Expertise and Intuitions about Reference [*]

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ABSTRACT: Many philosophers hold that experts' semantic intuitions are more reliable and provide better evidence than lay people's intuitions – a thesis commonly called "the Expertise Defense." Focusing on the intuitions about the reference of proper names, this article critically assesses the Expertise Defense.

Keywords: intuitions; reference; descriptivism; causal-historical theories; Kripke; expertise; bias; experimental philosophy

In a series of articles (Machery et al. 2004, 2009, 2010, forthcoming a, forthcoming b; Mallon et al. 2009; Machery and Stich forthcoming), my coauthors and I have provided evidence that some intuitions about the reference of proper names vary across and within cultures, and we have examined the philosophical implications of this variation for the development of theories of reference and for those philosophical arguments that depend on particular theories of reference. While this body of work has been criticized on various grounds,[1] the most influential objection is perhaps that the intuitions of lay people are irrelevant, or at least less relevant than the intuitions of experts, to determine what the correct theory of reference is. Because to date evidence only suggests that lay people's intuitions about the reference of proper names vary within and across cultures, critics have concluded that, while perhaps interesting in itself, the available evidence is of little significance for the development of theories of reference and for the philosophical arguments that depend on these theories. While their views about the nature of intuitions differ, both Kirk Ludwig (2007) and Michael Devitt (2011) have pushed this objection – which I will call "the Expertise Defense."[2] In this article, I will assess the Expertise Defense critically, focusing particularly on Devitt's version.[3]

Here is how I will proceed. In Section 1, I will review the available empirical evidence about the variation in intuitions about reference within and across cultures. In Section 2, I will describe Devitt's version of the Expertise Defense. In Section 3, I will criticize the Expertise Defense on theoretical grounds. In Section 4, I will present some new empirical evidence that expertise about language does not improve the reliability of experts' intuitions about reference.

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[1] See, e.g., Ludwig 2007; Martí 2009, forthcoming; Deutsch 2009, 2010; Jackman 2009; Reimer 2009; Lam 2010; Devitt 2011, 2012; Sytsma and Livengood, 2011; Ichikawa et al. forthcoming; Ostertag ms.

[2] For a more general discussion of expertise and philosophical intuition, see Machery 2011.

[3] For further discussion of Devitt's (2011) criticisms, see Machery et al. forthcoming b.

1. Semantics, Cross-Cultural Style

1.1 The Method of Cases

It is important to keep straight the distinction between semantics and metasemantics. Philosophers and linguists interested in semantics attempt to determine the semantic values of various kinds of words or expressions, such as indexicals, definite descriptions, proper names, etc. – viz. what these kinds of words contribute to the propositions expressed by the sentences containing them. Philosophers and linguists interested in metasemantics attempt to explain how various kinds of words (e.g., proper names) come to have the semantic values they do have. Theories of reference belong squarely to metasemantics: A theory of, e.g., the reference of proper names explains how proper names refer to the individuals they refer to. For instance, it would explain in virtue of what "Barack Hussein Obama" refers to Barack Obama.

Theories of reference can typically be classified into two distinct families: descriptivist and causal-historical theories of reference. In a nutshell, according to descriptivist theories of reference, words refer to the entities that satisfy the descriptions associated with them. For example, descriptivist theories for the reference of proper names claim in substance that proper names are associated with descriptions and that they refer to the individuals that satisfy these descriptions (e.g., Searle 1958; Jackson 1998). By contrast, according to causal-historical theories of reference, words refer to the entities they are connected to by a historical chain of uses. For example, causal-historical theories for the reference of proper names claim in substance that a proper name refers to the individual it was introduced to refer to, provided it is historically connected to this individual by a history of uses (e.g., Kripke 1972/1980; Devitt 1981).

How do we know which theory of reference is correct? Philosophers of language have rarely been explicit about this question, but many of them have embraced the following method – which I will call "the method of cases." Lay people and philosophers alike have intuitions about what words of various kinds – such as proper names – refer to in actual and possible situations.[4] For instance, people have the intuition that in the actual world "Barack Hussein Obama" refers to Barack Obama. Philosophers use these intuitions to assess theories of reference. A theory of reference is undermined if it entails that in an actual or a possible situation a proper name (or a natural kind term, etc.) refers to what people judge is not its correct reference, and it is supported if it entails that in an actual or a possible situation a proper name (or a natural kind term, etc.) refers to what people judge is its correct reference (the relative importance of actual and possible situations for determining the correct theory of reference is a matter of controversy, see Devitt 2011; Ichikawa et al. forthcoming; Machery et al. forthcoming b).[5]

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[4] In the present context, an intuition just is an unreflective judgment.

[5] While widely embraced, the method of cases has been occasionally criticized (e.g., Devitt 1994).

Why would intuitions about reference play such a role? Presumably, for the same reason as ordinary judgments are often taken to provide evidence for particular facts. If I judge of an object that it is a chair, my judgment that it is a chair is evidence that it is a chair because I am reliable at sorting chairs from things that are not chairs (for a different perspective, see Jackman 2009).

