Abstract: Armchair philosophers have questioned the significance of recent work in experimental philosophy by pointing out that experiments have been conducted on laypeople and undergraduate students. To challenge a practice that relies on expert intuitions, so the armchair objection goes, one needs to demonstrate that expert intuitions rather than those of ordinary people are sensitive to contingent facts such as cultural, linguistic, socio-economic, or educational background. In this paper we do exactly that. Based on two empirical studies on populations of 817 and 272 trained philosophers respectively, we demonstrate that expert intuitions vary dramatically according to at least one contingent factor, namely the linguistic background of the expert: philosophers make significantly different intuitive judgments if their native language is English rather than Dutch, German, or Swedish. Our findings cast doubt on the common armchair assumption that philosophical theories based on armchair intuitions are valid beyond the linguistic background against which they were developed.

1. Introduction

It is a long-standing practice in analytic philosophy to appeal to armchair intuitions. Experimental philosophers have recently challenged this tradition by demonstrating how philosophical intuitions depend on respondents’ cultural and socio-economic background (Weinberg et al, 2001; Machery et al., 2004), educational background (Nichols, et al, 2003), and the order in which thought
experiments are presented (Swain et al., 2007).

An influential response to the challenge from experimental philosophy has been to stress that we need to distinguish sharply between folk intuitions and expert intuitions. The empirical surveys conducted by experimental philosophers have been concerned with intuitions reported by laypeople and undergraduates, not by experts (i.e. trained philosophers). So although it might be true that folk intuitions are unreliable, armchair philosophers argue, expert intuitions are the ones that ultimately matter. Hales, for instance, argues that, ‘we should acknowledge that not all intuitions are created equal [...] For example, the physical intuitions of professional scientists are much more trustworthy than those of undergraduates or random persons in a bus station’.¹ If we have questions about science we typically turn to expert scientists for an answer, not to laypeople and undergraduates. Likewise, we should turn to expert philosophers if our questions concern philosophy, not to laypeople and undergraduates.

This pro-armchair argument assumes, crucially, that the intuitions of trained philosophers, unlike those of laypeople and undergraduates, are (more) immune to cultural, linguistic, socio-economic and other distortions. Because of the advanced training philosophers receive, these expert intuiters will be sensitive only to the philosophically salient features of a thought experiment, and insensitive to irrelevant contingent factors, such as their own socio-economic and cultural background. Or so the argument goes. Unfortunately, this crucial claim about the reliability of philosophical expert intuitions has so far not been supported by any empirical evidence, notwithstanding the fact that it is an empirical, testable conjecture. Given its significance in pro-armchair arguments, it is therefore important to adjudicate whether expert intuitions are less vulnerable to irrelevant, contingent factors than folk intuitions.²

In this article we report empirical evidence from two large studies suggesting that, contrary to what is commonly assumed by armchair philosophers, the epistemic intuitions of trained

² For an interesting and quite convincing argument questioning the expertise of philosophers, see Weinberg et al. (forthcoming). The argument draws on the psychological literature on expertise and expert judgment, though, and does not provide the empirical evidence we provide here.
philosophers are susceptible to a linguistic background effect. To be more precise, we show that intuitive judgements of native English speaking philosophers differ quite dramatically, in a non-random way, from those of philosophers whose native language is Dutch, Swedish or German. The effect arises even if all respondents are asked exactly the same questions in the same language (English). Our conclusion is, therefore, that a philosopher’s native language influences his or her philosophical intuitions.

If philosophical expert intuitions are susceptible to irrelevant background effects, even across a group as culturally and academically homogeneous as the group of English-, Dutch-, Swedish-, and German-speaking philosophers, the prospects for armchair philosophy look dim. To appreciate the significance of this point, suppose that English-speaking and German-speaking philosophers were to disagree on the intuitive extension of the concept of knowledge. For an illustrative example, suppose that English-speaking philosophers intuit that Gettier cases are not instances of knowledge, while German-speaking philosophers think that Gettier cases are in fact perfectly legitimate instances of knowledge. If the objective is to develop a truth-tracking theory of knowledge, Gettier cases would then force the English-speaking philosopher to develop an alternative to the JTB-account, whereas the German-speaking philosophers could stick to the JTB-account without revising it.\(^3\) The “truth” of JTB would, then, be restricted to one particular linguistic community (namely German-speaking philosophers). This kind of relativism would, arguably, be quite unpalatable.\(^4\) Therefore, by showing that philosophical expert intuitions are language-dependent we seem to launch a serious threat to armchair philosophy.

\(^3\) One response might be to claim that either groups of philosophers simply has the wrong intuitions. This would assume, however, that we have a standard for assessing the goodness of an intuition. The goodness of an intuition might for instance derive (i) from the expertise of the intuiter; (ii) from the coherence of the intuition with available theories. Criterion (i) is simply assumed in the scenario (but questioned in the rest of the paper): both the German and the English-speaking philosophers are philosophers. Criterion (ii) is the real problem: if we use theories to tell us which intuitions we should hold, then intuitions become useless as evidence. In light of this, we would have just as much reason to claim that Gettier’s intuition was wrong, simply because it didn’t accord with JTB. And we are left with the question why we would need intuitions at all in philosophy.

