 2014, pp. 351–2).

probe question to be asking about semantic reference. Someone who understood the question to be asking about speaker's reference but who took John to intend, *de dicto*, to refer to the author of the theorem—something it would be correct to do—would also give the non-Kripkean answer. MS&D's modification is thus ineffective.

One might object that it is just implausible that, when John says "Gödel probably got a huge number of awards from mathematical societies for the proof of the incompleteness theorem", subjects would not take him to intend to refer to the person who published the result.<sup>25</sup> Here, however, it seems worth reflecting on the 'epistemic ambiguity' that Sytma and Livengood (2011) uncover in MMN&S's experimental design. They show that subjects' answers to the probe question will vary depending upon whose perspective the subjects adopt in answering it: John's or the narrator's. More precisely, when subjects were asked whom John *thinks* he is talking about, they were much more likely to give the 'descriptivist' answer: Schmidt, roughly.

But now, if someone has heard the probe question as being about speaker's reference, then they really ought to adopt John's perspective in answering it. There is very little room, in this sort of case, between whom John *thinks* he is talking about and whom he *intends* to be talking about. And the changes MS&D made to the vignette make me, anyway, not a whit less inclined to say that John *thinks* he is talking about the person who discovered the theorem, i.e., Schmidt. The really crucial point, though, is that, from John's perspective, there is no significant difference between talking about the person who published the theorem and talking about the person who proved it. It thus does not seem unreasonable, either, in this case, to say that John thinks he is talking about the person who published the theorem. Indeed, I would suggest that John probably thinks he is talking about the person who discovered *and then* published the theorem—and, for that matter, who answers to the name "Gödel".

There is a more general lesson here that it is worth making explicit. Commentators have generally supposed that anyone who understood the original probe question to be asking about speaker's reference should give the non-Kripkean answer. What we have just seen is that this is a mistake. John's intentions in these cases are multiple and conflicting, and which of them one regards as most important may vary depending upon how the cases are developed or interpreted (cf. King 2012; Speaks 2016). Indeed, this may be why more subjects gave Kripke's preferred answer in the 'Award Winner Gödel Case': Perhaps the material that MS&D added to the story made John's intention to refer to the person who published the theorem more salient, to some subjects, than his intention to refer to the author of the theorem.

Indeed, it is an open possibility that *all* of the subjects in the experiments we have been discussing are interpreting the probe question as asking about speaker's reference: They just happen to fasten on different of the speaker's intentions when answering the question. As I mentioned earlier, it is far from clear to me that ordinary speakers have much of a grip at all on the concept of semantic reference.

<sup>25</sup>The probe question does not actually ask about this particular utterance, but since this is the one utterance that has been mentioned, one might expect it to be particularly salient to the subjects.



## 4 Closing

Whatever cross-cultural variation there may be in subjects' responses to (various versions of) the Gödel–Schmidt case, there is no reason (so far) to believe that such variation should have any bearing upon philosophical discussions about the nature of reference. Not only is MMN&S's probe question ambiguous, but its most natural reading is arguably not the one they require. Attempts to eliminate the ambiguity have been unsuccessful and are arguably futile, since the notion of semantic reference is deeply theoretical and may not even be available to ordinary speakers. Attempts to neutralize the ambiguity have also failed due to the variety and complexity of speakers' intentions in such circumstances.

There are, then, several different sorts of confusion to which the subjects of the experiments we have been discussing might be vulnerable.<sup>26</sup> But what is more interesting is which confusions these are: ones that philosophers both before and after Kripke have labored to dispel. For a subject's response to the Gödel–Schmidt case to be so much as relevant to the issues Kripke meant to be discussing, they need to understand it as being about semantic reference rather than speaker's reference; they need to appreciate the difference between having uniquely identifying information about a person and regarding that piece of information as identificatory;<sup>27</sup> and they need to be careful not to treat the relevant uses of the name as attributive. Why should we suppose that naïve subjects will be able to make all the relevant distinctions reliably when students who are explicitly taught them often struggle to do so?

This might suggest that we should look not to the intuitions of ordinary speakers but to those of philosophers (see e.g. Devitt 2011 §3). I am myself inclined toward a different view, however, one that has now been defended at length by Deutsch (2015): that Kripke's argument, and the debate over the nature of reference generally, depends far less upon 'intuition' than is often supposed. But I shall leave discussion of that matter for another occasion.

Of course, nothing I have said here explains why Machery and others have consistently found cross-cultural differences in the responses to their surveys.<sup>28</sup> Maybe there is something interesting to be said about that. On the other hand, as Cullen (2010 §3.4) notes, the phenomenon may not have much to do with philosophy at all, let alone with reference, but rather be a consequence of known differences between

<sup>26</sup>It is not a problem if some of these sources of confusion conflict with one another. Different subjects could be liable to different sorts of confusion, and a single subject could even be subject to conflicting confusions.