1.2 Variation in Intuitions about the Reference of Proper Names

Ron Mallon, Shaun Nichols, and Steve Stich, and I were interested in finding out whether intuitions about reference vary across cultures. Influenced by Nisbett's cross-cultural work (e.g., 2003), we hypothesized that people in East Asia (primarily, China, Korea, and Japan) would be more likely to have descriptivist intuitions (viz. an intuition in line with descriptivist theories of reference) than Americans. Focusing on proper names, we presented participants in Hong-Kong and in the USA with vignettes inspired either by Kripke's Gödel case (Kripke 1972/1980, 83-84) or by Kripke's Jonah case (Kripke 1972/1980, 67).[6] The vignettes were in English, and participants were undergraduate students who had little acquaintance with the philosophy of language. One of the vignettes inspired by Kripke's Gödel case read as follows[7]:

> 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. 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?

As predicted, Chinese participants turned out to be more likely to have descriptivist intuitions (viz. to answer A) than Americans. In fact, most Chinese participants reported a descriptivist intuition, while most Americans reported a Kripkean intuition – viz. an intuition in line with causal-historical theories (Figure 1). It would thus seem that the intuition elicited by the Gödel case – one of the important cases in Kripke's alleged refutation of descriptivism – varies across cultures (as well as within cultures).

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[6] The vignettes inspired by the Jonah case are problematic (for discussion, see Machery et al. 2004, B7), and I will not discuss them any further here.

[7] The other vignette was structurally similar, but it used a Chinese proper name ("Tsu Ch'ung Chih") and a Chinese story.
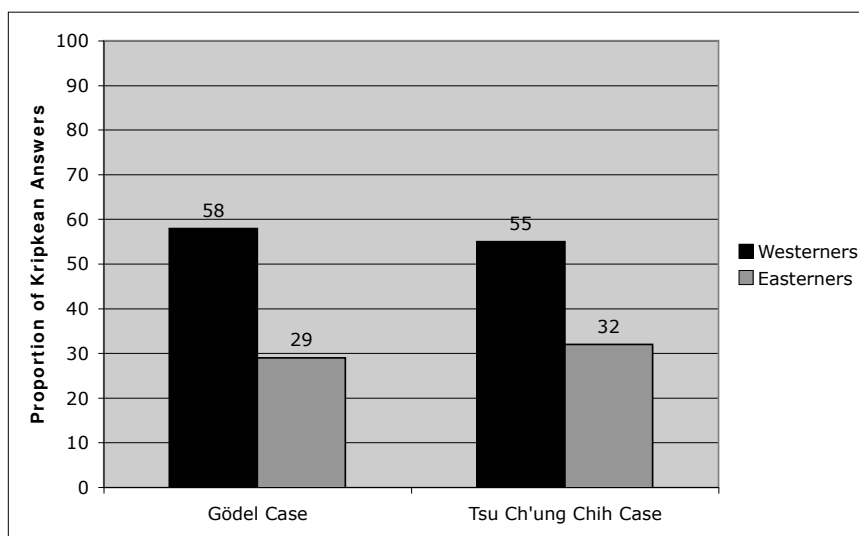
Figure 1: Results of Machery et al. (2004)

Follow-up work has confirmed these results. Machery et al. (2010) have replicated this original study, and have obtained the same results when the probes are presented to Hong-Kong participants in Chinese instead of English. Machery et al. (forthcoming a) have shown that the cultural difference persists when it is made clear that the question at the end of the vignette asks about the reference of the proper name itself (what Kripke (1977) called "semantic reference") instead of whoever it is the speaker intends to be talking about. Recently, Sytsma, Livengood, Sato, and Mineki (unpublished data) have shown that Japanese participants are also likely to have descriptivist intuitions about the reference of "Gödel" in the situation described by the Gödel case. Their results provide some evidence in support of the cross-cultural hypothesis put forward in Machery et al. (2004).

1.3 Intuitions about the Truth-Value of Sentences

The studies discussed above focused on people's intuitions about the reference of proper names. In these studies, participants are asked to determine what a proper name refers to in the hypothetical situation described by a vignette. In response to some criticisms formulated by Martí (2009), Machery et al. (2009) examined whether intuitions about the reference of proper names and intuitions about the truth-value of sentences containing proper names were in sync with one another. For instance, if people tend to have descriptivist intuitions about the reference of "Gödel" in the situation described by the Gödel case, do they also tend to think that in that situation it is true that Gödel was a mathematical genius? To investigate this question, people were given either a vignette asking about the reference of a proper name in a hypothetical situation or a vignette asking about the truth-value of a sentence containing this name in that same situation. Participants were given the Tsu Ch'ung Chih vignette:

> Ivy is a high school student in Hong Kong. In her astronomy class, she was taught that Tsu Ch'ung Chih was the man who first determined the precise time of the summer and winter solstices. But, like all her classmates, this is the only thing she has heard about Tsu Ch'ung Chih. Now suppose that Tsu Ch'ung Chih did not really make this discovery. He stole it from an astronomer who died soon after making the discovery. But the theft remained entirely undetected and Tsu Ch'ung Chih became famous for the discovery of the precise times of the solstices. Everybody is like Ivy in this respect; the claim that Tsu Ch'ung Chih determined the solstice times is the only thing people have heard about him.

Then, they were either asked about whom Ivy is talking, or they were asked the following question:

> Having read the above story and accepting that it is true, when Ivy says, "Tsu Ch'ung Chih was a great astronomer." do you think that her claim is: (A) true or (B) false?