\(^4\) A different view is maintained by, for instance, William Lycan (2006), who explicitly endorses this kind of relativism. On his view, it is not a big worry if the Gettier problem turns out to be a problem only for English-speaking philosophers. But, one could ask, why not then just start philosophizing in a language that is insensitive to the charges of Gettier, just to avoid the cumbersome and tedious procedure of making theories Gettier-proof?
2. The First Study: Method and Hypothesis

A questionnaire was sent out to four of the major email lists for academic philosophers in the UK (Philos-L), US (Philosop), the Netherlands (FILOS-NL), and Sweden (Filosofen). All four lists are primarily used for advertising jobs, upcoming conferences and other events of interest to academic philosophers.

All responses were collected in one week. In total, 817 respondents completed the survey. Only 4% of respondents stated that they had not studied philosophy at university level. Moreover, extrapolating from a subset of 233 respondents, we estimate that 92% had either a Doctoral, Master’s or Bachelor’s degree in philosophy, and that an additional 4% had no degree but had taken at least three courses in philosophy. Since our survey concerned epistemic intuitions, we also explicitly asked whether respondents had ever followed a course in epistemology. To test for language-dependence, respondents were requested to report their native language. The four most common native languages were English (48%), Dutch (16%), Swedish (7%) and German (7%).

The thought experiments were designed to satisfy three desiderata. First, we decided that respondents should be presented with novel thought experiments. In order to ensure that respondents did not rely on any set of standard intuitions discussed in the literature, or intuitions introduced to them by authoritative teachers during their education, we avoided well-known examples such as Gettier and TrueTemp cases. If philosophers, in virtue of their academic education, have a special ability to make adequate intuitive judgements about philosophical issues, they should be able to do so also when faced with new scenarios. Otherwise they would not be expert intuiers, but merely expert copycats.

Our second desideratum was that fruitful thought experiments should concern concepts that

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5 It is difficult to calculate the exact response rate. Some individuals use more than one email address, and some subscribe to several of the lists, and not all email addresses in the lists are active. However, an alternative measure is to compare the total number of individuals who accessed the web-based survey with the total number of completed surveys: 75.2% of the former group completed the survey.

6 Other languages were: French (3.93%), Italian (2.83%), Spanish (2.83%), Hebrew (1.35%), Polish (1.23%), Turkish (0.86%), Greek (0.74%), Hungarian (0.74%), Finnish (0.61%), Portuguese (0.61%), Romanian (0.49%), Russian (0.49%), Arab (0.37%), Catalan (0.25%), Farsi (0.25%), Lithuanian (0.25%), Afrikaans (0.12%), Albanian (0.12%), Danish (0.12%), Estonian (0.12%), Hindi (0.12%), Icelandic (0.12%), Indonesian (0.12%), Japanese (0.12%), Kurdish (0.12%), Malayalam (0.12%), Norwegian (0.12%), Punjabi (0.12%), Serbian (0.12%), Ukrainian (0.12%), Urdu (0.12%).
are widely discussed by philosophers. It would be unreasonable to expect philosophers' intuitions to be trustworthy in matters of, say, physics or dog breeding. If at all trustworthy, they are trustworthy for e.g. differentiating cases of knowledge from cases of non-knowledge (such as Gettier and TrueTemp cases). We therefore asked respondents to judge whether a given case was an instance of knowledge or not, but because of the reason mentioned above, no Gettier or TrueTemp cases were included.

Finally, as a third desideratum for a good thought experiment, we decided that it should be easy to formulate in plain English. Any difference between language groups must be attributable to differences in intuitions, not to respondents' ability to grasp the English words used for formulating the thought experiments.

With these three desiderata in mind, we formulated a set of 16 simple thought experiments, all ending with a straightforward yes-or-no question. The thought experiments were presented to respondents in random order. (One question per time, no possibility to go back and alter previous answers). All thought experiments were stated in English (the primary language used in all four mailing lists) and all were identical in structure: Respondents were instructed to suppose that a person knows $p$, and thereafter asked whether $p$ qualifies as knowledge. For some $p$s, i.e. for propositions such as “Steffi knows that water is $H_2O$”, we expected most respondents to answer yes; for other, non-propositional $p$s, such as “Hannah knows how to open her mouth” we expected a substantial proportion to answer no; and more importantly, we expected such differences to correlate with respondents’ linguistic background. (Note that the absolute number of yes/no answers is irrelevant here; the key issue is whether there are any statistically significant differences in the data set.) Here are three illustrative examples of the thought experiments we used:

Q.1 Let us suppose the following: Steffi knows that water is $H_2O$.
Do you think that what Steffi knows qualifies as knowledge? (Yes or No)

Q.13 Let us suppose the following: Hannah knows how to open her mouth.
Do you think that what Hannah knows qualifies as knowledge? (Yes or No)

Q.14 Let us suppose the following: Brenda has the special feeling that she will win the lottery tomorrow; she simply knows that she is going to win. Do you think that what Brenda knows qualifies as knowledge? (Yes or No)

The other thirteen thought experiments were similar in structure: respondents were instructed to suppose that a person knows something, and thereafter asked whether that something qualified as knowledge.7

