STUDIA PHILOSOPHICA ESTONICA

Department of Philosophy
University of Tartu
Ülikooli 18
50090 Tartu
ESTONIA

tel +372 737 5314
fax +372 737 5314
http://www.spe.ut.ee

Tartu, 16th of September, 2009

Dear Brian Talbot,

Here are the electronic proofs of your article.

- If you have no corrections to submit, please inform us via email that your article is ready to be published.
- If you have corrections, you can submit these by email (or by fax or by mail). We prefer email submissions since this is the easiest and fastest method to submit your corrections.
- By submitting your corrections you grant us the permission to publish your article with the necessary corrections made.
- The proofs of your article, to be published in *Studia Philosophica Estonica*, are attached to this letter as a "PDF" file. Also attached are instructions on the annotation of PDF files, and how to use our "correction grid" in case you want to submit your corrections via mail or fax.
- Please note that proof corrections can now be annotated on-screen, which allows you to mark directly in the PDF file, and return the marked file as an e-mail attachment. To take advantage of this method, please download the free Adobe Reader version 7.0 (or higher; see the attached instructions). (If you do not already have Acrobat Reader version 7.0 or higher, just download it from www.adobe.com)
- Check that the text is complete and that all figures, tables and their legends are included. Also check the accuracy of special characters, equations, and electronic supplementary material if applicable. If necessary refer to the edited manuscript.
- Please do not make changes that involve only matters of style. We have generally introduced forms that follow the journal's style. Substantial changes in content, e.g., new results, corrected values, title and authorship are not allowed without the approval of the responsible editor.
- For fax submission, please ensure that your corrections are clearly legible. Use a fine black pen and write the correction in the margin, not too close to the edge of the page.

Please note
Your article will be published online on http://www.spe.ut.ee soon after receipt of your corrected proofs.
If you would like to know when your article has been published online, take advantage of our free alert service. For registration and further information go your to user profile on our website where you registered for the online submission.

Yours,

The Editors

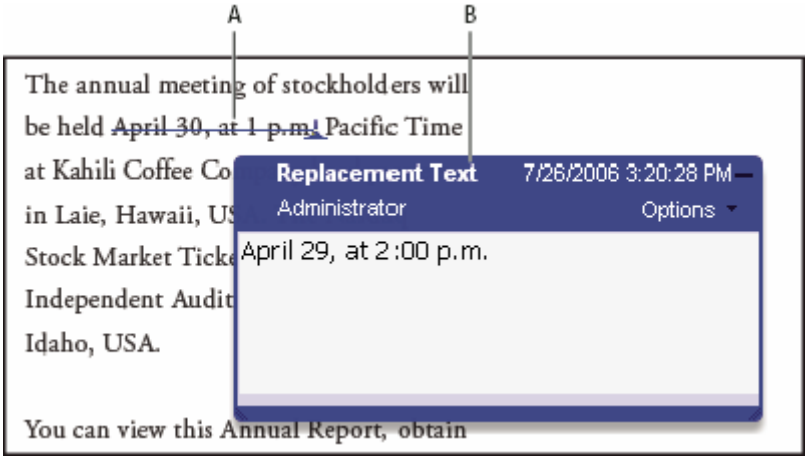
Attachments: How To Use The Acrobat Reader,
How To Use The Correction Grid,
Queries,
Correction Grid,
Proofs of Your Paper

HOW TO USE THE ACROBAT READER

We prefer that you would use Acrobat Reader to answer our queries and make your comments on the proof. The following section will provide detailed information on how to do it. If you have decided not to use Acrobat Reader then consult the instructions on how to use the correction grid further below.

You can use text edit comments in a PDF to indicate where text should be edited in the source file. Text edit comments do not change the actual text in the PDF. Instead, they indicate which text should be deleted, inserted, or replaced in the source file from which the PDF was created.

You can use the Select tool or the Text Edits tool to add most types of text edits. Shortly after you click or select text with the Text Edits tool, an icon appears. If you right-click this icon, a menu of text editing options appears.



*Replace Text option **A.** Selected text is struck out. **B.** New text is added to a linked pop-up note.*

Replace Text

1. Use the Select tool, or select the Text Edits tool from the Comment & Markup toolbar.

   If you don't want the Indicating Text Edits dialog box to appear each time you select the Text Edits tool, select Don't Show Again in the dialog box, and then click OK.