Machery et al. (2009) found that people have consistent intuitions about the reference of proper names and about the truth-value of sentences containing these proper names (for critical discussion, see Martí forthcoming).

1.4 Implications of the Variation in Intuitions

So, evidence suggests that intuitions about the reference of proper names vary within and across cultures. Philosophers of language interested in reference need to accommodate such variation. Consider the case of names.

One option would be to maintain that names refer in the same way in all languages and thus infer that variable intuitions are not reliable guides to the reference of names. Philosophers of language who adopt this view would reject the method of cases, and they in turn owe an account of how the correct theory of reference is to be determined.

Alternatively, philosophers of language interested in reference could maintain that intuitions are reliable guides to the semantic properties of names and go on to infer that names refer differently in different cultures. If they endorse this second option, philosophers of language would need to examine the intuitions of ordinary competent speakers empirically, which would lead to a sea-change in their methods and might compel them to devise new theories of reference (Machery and Stich forthcoming).

A third option would be to insist that some intuitions, but not others (or more than others), are reliable guides to the semantic properties of names. In particular, one could suggest that academic philosophers, or more generally linguistic experts, have more reliable intuitions than others. The burden for this line of argument is justifying the claim that the favored group of people or of intuitions is privileged.

2. Devitt's Expertise Defense

2.1 Devitt's Central-Process Conception of Linguistic Intuitions

Devitt (2006a, 2006b) draws a contrast between two distinct views about intuitions. According to what may be called "the modularist conception of intuitions," intuitions result from a mechanism that is largely encapsulated from people's beliefs. In this case, changes in beliefs would not influence what intuitions people have. The modu-

larist conception contrasts with "the central-process conception of intuitions," according to which intuitions result from the beliefs people have. In this case, changes in beliefs would influence what intuitions people have.

For Devitt (2006a, 2006b, 2010), the central-process conception of intuition applies to lay people's and to experts' intuitions about linguistic properties – be they syntactic or semantic. As he puts it, linguistic intuitions are "empirical theory-laden central-processor responses to phenomena, differing from many other such responses only in being fairly immediate and unreflective, based on little if any conscious reasoning" (2006a, 103). When lay people and experts intuit that a grammatical construction is unacceptable, their respective beliefs about the rules of English influence their intuitions. Similarly, lay people's as well as experts' beliefs about reference influence their intuitions about the reference of "Gödel" in the situation described by Kripke's Gödel case.

2.2 Expertise and the Reliability of Intuitions

Given Devitt's central-process conception of linguistic intuitions, he unsurprisingly holds that the evidential worth of linguistic intuitions depends on the expertise of the intuiter. Experts about linguistic matters – viz. linguists and philosophers of language – have better theories than non-experts – viz. lay people. They are also better at applying their theories to particular cases because they know how to identify the relevant features of these cases. Thus, the syntactic intuitions of linguists and philosophers of language are more reliable than lay people's intuitions: They are more likely to be true. As a result, they provide better evidence about the syntactic properties of various grammatical constructions than lay people's intuitions. The same is true of semantic intuitions: In particular, the intuitions about reference of linguists and philosophers of language are more reliable and thus provide better evidence about the reference of proper names and other kinds of words in actual and possible situations than lay people's intuitions.

In this respect, linguistic intuitions are no different from radiologists' judgments about the presence of cancerous nodules on the basis of x-rays or paleoanthropologists' judgments about the species bone fragments belong to. In all these cases, expert judgments are more reliable than lay people's judgments, and thus provide better evidence about what is the case.

2.3 The Expertise Defense

If experts' intuitions about reference provide better evidence than lay people's, one should appeal to the former whenever this is possible, weighting them more than the latter; it may even be that one should overlook lay intuitions entirely. Devitt endorses exactly this line of thought in his response to Machery et al. (2004) and Mallon et al. (2009)[8]:

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[8] The Expertise Defense is also endorsed in other areas of philosophy (e.g., Kamm 1993; Williamson 2007, 2011). For discussion, see Weinberg et al. 2010; Machery 2011.

> [T]he normal competent speaker with even a little education does reflect on linguistic reality just as she reflects on many other striking aspects of the world she lives in. And this education will usually provide her with the terms and concepts of folk semantics, at least. As a result she is likely to be able to judge in a fairly immediate and unreflective way what an expression refers to. (…) Still, are these referential intuitions likely to be right? I think we need to be cautious in accepting them: semantics is notoriously hard and the folk are a long way from being experts. Still it does seem to me that their intuitions about "simple" situations are likely to be right. This having been said, we should prefer the intuitions of semanticists, usually philosophers, because they are much more expert (which is not to say, very expert!). (2011, 426)

Thus, empirical findings concerning lay intuitions about reference should carry little weight (if any) in theorizing about reference. Because research on these intuitions has so far only examined lay intuitions, its results can be safely overlooked by philosophers of language. Similarly, because the reliability of the judgments about the historical origins of pot shards depends on the expertise of the intuiters, we treat the judgments made by archaeologists as the relevant evidence to decide whether some pot shards are of Sumerian origin, and we are not concerned if lay people's judgments are haphazard. The same point applies to judgments about the authenticity of paintings or to the assessment of the aesthetic worth of many pieces of art. In all these cases, we tend to dismiss the vagaries of folk judgments on the grounds that they probably reflect lay people's lack of expertise and that expert judgments provide much better evidence about what is the case.