Some respondents complained that we should have formulated the questions differently. For instance, four people wrote to us that it would be logically inconsistent to maintain that someone knows something without that being an instance of knowledge.8 We replied that we expected people holding such views to answer yes to all the questions. Although we did not point this out in our emails, one can of course imagine several reasons why a respondent might think that p does not count as knowledge, despite the fact that the respondent is asked to suppose that p is known by a person S. To start with, the verb knowing may in some cases amount to “having a strong sense of certainty”, as in the sentence “S has the special feeling that she will win the lottery tomorrow, she simply knows that she is going to win”. Even though this is an instance of knowing (in some sense), it hardly counts as an instance of knowledge. In other cases, knowing may sometimes, at least for some respondents, be equivalent to “being cognizant of” (that is, having a true belief, without further requirements on the justification for that belief); this again would be an example of knowing without knowledge. Finally, it is even possible that “knowing” and “knowledge”, are fundamentally

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7 Some respondents complained that we should have formulated the questions differently. For instance, four people wrote to us that it would be logically inconsistent to maintain that someone knows something without that being an instance of knowledge. We replied that we expected people holding such views to answer yes to all the questions. Moreover, while we agree that it would be logically inconsistent to maintain that “S knows that p” is not an instance of knowing, we think no such inconsistency is implied if we maintain that “S knows that p” is not an instance of knowledge. Knowing, for instance, may sometimes be equivalent to “being cognizant of” (that is, having a true belief, without further requirements on the justification for that belief); under this interpretation, it is perfectly reasonable to think that the extension of the concepts “knowing” and “knowledge” do not coincide.

8 We of course believe that it would be logically inconsistent to maintain that “S knows that p” is not an instance of knowing. No such inconsistency is implied, however, if we maintain that “S knows that p” is not an instance of knowledge.
different concepts, which are used to pick out different properties. (We will come back to this point in Section 3.)

We hypothesized that native English speaking philosophers would make different intuitive judgements about our thought experiments than colleagues coming from other linguistic backgrounds. If true, the armchair philosophers' assumption that intuitions are stable across a large group of expert philosophers (viz. irrespective of their linguistic background) should be rejected.

3. The First Study: Results

Our statistical analysis indicates that epistemic intuitions of trained philosophers do indeed depend on their linguistic background. The findings are summarized in Table 1. Black cells indicate a statistically significant difference (p < 0.05) between native English speaking philosophers compared to philosophers coming from other linguistic backgrounds. The statistical analysis is based on a Mann-Whitney test. Unlike a standard t-test, the Mann-Whitney test does not require any assumption about the underlying distribution, i.e. there is no need to assume how many respondents would have answered yes or no, had they not been influenced by the effect we were studying.

By comparing all non-native English speaking philosophers with the group of native speakers, we found statistically significant differences (p < 0.05) for 11 out of 16 thought experiments. For the subset consisting of non-native English speaking philosophers having either Dutch, Swedish or German (three Germanic languages, just like English) as their first language, 9 out of 16 thought experiments triggered statistically significant differences (p < 0.05) and this also turned out to hold true for the largest homogeneous subset of non-native English speaking philosophers, viz. Dutch philosophers.
TABLE 1. Summary of the responses of: (a) native English speaking philosophers (N = 297); (b) the entire group of non-native English speaking philosophers (N = 352); (c) non-native English speaking philosophers having either Dutch, Swedish or German as their first language (N = 211); (d) non-native English speaking philosophers having Dutch as their first language (N = 119). Cells in black are those for which there is a statistical significant difference (p < 0.05) with the control group of English speaking philosophers (in grey), based on a Mann-Whitney test. The responses of philosophers who did not follow any formal course in epistemology were excluded. Every scenario on the left was preceded with “Let us suppose the following”, and followed by the question “Do you think that the thing S knows qualifies as knowledge?” The numbers represent percentages of affirmative answers.