<sup>27</sup>Lam (2010) once suggested that some subjects might think that "Gödel" is a so-called descriptive name, like "Jack the Ripper": one whose reference is, by stipulation, the unique object satisfying some description. Machery et al. (2010, p. 364) have replied that to regard "Gödel" as a descriptive name "just is to have descriptivist intuitions about" it. But this is confused. Someone who says that, had some other person committed all those grisly murders, the name "Jack the Ripper" would have referred to them, is not reporting a 'descriptivist intuition'. They are simply registering their appreciation of the fact that "Jack the Ripper" is a descriptive name, i.e., that, as a matter of the specific meaning this name has in our language, it refers to the person who committed certain grisly murders, whoever that may be. Someone who made a similar claim about "Gödel" would just be registering their *mis*understanding of it.

<sup>28</sup>Though, on the other hand, Sytma and Livengood (2011, p. 323) failed to replicate at least part of those results.



how people from 'individualist' and 'collectivist' cultures respond to surveys. Particularly interesting is Cullen's suggestion, citing Haberstroh et al. (2002), that members of collectivist cultures are more sensitive to pragmatic factors when answering survey questions. But my goal here was not to explain the experimental results. It was simply to question their relevance to the theory of reference.<sup>29</sup>

## Appendix: The Baseball Experiment

Students from my Fall 2016 introductory logic class were invited to participate in what was described to them as an experiment connected with my research. They were assured that no identifying information would be collected and that no one would ever know whether they chose to participate. Those who did choose to participate were directed to a webpage hosted at Survey Monkey where they found the following story:

Grace is a ten-year old girl who lives at the Laughing Pines apartments with her family. Grace is *obsessed* with baseball. And all summer long now, her neighbor Bob has been regaling her and some of the other kids with stories about how he used to be a professional baseball player. In fact, however, and unbeknownst to Grace, Bob never even played amateur baseball. He just enjoys the company of the children and is, perhaps, a bit delusional. By coincidence, however, there is an elderly woman, Lily, who also lives at Laughing Pines and who played for several years in the All-American Girls Professional Baseball League. Grace, though, has never met Lily.

They were then asked:

When Grace uses the phrase "the baseball player who lives at Laughing Pines", is she talking about:

- (A) Bob, who never played professional baseball? or
- (B) Lily, who did once play professional baseball?

Students were also asked whether they had previously taken a course in philosophy of language. Four of the forty-three respondents said they had, and their answers were discarded, since their prior experience with philosophy of language might be thought to distort their 'intuitions'.<sup>30</sup>

Of the remaining thirty-nine students, only one chose answer (B); the other thirty-eight chose answer (A). It is sufficiently clear that this is statistically significant. A two-sided binomial test confirmed the fact, with  $p < 10^{-9}$ , the null hypothesis being that subjects would have no preference between the answers.

<sup>29</sup>Thanks to Nat Hansen and Max Deutsch for conversations that contributed to my writing of this paper; to Nat and to Brian Weatherston for comments on a draft; and to Isobel Heck and Paul Egré for help with the statistics. Thanks also to anonymous referees whose comments on earlier drafts helped to improve this one.

<sup>30</sup>In fact, all four of these students chose answer (A).

One might worry that various details of the vignette, which could easily be changed, might have encouraged students to prefer answer (A).<sup>31</sup> That, however, is the point. What Machery and Stich (2012, p. 506) claim, recall, is that the fact that “no specific utterance is mentioned and no contextual information is provided” should force subjects to prefer answer (B). But the story and question I presented to my students have those features, which therefore cannot by themselves be sufficient to prevent the speaker’s reference interpretation.

I also asked my subjects how they felt about the answer they gave, offering them three choices:<sup>32</sup>

1. I could just as easily have given the other answer. Both seemed pretty good to me.
2. Although I am confident in my own answer, I can easily see why someone else might have wanted to give the other one.
3. My own answer seems completely right to me. I can’t really see why anyone would give the other one.

I expected most students to give answer (1) or (2). That is, I expected students at least to be *aware of* the ambiguity in the probe question. In fact, however, the thirty-eight students who chose answer (A) answered the follow-up question this way:<sup>33</sup>

(1)	1
(2)	15
(3)	22

Most students, then, not only interpreted the probe question in a way at odds with Machery and Stich’s prediction but could not understand why anyone else would interpret it the other way. This might be regarded as some confirmation of Deutsch’s suggestion, quoted earlier, that “the vignette question... nearly forces a speaker’s reference interpretation” (Deutsch 2009, p. 454, fn. 7).<sup>34</sup>

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<sup>31</sup>Cullen expresses a number of concerns about the way surveys are used in experimental philosophy. His main conclusion, that “what has been regarded as evidence for the instability of philosophical intuitions is, at least in some cases, better accounted for in terms of subjects’ reactions to subtle pragmatic cues contained in the surveys” (Cullen 2010, p. 275), is obviously compatible with what has been argued here.

<sup>32</sup>These were on a second page, so this question was asked after the answer to the first question had been recorded.

<sup>33</sup>The one student who chose answer (B) answered (2) on the follow-up question.

<sup>34</sup>As I argued in Section 3, in the case of the Gödel–Schmidt vignette, the speaker’s reference interpretation is compatible with both answers. That is not plausible here.

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