The upshot should be clear: If expertise really improves the reliability of the intuitions about reference, then the variation in intuitions found in previous work can justifiably be ignored by philosophers of language. The remainder of this paper will be dedicated to casting doubt on the truth of the antecedent of this conditional.

3. Objections to the Expertise Defense

In this third section, I will put forward several reasons to doubt that expertise about language improves the reliability of the intuitions about reference. In Section 4, I will provide some empirical evidence supporting this doubt.

3.1 Do Philosophers and Linguists have Better Theories about Reference?

In this article, I will take for granted that there is such a thing as reference (for discussion, see however section 4 of Machery and Stich forthcoming), and that we can have better or worse theories about reference. Naturally, there is also such a thing as expertise about language: Linguists know vastly more about language than ordinary people. Nothing I will say in the remainder of this article entails a denial of this truism.

These caveats having been stated, I can now turn to my first concern with the Expertise Defense: It is unclear whether the theories of reference developed by linguists and philosophers of language are better than lay people's inchoate views. If they are not, then the intuitions about reference of philosophers of language and of linguists are unlikely to be more reliable than lay people's. The reason is that, if philosophers of language and linguists do not have better theories of reference, then their epistemic advantages over lay people boil down to the following: Philosophers of language and linguists are aware that one must explain how words refer; they understand what is at

stake in explaining reference; they are well acquainted with the (by hypothesis, poor) theories of reference put forward by philosophers and linguists; and so on. It is unclear why this kind of advantages would make their intuitions more reliable than lay people's.

So, Devitt probably assumes that the theories of reference endorsed by philosophers are better than lay people's inchoate views about reference. However, first, it could certainly be that all our ideas about reference are badly mistaken: After all, for a long time, experts' and lay people's ideas about the origins of diseases or about the origins of the continents have been erroneous too (to give only two examples). Second, there are deep disagreements among philosophers of language about what the right theory of reference is (compare, e.g., Devitt 1981 and Jackson 1998), and this lack of consensus suggests that the philosophical community has not reached a stage where it can be very confident about the truth of its ideas about reference.

3.2 Does Linguistic and Philosophical Expertise Improve Intuitions?

However, suppose for the sake of the argument that the theories of reference developed by philosophers of language and by linguists are better than lay people's inchoate ideas about reference. Even if this is the case, it is still not clear that the expertise of linguists and philosophers of language improves the reliability of their intuitions about reference.

Empirical research has failed to find any robust evidence that linguists' syntactic intuitions are more reliable than lay people's (for review and discussion, see Schütze 1996; Culbertson and Gross 2009; Machery and Stich forthcoming). Of particular interest is the study recently conducted by Culbertson and Gross (2009; for discussion, see Devitt 2010; Gross and Culbertson 2011). Participants were presented with 73 sentences, and they were asked to judge the acceptability of these sentences. Participants were divided in four groups: participants with extensive knowledge of syntax, participants with limited knowledge of syntax, participants with knowledge of cognitive science, but no knowledge of syntax, other participants. Reliability was measured indirectly: The intuitions of a first group of participants (e.g., lay people) were judged to be less reliable than the intuitions of second group (e.g., graduate students in linguistics) if the members of the first group disagreed more with one another than the members of the second group. Consistent with previous studies, Culbertson and Gross found that linguistic expertise did not improve reliability. The only thing that improved reliability was whether participants had any experience with behavioral experiments: That is, those participants with no knowledge of syntax or of cognitive science were less reliable than the other participants.

If anything, evidence suggests that the theories linguists endorse can bias their linguistic intuitions (Labov 1975; Schütze 1996). Focusing on syntax, Schütze (1996) has reviewed several examples. Consider for instance the alleged ambiguity of why-questions with an embedded that-clause. Lasnik and Saito (1984) assert that sentences such as "Why do you think that he left?" are ambiguous, while Aoun et al. (1987) claim that they are not. Unsurprisingly, the ambiguity of why-questions with an em-

bedded that-clause follows from Lasnik and Saito's theory, but not from Aoun et al.'s theory!

What explains this pattern of results – viz. expertise failing to increase the reliability of linguistic judgments and occasionally biasing them? Because the psychology of linguistic intuitions remains poorly understood, it is difficult to say, but we can perhaps cast some light on this question by examining the relation between intuitions and expertise in other fields. Consider for instance statistics. While there are several competing theories about how to draw statistical inferences from samples, there is no doubt that these theories are much better than lay people's inchoate views on the matter. Despite the existence of these theories, however, statisticians' intuitions are not more reliable than ordinary people's intuitions for any moderately complex data set. Indeed, this is why statisticians rely on computational procedures to determine what can be inferred from data. The failure of statisticians' expertise to improve their intuitions for any moderately complex data set is plausibly due to the fact that the correct application of statistical theories to such data sets in order to draw statistical inferences is a process too complex to be done intuitively.