<table>
<thead>
<tr>
<th>Scenarios</th>
<th>Native English</th>
<th>All non-native English</th>
<th>Dutch, Swedish and German</th>
<th>Dutch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q.1 Steffi knows that water is H2O.</td>
<td>92.6</td>
<td>91.1</td>
<td>91.9</td>
<td>95.0</td>
</tr>
<tr>
<td>Q.2 Berthold knows that the earth isn't flat.</td>
<td>89.5</td>
<td>88.9</td>
<td>90.5</td>
<td>95.0</td>
</tr>
<tr>
<td>Q.3 Jonas knows that Winston Churchill died in 1965.</td>
<td>91.5</td>
<td>92.8</td>
<td>95.7</td>
<td>96.6</td>
</tr>
<tr>
<td>Q.4 Lena knows that water boils at 100 degrees Celsius.</td>
<td>92.9</td>
<td>93.8</td>
<td>94.8</td>
<td>97.5</td>
</tr>
<tr>
<td>Q.5 Jenz knows that his cat isn't a UFO.</td>
<td>82.8</td>
<td>76.0</td>
<td>77.6</td>
<td>74.6</td>
</tr>
<tr>
<td>Q.6 Carla knows that she has two hands.</td>
<td>91.9</td>
<td>86.4</td>
<td>86.3</td>
<td>84.9</td>
</tr>
<tr>
<td>Q.7 Karl knows that water is water.</td>
<td>75.4</td>
<td>55.2</td>
<td>53.6</td>
<td>49.6</td>
</tr>
<tr>
<td>Q.8 Joseph knows that invisible objects aren't visible.</td>
<td>83.5</td>
<td>69.5</td>
<td>70.5</td>
<td>66.1</td>
</tr>
<tr>
<td>Q.9 Sigmund knows that one can overcome the problem of global warming, if one does something that solves the problem.</td>
<td>67.9</td>
<td>53.7</td>
<td>54.5</td>
<td>47.1</td>
</tr>
<tr>
<td>Q.10 Martina knows that if one took away all of its causes, and cured all those afflicted by it, cancer would no longer threaten the lives of millions.</td>
<td>75.8</td>
<td>67.7</td>
<td>69.2</td>
<td>63.0</td>
</tr>
<tr>
<td>Q.11 Emma knows that a hexagonal polygon has either a finite or an infinite number of sides.</td>
<td>82.8</td>
<td>63.4</td>
<td>63.5</td>
<td>58.8</td>
</tr>
<tr>
<td>Q.12 Ludwig knows that on the 11th of September 2001, Osama bin Laden's eyes were either pink or some other color.</td>
<td>75.1</td>
<td>53.8</td>
<td>50.0</td>
<td>42.9</td>
</tr>
<tr>
<td>Q.13 Hannah knows how to open her mouth.</td>
<td>67.0</td>
<td>50.0</td>
<td>47.9</td>
<td>42</td>
</tr>
<tr>
<td>Q.14 Brenda has the special feeling that she will win the lottery tomorrow; she simply knows that she is going to win.</td>
<td>7.8</td>
<td>6.3</td>
<td>4.3</td>
<td>4.2</td>
</tr>
<tr>
<td>Q.15 Christian knows his father.</td>
<td>65.0</td>
<td>55.1</td>
<td>50.5</td>
<td>58.0</td>
</tr>
<tr>
<td>Q.16 Through her prayers, Gabriella knows that god exists.</td>
<td>31.0</td>
<td>23.1</td>
<td>22.7</td>
<td>21.0</td>
</tr>
</tbody>
</table>
As can be seen in Table 1, there is substantial disagreement on some of the thought experiments even within single linguistic communities. For instance, there is considerable disagreement among native speakers of English on whether logical and analytical truths (i.e. non-informative propositions) count as knowledge. Only 75.4% of all native English speaking philosophers think that “water is water” qualifies as knowledge. This does, of course, not entail that “water is water” is a sentence lacking truth value. Nor are we entitled to conclude that “water is water” is knowledge just because a majority thinks so. The majority can be wrong. Perhaps their intuitions were influenced by dogmas taught to them by their teachers. On our view, the best explanation of why almost 25% think that “water is water” does not qualify as knowledge is that this is still open for debate; some people seem to think that logical truths do not qualify as knowledge, whereas others disagree.9

On some of the other questions raised in the survey there is considerably more agreement. For example, 97.5% of Dutch speaking philosophers think that “water boils at 100 degrees Celsius” is knowledge. This might indicate that they are “correct”; only 2.5% disagree, which we interpret as background noise.

With respect to our hypothesis, the most important issue is, of course, whether some of the patterns observed in the survey can be attributed to respondents’ linguistic background. As we have already pointed out, this is indeed the case. However, this is not a conclusive reason for thinking that a philosopher’s linguistic background is one of the causes of her philosophical intuitions. All we claim to have shown is that there is a statistical correlation between philosophers’ native language and their philosophical intuitions. Nothing follows about the cause of these differences, and nothing can be concluded from our survey about who is right when different groups have different intuitions.10

9 This finding has important epistemic ramifications, in particular for standard accounts of knowledge. A detailed discussion of these ramifications needs a paper of its own, however, and is currently in preparation (XXX, manuscript).
10 Jonathan Weinberg has pointed out to us that the differences might be attributable to differences in background beliefs, rather than to linguistic background per se. Americans might hold different opinions than Europeans about, for instance, global warming (Q.9) and religion (Q.16), which might have triggered the observed inter-linguistic differences. If so, linguistic background is correlated with, but not the cause of, the observed inter-linguistic differences. This objection (which applies to all kinds of research that seeks to identify statistical correlations) is of
It is remarkable that disagreements, even within each language group, were mainly found in thought experiments containing non-informative propositions (logical and analytical truths, or propositions being “close” to logical and analytical truths, such as in Q.7-Q-12), e.g. “water is water”. Surprisingly, this group of propositions was also the one for which the language effect is most clearly visible. A possible explanation of why speakers of Dutch, German, and Swedish were more hesitant to say that “water is water” counts as knowledge, compared to native English speaking philosophers, is that in Dutch, German, and Swedish the words for “knowing” (“weten”, “wissen”, “veta”) are lexically unrelated to the words for “knowledge” (“kennis”, “Kenntnis”, “kunskap”). In Dutch, for instance, knowing (“weten”) is used just for referring to the psychological state of knowing, without thereby implying knowledge (“kennis”), for the latter is used just to refer to what one might call Knowledge—knowledge’s social, impersonal or scientific version. Hence, in Dutch it is not counter-intuitive to say that S knows a trivial fact p (“S weet dat p”), but given the limited purport of p (its falling outside the scope of Knowledge), withhold the title of knowledge (“S heeft kennis”). Conversely, it is counter-intuitive to attribute knowledge to someone that knows a proposition as uninformative as “water is water”. These considerations also explain why even in case of non-analytic truths—such as in Q.5 (knowing “that a cat isn’t a UFO”) and in Q.6 (knowing “that one has two hands”)—Dutch speaking philosophers are less likely to attribute knowledge; knowing that a cat is not a UFO and knowing that one personally has two hands are of too little relevance to become part of the body of human Knowledge.