More generally, it may often be the case that the scientific theories developed by experts can only be applied correctly in slow, analytic, reflective reasoning (possibly assisted by various computational procedures). When this is the case, experts' intuitions should not be more reliable than ordinary people's. Importantly, in the situation envisaged here, the failure of expertise to improve the reliability of intuitions is not due to their informational encapsulation. The fact that the correct application of complex theories cannot happen intuitively does not mean that intuitions are not influenced by these theories at all (or by other beliefs or by the training and assumptions that are common in a given discipline). It just means that this influence does not increase the reliability of experts' intuitions.

To come back to linguists' intuitions, it might be that something like this story explains why syntacticians' intuitions are not more reliable than ordinary people's, while being at times biased by the syntactic theories syntacticians endorse. Syntactic theories might be too complex to be correctly applied intuitively, but they might still influence syntacticians' intuitions.

The upshot of this discussion is the following one: It is unclear whether philosophers of language and linguists have more reliable intuitions about the reference of proper names in actual and possible situations than ordinary people. The current theories about reference might not even be in the right ballpark, and, even if they are, one cannot ipso facto conclude that the intuitions of philosophers of language and of linguists are more reliable than lay people's. So, what is needed to determine whether linguistic expertise improves the reliability of the intuitions about reference is some empirical evidence.

4. An Experimental Study of Experts' Intuitions

In the last section of this article, I present some new empirical evidence tentatively suggesting that the training experts receive in a particular field of linguistics biases

their intuitions about the reference of proper names. These findings cast doubt on the proposal that expertise about language increases the reliability of these intuitions.

4.1 Experimental Study

To examine experts' intuitions about the reference of proper names, linguists and philosophers of language were recruited by means of the snowball sampling method. A recruitment e-mail was sent to hundreds of linguists and philosophers of language in the top linguistics departments and research centers all over the world. Linguists and philosophers of language were asked to forward this e-mail to their colleagues and graduate students. In addition, the call for participation in the study was posted on several mailing lists, including the Linguist mailing list. Participants were invited to take part to a 10-minute web study. As part of the study, they were presented with the Tsu Ch'ung Chih vignette followed by the following question (instead of being asked about the truth of "Tsu Ch'ung Chih was a great astronomer"):

> Having read the above story and accepting that it is true, when Ivy uses the name "Tsu Ch'ung Chih," who do you think she is actually talking about:
>
> (A) The person who is widely believed to have discovered the solstice times, but actually stole this discovery and claimed credit for it?
>
> (B) The person who (unbeknownst to Ivy) really determined the solstice times?

Participants were also asked how certain they were of their answer on a scale ranging from 0 (not sure) to 100 (sure). Finally, participants were presented with a biographic questionnaire. As part of this questionnaire, participants were asked whether they were working on language, and, if they were, what their area of specialization was. They were offered the following options: computational linguistics, discourse analysis, evolution of language, historical linguistics, philosophy of language, phonology and phonetics, pragmatics, psycholinguistics and neurolinguistics, semantics, sociolinguistics, syntax and morphology, other (if they answered "other", they were asked to describe their area of specialization).[9] Participants were allowed to check several of these areas of specialization. They were also asked "to describe [their] theoretical perspective on language in a few words (e.g., generative grammar, cognitive linguistics influenced by Talmy or Lakoff, etc.)" and to "name two or three famous linguists that best exemplify [their] theoretical perspective on language (e.g., Chomsky, Saussure, Whorf, etc.)." They were finally asked in what field they received their degree.

409 participants took part to this study. Participants who did not identify themselves as philosophers of language or as linguists were excluded as were those participants who had not completed a PhD or were not in a graduate program. Participants' area of specialization was identified by means of their answer to the area-of-specialization question. Those participants who had given several answers were classified in one of the areas on the basis of their answer to the question about their theo-

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[9] These options were based on the description of the fields within linguistics found on the website of the Linguistic Society of America (http://www.lsadc.org/info/ling-fields.cfm) and on a webpage of the Department of Linguistics at UCLA (http://www.linguistics.ucla.edu/programs/lxfield.htm). [Both accessed on Dec. 28, 2011]

retical perspectives, their answer to the question about the linguists that best exemplify their work, and the field in which they received their degree. Participants who could not be unambiguously classified were excluded, resulting in a final sample of 272 participants.[10] Participants who answered "other" and who described their area of specialization were classified as follows: Terminologists were added to the group of linguists working on discourse analysis; anthropological linguists were added to the group of historical linguists; and linguists working on English as a Second Language were added to the group of psycholinguists and neurolinguists. The groups of pragmaticists and of linguists working on the evolution of language ended up being empty because participants who identified themselves as working on pragmatics or on the evolution of language typically worked in other fields too and were classified in these fields. In addition to linguists and philosophers of language, lay people matched for education (N=26 out of a sample of 107 participants) were also presented with the Tsu Ch'ung Chih case.[11]