A short explanation for our findings, then, is this: the epistemic standards of the native Dutch, German and Swedish speaking philosophers are higher than those of their native English speaking colleagues, at least when it concerns knowledge attributions. Whereas the latter group
intuits that any instance of knowing that $p$ is an instance of knowledge that $p$, the former group intuits that something more is needed: a proposition $p$ needs to be informative for its knower to deserve the title of knowledge.

In summary, it appears that a contingent fact such as a philosopher’s native language affects her intuitive epistemic judgements. Even respondents who are close to native English speaking philosophers (qua language, qua culture), namely Dutch, Swedish and German speaking philosophers, have significantly different intuitions.\footnote{When we grouped the responses of respondents having a Romance language (French, Spanish, Italian, Portuguese and Romanian) as first language, we found similar results. We cannot exclude, however, that this is due to the small size of the sample (N=63).} Hence, since we have no reason to suppose that other philosophical intuitions (regarding e.g. ethics, intentionality, rationality) are less susceptible to linguistic distortions than epistemic ones, the cross-linguistic and cross-cultural validity of theories produced by armchair philosophers seems to be in jeopardy. It might be that non-epistemic (e.g. moral) intuitions are more stable, but in light of our findings, this assumption needs extra empirical justification.

4. The Second Study

A possible objection to the first study could be that the thought experiments we used were so thinly described that they are open to Sosa’s recent objection to experimental philosophy, according to which intuition-diversity simply reflects the different ways in which people might fill in the details of a given thought experiment (which may of course vary across language groups).\footnote{See Sosa, 2009.} If so, we have not managed to demonstrate that the intuitions of philosophers really are susceptible to a language effect. A second objection could be that to native English speakers the questions could seem a bit bizarre and therefore introduce a host of possible performance errors.\footnote{Both objections were kindly suggested to us by two anonymous reviewers.} To ask subjects to suppose that $S$ knows that $p$ and then ask them whether or not $S$ has knowledge that $p$ might trigger all kinds of strange responses, simply because the question is taken to be true per definition; that is, subjects may try to look for alternative interpretations of the questions in various uncontrolled ways, and
then the problem is again that we have not really measured what we claim to have measured.\textsuperscript{14}

In order to overcome both these objections we decided to design a second questionnaire in which the thought experiments were more extensively described (in order to overcome the first objection) and in which the questions were formulated differently (in order to overcome the second objection).

The second questionnaire was sent out to the same email lists as the first, about nine months later. As in the first study, all responses were collected in one week.\textsuperscript{15} In total, 272 respondents completed the survey.\textsuperscript{16} Only 2\% of respondents stated that they had not studied philosophy at university level. 92\% reported that they had either a Doctoral, Master’s or Bachelor’s degree in philosophy, and an additional 6\% had no degree but had taken at least three courses in philosophy. The four most common native languages were English (95 respondents), Dutch (78), Swedish (23) and German (18). Since the groups of Swedish and German respondents were quite small, we decided to study only the responses of the Dutch native speaking respondents.

Respondents were asked to share their intuitions about ten scenarios.\textsuperscript{17} Consider the following two examples:

\textbf{Question 3}

Reinhardt is having his chemistry exam. Since he didn’t prepare properly, and didn’t pay attention during class, he has great difficulty answering the questions. One of the questions reads: “What is water?” After some time, Reinhardt decides to write down: “Water is water.”

To what extent do you agree with the following statement (grade on a Likert scale 1-5):

\textit{The information that Reinhardt provides qualifies as knowledge.}

\textsuperscript{14} On the other hand, if it is true that native English speakers charitably interpreted our questions, instead of answering according to the “correct” intuition (namely, S knows p is, by definition, an instance of knowledge), then the difference between them and Dutch/Swedish/German native speakers would even be much bigger, yielding an even more dramatic language effect.

\textsuperscript{15} Contrary to the first questionnaire, respondents were now given the opportunity to check and change their previous answers (by pushing a "Back" button), and this to accommodate the fact (as an anonymous reviewer pointed out) that when we engage with thought experiments, we sometimes find reason to revise our past judgments.

\textsuperscript{16} The total number of individuals who accessed the web-based survey with the total number of completed surveys: 75.2\%.

\textsuperscript{17} Contrary to the first questionnaire, respondents were now given the opportunity to check and change their previous answers (by pushing a "Back" button), and this to accommodate the fact (as an anonymous reviewer pointed out) that when we engage with thought experiments, we sometimes find reason to revise our past judgments.
**Question 10**

Boris asks his sister Steffi whether she knows the boiling point of water. Steffi, who has a Ph.D. in chemistry, answers truly: "Yes, I do. The boiling point of water is 100 degrees Celsius at sea level, which equals 212 degrees Fahrenheit."

**To what extent do you agree with the following statement (Likert scale 1-5):**

*The information that Steffi provides qualifies as knowledge.*

The other thought experiments (fully described in the Appendix) were identical in structure: a person $S$ was described as giving a true and reliably produced piece of information $p$ (except in the masking questions Q.1 and Q.4), and respondents were asked whether that piece of information qualified as knowledge. Importantly, this approach accommodates the two worries concerning the first survey: (i) the thought experiments are more extensively described; and (ii) it avoids the for English native speakers somewhat bizarre question “$S$ knows that $p$, does $S$ have knowledge that $p$?”

Now, what should we observe in the responses, if our suggested explanation for the findings of our first study is correct? If it is true that, at least with respect to knowledge attribution, the epistemic standards of Dutch native speaking philosophers are higher than those of their English-speaking colleagues, we should expect the average responses of the former to be lower than those of the latter, except perhaps in scenarios where the information that $p$ is a proper piece of knowledge (viz. impersonal, scientific, social knowledge).

This appears indeed to be the case (see Table 2). The average scores of the Dutch are systematically lower than those of the English (with the exception of masking question Q.1). Moreover, for 5 out of 8 scenarios (excluding the masking scenarios), the difference between Dutch and English was statistically significant, namely for Q.2 ($p < 0.05$), Q.3 ($p < 0.001$), Q.7 ($p < 0.001$), Q.8 ($p < 0.001$) and Q.9 ($p < 0.001$). When $p$ concerns a scientific claim (e.g., Q.10, where $p$ is “the boiling temperature of water is 100 degrees Celsius”), the difference is absent.
TABLE 2. Summary of the responses of: (a) native English speaking philosophers (N = 78); (b) the entire group of non-native English speaking philosophers (N = 58). Cells in black are those for which there is a statistical significant difference (p < 0.05) with the control group of English speaking philosophers (in grey), based on a Mann-Whitney test. The responses of philosophers who did not follow any formal course in epistemology were excluded. The numbers represent the average response of the responses (cfr. Likert scale: 1 = minimum; 5 = maximum). The questions (Q.1-Q.10) are described fully in the Appendix.

<table>
<thead>
<tr>
<th>Question</th>
<th>English</th>
<th>Dutch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q.1 […] The information that the horoscope provides [viz. about Patrick’s finding his love of his life today] qualifies as knowledge.</td>
<td>1.07</td>
<td>1.33</td>
</tr>
<tr>
<td>Q.2 […] The information that the passer-by provides [viz. about the way to the Museum of Modern art] qualifies as knowledge.</td>
<td>2.68</td>
<td>2.07</td>
</tr>
<tr>
<td>Q.3 […] The information that Reinhardt provides [viz. that water is water] qualifies as knowledge.</td>
<td>3.07</td>
<td>2.17</td>
</tr>
<tr>
<td>Q.4 […] The information that Benedictus provides [viz. about how it feels to be called by God] qualifies as knowledge.</td>
<td>2.76</td>
<td>2.63</td>
</tr>
<tr>
<td>Q.5 […] The information that Carla provides [viz. about Caesar’s date of death] qualifies as knowledge.</td>
<td>3.41</td>
<td>3.24</td>
</tr>
<tr>
<td>Q.6 […] The information that Michael provides [viz. about the price of the room] qualifies as knowledge.</td>
<td>3.67</td>
<td>3.36</td>
</tr>
<tr>
<td>Q.7 […] The information that Brenda provides [viz. about the location of Hohhot] qualifies as knowledge.</td>
<td>3.68</td>
<td>3.29</td>
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<tr>
<td>Q.8 […] The information that Emma provides [viz. about the capital of Senegal] qualifies as knowledge.</td>
<td>4.45</td>
<td>4.00</td>
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<tr>
<td>Q.9 […] The information that Melissa provides [viz. about the current time] qualifies as knowledge.</td>
<td>4.53</td>
<td>4.17</td>
</tr>
<tr>
<td>Q.10 […] The information that Steffi provides [viz. about the boiling temperature of water] qualifies as knowledge.</td>
<td>4.75</td>
<td>4.66</td>
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</table>
In sum, the ideosyncracies of the Dutch language indeed affect the intuitive judgments made by Dutch native speaking philosophers, even if these are asked to “intuit in English”. Now if what counts as knowledge depends on whether your native language is English or Dutch, any conceptual analysis attempting to provide a definition of the concept of “knowledge” (not that of “knowing”), would have to face and work around that linguistic difference first. The chief problem is, however, that there is no way of telling whose intuitions are correct, those of the English, or those of the Dutch—assuming that both groups consist of experts, and assuming that one cannot use theory to discriminate between “good” and “bad” intuition (rather, the reverse holds: intuitions are to be used to discriminate between “good” and “bad” theories, see ff. 3).