Figure 2 reports participants' answer to the Tsu Ch'ung Chih case as a function of their area of specialization. Figure 3 reports their degree of confidence. While the majority of participants in all groups reported Kripkean intuitions, the proportion varied across groups (from 66.7% to 88.6%). Furthermore, on average participants were quite confident in their judgments.
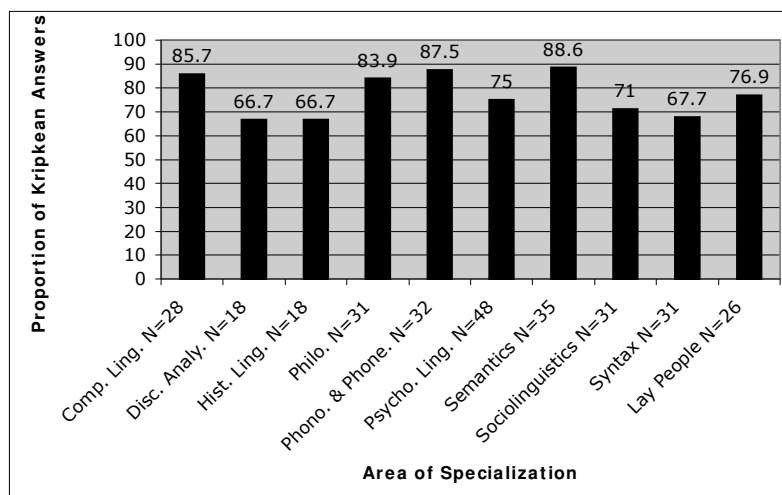

Figure 2: Proportion of Kripkean Answers

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[10] 47.4 % males; age range: 20-75; mean age: 39; 54 % native speakers of English.

[11] Only participants with at least a Bachelor degree were included in the sample. Participants with an MA or a PhD in philosophy were excluded. 53.8 % males; age range: 22-72; mean age: 39.1; 73.1% native speakers of English.
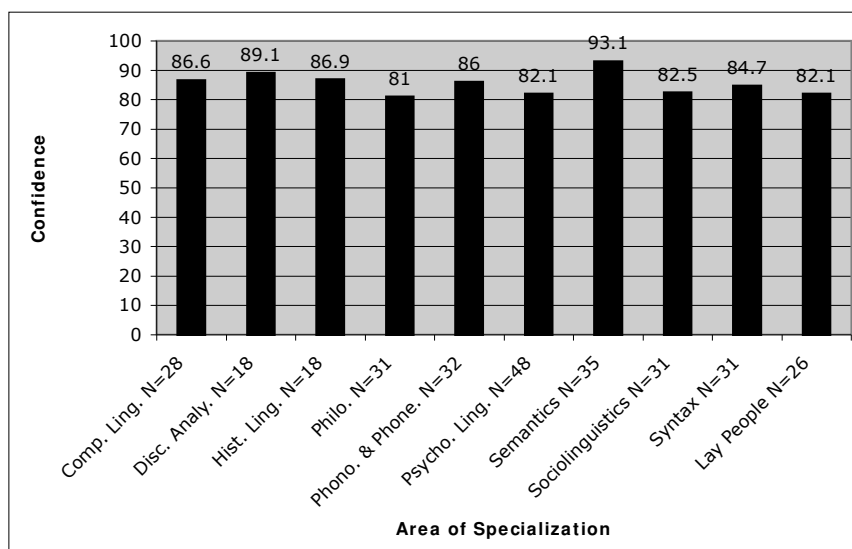
Figure 3: Confidence

To analyze the influence of participants' disciplinary background on their intuitions about the reference of proper names, two groups of experts were formed. Semanticists and philosophers of language were put together because they are likely to have read Kripke's *Naming and Necessity* and because some research topics are common to these two fields (Group 1). Researchers in discourse analysis, historical linguistics, and sociolinguistics were put together because they are likely to be particularly sensitive to the descriptions associated with proper names (Group 2). Figure 4 reports the proportion of Kripkean answers in these two groups as well as among comparably educated lay people (Group 3), and Figure 5 their confidence.[12]

While a majority of participants in the three groups under consideration report Kripkean intuitions, the intuitions of these three groups are significantly different ($\chi^2(2, N=159)=5.95$, $p=.051$).[13] Philosophers and semanticists are more likely to have Kripkean intuitions than linguists working in discourse analysis, historical linguistics, and sociolinguistics ($\chi^2(1, N=133)=5.97$, $p=.015$).[14] The three groups express a similar degree of confidence.

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[12] One may be surprised by the high proportion of Kripkean answers among lay people (77% compared to the 55% in Machery et al. 2004). Two factors explain this proportion. First, the question at the end of the Tsu Ch'ung Chih vignette follows Sytsma and Livengood's (2011) formulation, which is known to increase the proportion of Kripkean answers among Westerners (74% in Sytsma and Livengood 2011). Second, education somewhat increases the proportion of Kripkean answers.

[13] The results are similar if only linguists and philosophers with a PhD are considered.