5. Objections and replies

In this section we shall discuss three general objections to the two studies. The first objection is that the results merely indicate that many non-native English speaking philosophers do not master English very well. That is, non-native speakers did not grasp the questions they were asked, so the differences we observed between native and non-native speakers can be explained by a difference in English proficiency rather than a difference in intuition.

We of course agree that native speakers write, speak, and understand English better than others. That said, there is nevertheless good reason to think that at least Dutch, German and Swedish philosophers grasped the questions asked in the questionnaires very well. First of all, the questions were quite simple, and respondents were recruited through a mailing list that uses English as the default language. Moreover, if non-native speakers would not have been able to understand the questions well enough, we responses wouldn’t exhibit the systematic trends we observed.

A second objection is to argue that we need to raise the threshold for expertise. Our point of departure was that the relevant intuitions are those reported by expert intuiters, but in order to be an
expert more is required than just having a formal training in philosophy (including epistemology) and following current events in academic philosophy by subscribing to a mailing-list for academic philosophers. According to this objection, the tendencies we observed would be worrisome only if observed in a group consisting of very prominent philosophers working primarily in epistemology. Across the population of very prominent philosophers working primarily in epistemology, epistemic intuitions can be assumed to be consistent, irrespective of their linguistic background. Or so the objection goes.

This assumption is of course a substantial empirical claim. We believe that even if our critics could provide evidence in support of it, their view would remain just as unattractive. If the intuitions of able philosophers working outside epistemology are dismissed as off the mark (i.e. as “unauthorative”), why would these able philosophers still take any interest in the theories prominent epistemologists propose? Conversely, why would they let their own theorizing be influenced by anything prominent epistemologists have to say? This objection threatens to fragment the discipline, with each sub-discipline working on its own, that is, divorced from the concerns of a wider (philosophical) community. One can of course narrow down the pool of experts to those who share or are willing to subscribe to one’s own intuitions, just to keep the game going, but one can do so only at the cost of relevance (cf. Cummins, 1998).

We now come to the third objection. Its point of departure is the common assumption that epistemology is a normative affair. Hence, just because philosophers have the intuitions we say they have it does not follow that these intuitions are the right ones. After some cross-linguistic discussions among respondents, the intuitions of non-native English speaking philosophers could therefore be brought into alignment with those of native speakers. Or, to put this differently, the philosophical community could act together to revise some of the intuitions reported in this paper, and eventually reach a state of reflective equilibrium.

We agree that this might be so. But for the armchair philosopher there is no armchair way of
telling whether his or her own armchair intuitions are the ones on which a reflective equilibrium will be reached. To claim so would be overly optimistic. Nor is there any armchair method of telling whether differences between linguistic communities will be resolved in favour of the intuitions reported by, say, native speakers of English rather than their colleagues from the continent. So the burden of proof still rests with the armchair philosopher. He or she needs to show that his or her intuitions are the ones on which a reflective equilibrium will eventually be reached; otherwise these intuitions can at most play an instrumental role for reaching the equilibrium, and this is not the role intuitions are usually thought to play in armchair philosophy.

5. Concluding discussion

If philosophical intuitions vary across philosophers' linguistic background it is natural to ask whether we should reject intuition-based philosophy altogether? In our view, the answer is no. Although our findings leave little room for armchair philosophers who take their own intuitions to be representative for a wider class of philosophers, intuitions may still play a role in philosophy. In particular, if we find systematic variations in intuitions reported by trained philosophers, it would by no means be meaningless to take these tendencies to provide evidence for our philosophical claims.\(^\text{18}\) This of course requires that we leave our armchairs and gather empirical data about the intuitions of fellow philosophers. That is, we need to engage in experimental philosophy. As we adopt this new methodological approach substantial challenges will arise: (i) We need to ask philosophers of all sorts of linguistic backgrounds in order to filter out linguistic distortions, and we must do this for every single intuition we are interested in; and (ii) we need to make sure that no other (yet unknown) distortions affect our data, e.g. cultural or socio-economic background.

Moreover, even if we succeed in sorting out the issues mentioned above, it may also turn out that we find no (near-)agreement on any of the intuitions tested. How should one, for instance,

\(^{18}\) Such proper foundation view is also advocated by, for instance, Joshua Knobe (2003). For Knobe, however, the proper foundation for philosophy isn’t so much philosopher’s intuitions as those of the philosophically untutored.
interpret the finding reported in Section 3, that uninformative propositions (like those in Q.7 – Q.12 in the first study) are less likely to be qualified as knowledge than informative ones (Q.1 – Q.6 in the first study)? It is not the case that there is (near-)agreement in these scenarios, but the trend is nonetheless statistically significant and cannot be denied. Is there any sensible way of introducing this intuition reported by a substantial part of the population into an account of knowledge, without thereby frustrating the intuitions of the rest of the population? As long as everyone’s intuitions converge, intuition-based theories are relatively simple to come by. However, much more theoretical work is required for accommodating divergent intuitions. Unless we simply give up the idea of developing theories that are meant to be universally valid, this issue needs to be dealt with in a systematic way.  