[14] The differences between group 1 and group 3 ($p=.27$) and between group 2 and group 3 ($p=.43$) were not significant (possibly because of the size of the sample of controls (N=26)).
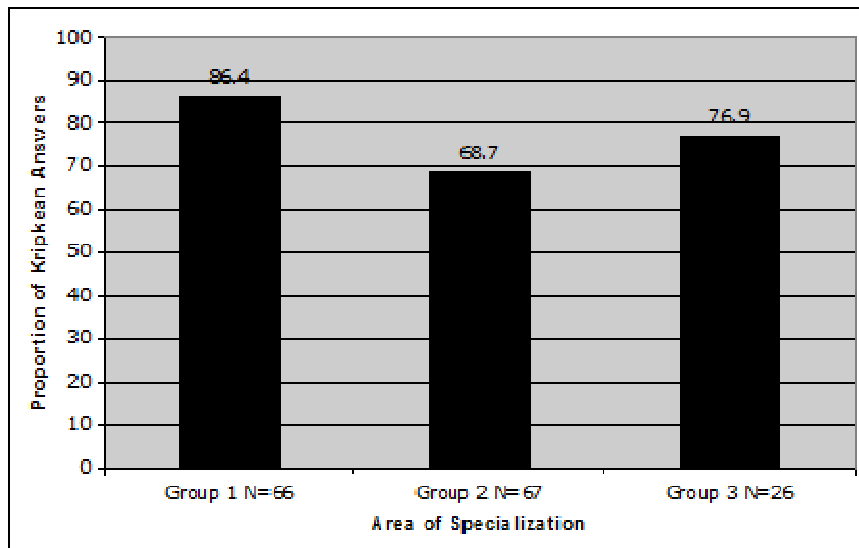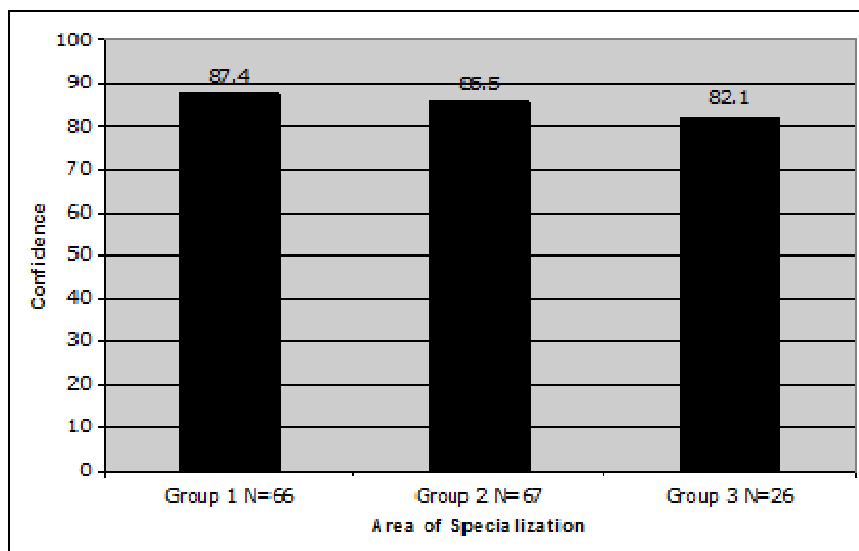
Figure 4: Proportion of Kripkean Answers

Figure 5: Confidence

4.2 Discussion

It is consistent with expertise improving the reliability of people's intuitions about reference that some experts (e.g., some philosophers, or some semanticists, or some historical linguists) or, perhaps, the experts in some fields (e.g., philosophy of language, or semantics, or historical linguistics) have better intuitions that other experts or than the experts in some other fields since some experts or the experts in some fields might

be more expert than other experts or than the experts in other fields. Thus, the improvement of the reliability of intuitions by means of expertise is compatible with the existence of some variation among linguistic experts or across areas of specialization: For instance, historical linguists could have more reliable intuitions than philosophers of language. However, what would be evidence against the hypothesis that linguistic expertise improves the reliability of the intuitions about reference is an *inconsistent* influence of expertise on experts' intuitions. If expertise really improves the reliability of experts' intuitions, then it should influence their intuitions *consistently*: That is, *all* experts should be *either more Kripkean* (if reference is really fixed causally-historically) or *more descriptivist* (if reference is really fixed descriptively) than ordinary people.

However, the evidence presented above suggests that expertise has an *inconsistent* influence on experts' intuitions about the reference of the proper name "Tsu Ch'ung Chih" in the situation described by the Tsu Ch'ung Chih case. Philosophers of language and semanticists, who are likely to have read *Naming and Necessity*, those linguists who are attuned to the descriptions associated with words – viz. terminologists, linguists working on discourse analysis, historical linguists, anthropological linguists, and sociolinguists – and comparably educated people have significantly different intuitions. Furthermore, philosophers of language and semanticists are also more likely to have Kripkean intuitions than comparably educated people, while terminologists, linguists working on discourse analysis, historical linguists, anthropological linguists, and sociolinguists are more likely to have descriptivist intuitions than comparably educated people (although these last two differences do not reach significance, see footnote 15). This inconsistent influence of expertise on intuitions about reference casts doubts on whether expertise really improves the reliability of these intuitions.

If expertise does not improve the reliability of the intuitions about reference, how are we to understand its influence on experts' intuitions? As we saw in Section 3.2, syntacticians' theoretical commitments can bias their acceptability intuitions: Syntacticians with different theoretical commitments sometimes have different intuitions about the acceptability of grammatical constructions. In this case, instead of improving their reliability, expertise biases experts' intuitions. It is plausible to interpret the influence of experts' area of specialization on intuitions about reference similarly. In different areas of specialization, experts about language (including philosophers of language) are taught different theories and learn to approach linguistic phenomena with different presuppositions. Far from improving their reliability, this explicit and implicit knowledge biases their intuitions about reference.