Finally, there is also a whole set of methodological issues that will surface in any kind of work inspired by experimental psychology. First, from a practical point of view, it is often difficult to ensure that we obtain a representative sample of “the” philosophical community we wish to study. Second, as mentioned in Section 2, one also has to make sure that philosophers really intuit their intuitions, rather than just rehearsing intuitions taught to them by their teachers. For example, how should one test whether the Gettier intuition really is widely shared among philosophers, without letting respondents know that we are testing their Gettier intuitions?

We do not pretend to know the answers to all these methodological questions, but fortunately that was not the aim of this paper. Our sole aim was to demonstrate that philosophers’ expert intuitions are susceptible to a linguistic background effect, and this is something we believe to have done quite convincingly.

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We thank Jonathan Weinberg, Joshua Alexander and two anonymous reviewers for helpful

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19 In recent years several excellent papers on “peer-disagreement” have emerged; for a concise overview see Christensen (2009).
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References


APPENDIX: Scenarios and questions of second survey

Q. 1
Patrick is reading his horoscope in his favorite tabloid newspaper. The horoscope tells him that he will find the love of his life today.

To what extent do you agree with the following statement (Likert scale 1-5):

The information that the horoscope provides qualifies as knowledge.

Q.2
Martina has just arrived in New York, and wishes to get directions to the Museum of Modern Art. She approaches a passer-by and asks whether he knows the location of the Museum of Modern Art. The passer-by answers: "Yes, I do. The Museum of Modern Art is somewhere there." While saying this, the passer-by points 360 degrees around him. When asked whether he can give more details, the passer-by replies that he can’t.

To what extent do you agree with the following statement (Likert scale 1-5):

The information that the passer-by provides qualifies as knowledge.

Q.3
Boris asks his sister Steffi whether she knows the boiling point of water. Steffi, who has a Ph.D. in chemistry, answers truly: "Yes, I do. The boiling point of water is 100 degrees Celsius at sea level, which equals 212 degrees Fahrenheit."

To what extent do you agree with the following statement (Likert scale 1-5):

The information that Steffi provides qualifies as knowledge.

Q.4
Benedictus, a Catholic priest, had a vocation to religious life in adolescence. Pamela, who is an atheist and has never had any religious experiences herself, asks Benedictus how it feels to be called by God. Benedictus answers, citing the theologian Buechner: "It felt like a clamoring of ghosts”.

To what extent do you agree with the following statement (Likert scale 1-5):

The information that Benedictus provides qualifies as knowledge.

Q.5
When doing his homework, little Karl asks his mother Carla whether she knows when Julius Caesar died. Carla answers: "Yes, of course, my dear. Julius Caesar died quite some time ago."

To what extent do you agree with the following statement (Likert scale 1-5):

The information that Carla provides qualifies as knowledge.

Q.6
Frida and Michael are planning their first business trip to South Korea. They both know that the South Korean currency is called "won", but they know nothing about the exchange rate between the won and the US dollar. Michael makes a phone call to South Korea to book a hotel room. After five minutes, he tells Frida that he has found a nice suite in the Korea Towers Hotel. Frida asks him whether he knows the price of the room. Michael answers: "Yes, I do. It will cost us exactly 9,030 Korean won per night." When Frida subsequently asks him whether he can express that in US dollar, Michael admits that he can’t.

To what extent do you agree with the following statement (Likert scale 1-5):

The information that Michael provides qualifies as knowledge.

Q.7
While reading a book about ancient cultures, Helmut stumbles across the name of a city he has never heard of, namely the city of Hohhot. He asks his friend Brenda whether she knows the location of Hohhot. Brenda, who has never heard of Hohhot before, consults a trustworthy website that gives the longitude and latitude for any major city in the world. She types in "Hohhot" and gets the coordinates for Hohhot. She tells Helmut: "I know where Hohhot is. It is at:
Latitude 40° 48' 38" N, Longitude E 111° 39' 8" E.” When Helmut asks her in which country or continent that is, Brenda admits that she doesn’t know.

**To what extent do you agree with the following statement (Likert scale 1-5):**

*The information that Brenda provides qualifies as knowledge.*

**Q.8**  
While browsing through her atlas, Emma discovers that Dakar is the capital of Senegal. Coincidentally, her husband Ludwig asks her whether she knows the capital of Senegal. She answers: "Yes, honey, I do. It is Dakar."

**To what extent do you agree with the following statement (Likert scale 1-5):**

*The information that Emma provides qualifies as knowledge.*

**Q.9**  
Giacomo wants to know what time it is. He asks Melissa, who has a perfectly reliable watch. Melissa consults her watch, and truly answers: "It is 5 p.m., Giacomo."

**To what extent do you agree with the following statement (Likert scale 1-5):**

*The information that Melissa provides qualifies as knowledge.*

**Q.10**  
Boris asks his sister Steffi whether she knows the boiling point of water. Steffi, who has a Ph.D. in chemistry, answers truly: "Yes, I do. The boiling point of water is 100 degrees Celsius at sea level, which equals 212 degrees Fahrenheit."

**To what extent do you agree with the following statement (Likert scale 1-5):**

*The information that Steffi provides qualifies as knowledge.*