The results reported here undermine the Expertise Defense. If it is not the case that expertise improves the reliability of intuitions, then there is little justification for holding that experts' intuitions provide better evidence about the reference of proper names in actual and possible situations than lay people's intuitions (or even that only these intuitions provide evidence) and for ignoring the variation in intuitions found in recent work.

4.3 Objections and Replies

In this final section, I consider four responses to the line of argument put forward in Sections 4.1 and 4.2. One could first respond that the study presented in Section 4.1 shows that experts *agree* that in the fictional situation described by the Tsu Ch'ung Chih vignette "Tsu Ch'ung Chih" refers to Tsu Ch'ung Chih: In all groups, a large majority of experts report having Kripkean intuitions. Thus, there is a consensus among experts about the reference of proper names in situations similar to Kripke's Gödel case, and it is difficult to see how such a consensus could undermine the Expertise Defense – or so the objection goes.

This first response fails to address the objection to the Expertise Defense put forward in Sections 4.1 and 4.2. What is at stake is whether expertise about language (which is not questioned here) increases the reliability of experts' intuitions about reference. To show that it does, one needs to show that experts' intuitions differ from ordinary people's and that expertise has a consistent effect on experts' intuitions. That most experts in every area of specialization considered in Section 4.1 report Kripkean intuitions does not establish either of these facts.

A second response to the argument against the Expertise Defense would begin by noting that, while all the groups considered above (computational linguistics, semanticists, etc.) have some expertise about language, not every kind of expertise about language should be expected to improve the reliability of people's intuitions about reference. For instance, there is no reason to expect the expertise of phoneticists and phonologists to improve the reliability of their intuitions about the reference of proper names in actual and fictional situations. In contrast to phoneticists or, maybe, to psycholinguists, the expertise of philosophers of language and of semanticists is likely to improve the reliability of their intuitions about reference because these researchers are concerned with the semantic values of words. As a matter of fact, the objection continues, both philosophers of language and semanticists are more Kripkean than comparably educated lay people, in line with the idea that their expertise improves the reliability of their intuitions.

In contrast to the first response, this second response really addresses the argument against the Expertise Defense. However, there are two (mutually consistent) lines of reply to this second objection. First, semanticists have not shown much interest in how proper names acquire their semantic value. Because they probably have not thought much about this metasemantic issue, they may not be particularly good at identifying the relevant features for determining what a proper name refers to in a fictional situation. For this reason, it is unclear whether we should really expect semanticists' expertise to improve the reliability of their intuitions about the reference of proper names in fictional situations. Second, and more important, there is as much reason to expect the expertise of historical linguists, anthropological linguists, and sociolinguists to improve the reliability of their intuitions about reference as to expect the expertise of philosophers of language and semanticists to improve the reliability of their intuitions. Historical linguists are concerned with how the reference or extension of words changes over time, and anthropological linguists are concerned with whether words that appear to be approximate translations in different languages (e.g., words

for emotions) are coreferential or coextensional. But it turns out that, while philosophers of language and semanticists tend to have more Kripkean intuitions than comparably educated people, historical linguists, anthropological linguists, and sociolinguists tend to have slightly less Kripkean intuitions (although these differences do not reach significance). Expertise makes one group more Kripkean, but another group more descriptivist. It would thus seem that even *relevant* expertise about language does not improve the reliability of experts' intuitions about the reference of proper names in actual and possible situations.

The third objection pushes the second objection a bit further by asserting that we have good reasons to distrust the intuitions of historical linguists, anthropological linguists, and sociolinguists. One could hold for instance that the semantic theories that are common in these fields are confused, and that they are thus unlikely to improve the reliability of the intuitions about reference. The upshot is that we should only appeal to the intuitions of semanticists and philosophers of language.

The rejoinder to this third response can be brief. Historical linguistics, anthropological linguistics, and sociolinguistics are successful disciplines, and, without a detailed, non-question-begging argument explaining why the theories and practices common in these disciplines are less likely to improve the intuitions about reference than the theories and practices common in semantics and in the philosophy of language, there is no reason to take this response seriously.

The fourth response to the argument against the Expertise Defense notes that neither the answers of historical linguists, anthropological linguists, and sociolinguists nor the answers of philosophers of language and semanticists differ significantly from the answers given by comparably educated lay people. It concludes that it is a mistake to infer from this that expertise has an inconsistent influence on experts' intuitions.

In response, it is worth noting that with a larger sample of control participants the differences would plausibly be significant. Furthermore, this is not a response that proponents of the Expertise Defense should be happy to make, for it is at odds with the assumption that expertise about language improves the reliability of the intuitions about reference.

5. Conclusion

Lay people's intuitions about the reference of proper names vary within and across cultures, a fact that, my coauthors and I have argued, has significant philosophical implications (Machery et al. 2004, forthcoming b; Mallon et al. 2009). Devitt, Ludwig, and others have replied that these empirical results can be dismissed because experts' intuitions provide better evidence about reference than lay people's. However, theoretical and empirical considerations cast doubt on the Expertise Defense. In particular, the fact that expertise in different linguistic fields pulls intuitions in opposite directions – toward descriptivism for sociolinguistics, historical linguistics, and anthropological linguistics and toward causal-historical theories of reference for semanticists and for philosophers of language – casts doubts on the claim that expertise improves the reliability of the intuitions about reference and that, as a result, experts' intuitions are to be preferred for evidential purposes.

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