2. Select the text you want to replace.
3. Press Enter or Return, or choose Replace Text from the menu that appears, and then do one of the following:
   - Type the text to be inserted or added. This text appears in a pop-up note. Any selected text is crossed out. The insertion caret appears.
   - To indicate that a new paragraph should be added, close the pop-up note without adding text. The paragraph insertion caret ¶ appears.

Other tools

You can use the Highlight Text tool, Cross-Out Text tool, and the Underline Text tool to add comments by themselves or in conjunction with notes. The Cross-Out Text tool and the Underline Text tool don't appear in the Comment & Markup toolbar, by default.

You can add a highlight with a note or you can cross out text by selecting the text using the Select tool or Text Edits tool, and then choosing that option from the menu that appears. However, if you're marking up a lot of text, the specialized tools are faster and easier to use.

1. Choose Tools > Comment & Markups, and select the Highlight Text tool, the Cross-Out Text tool, or the Underline Text tool.

   Note: If you want to apply more than one comment using the Cross-Out Text tool or the Underline Text tool, choose View > Toolbars > Properties Bar, and select Keep Tool Selected in the Properties toolbar after you select the tool. The Highlight Text tool stays selected after you make the first comment.

2. Drag from the beginning of the text you want to mark up. Ctrl-drag (Windows/UNIX) or Option-drag (Mac OS) to mark up a rectangular area of text. This is especially useful when marking up text in a column.
3. (Optional) To add a note, double-click the markup to add text in a pop-up note.

Drawing tool

1. Choose Tools > Comment & Markup, and select a drawing tool:
   - The Rectangle tool, the Oval tool, the Arrow tool, and the Line tool let you create simple shapes.
   - The Cloud tool and Polygon tool create closed shapes with multiple segments. The Polygon Line tool creates open shapes with multiple segments.
   - The Pencil tool creates free-form drawings, and the Pencil Eraser tool removes the pencil markups.

   To specify the line width, color, and other properties before you draw, right-click/Control-click the drawing tool, choose Properties, and set the desired options in the Properties dialog box.

2. Draw in the PDF:
   - To create a cloud or polygon shape, click to create the start point, move the pointer, and click to create each segment. To finish drawing the shape, click the start point, or right-click/Control-click and choose Complete from the menu. Double-click to end a polygon line.

- To draw a line, arrow, or rectangle, either drag across the area where you want the markup to appear, or click twice: once to create the start point and once to create the end point.
- To draw a square or circle, or to draw a line that's horizontal, vertical, or at a 45° angle, press Shift while you draw.
- To draw free-form lines using the Pencil tool  , drag where you want to begin drawing. You can release the mouse button, move the pointer to a new location, and continue drawing. To erase parts of the drawing, select the Pencil Eraser tool  and drag across the areas of the drawing that you want to remove.

3. To edit or resize the markup, select it and drag one of the handles to make your adjustments.
4. To add a pop-up note to the markup, select the Hand tool, and double-click the markup.
5. (Optional) Click the close button in the pop-up note. A note icon appears to the right of the markup to indicate the presence of text in the pop-up note.

   Note: To delete a drawing markup, select it and press Delete.

Note: These instructions are meant to apply for Acrobat Reader 8, with other versions the instructions may vary.

For additional questions please consult the online Adobe Help Resource Centre

HOW TO USE THE CORRECTION GRID

- Put the page number of each correction in the Page column.
- Put the line numbers of each correction in the Line column.
- Write the number of the footnote, equation, table or figure that needs correction in the Footnote, Equation, Table or Figure columns.
- In case you need to refer to text which is unnumbered, include the page and line numbers that precede directly the text in question.
- Insert the text/symbols you wish to be changed in the Incorrect column.
- Insert the correct text/symbols in the Correct column.
- Changes made by our typesetter on the galley proof will already be inserted into the grid (in the Page, Line and Changes made columns). Please answer these queries by putting the relevant information in the Author's response column. If you are unable to answer a query, indicate this by putting the letters "NA" in the Author's response column.
- New versions of figures/tables can be included as an attachment to the Correction Grid e-mail.

Example of how to use the correction grid:

MANUSCRIPT I.D.: 12-34-56-A

Page	Line	Footnote	Equation	Table	Figure	Incorrect	Correct
1					5	The figure is upside down	
5	2					Brownman	Brownmann
14		22				From 1997	Until 1997

Marginal mark	Meaning	Corresponding mark in text	
	Delete (take out)	/ or ⊢	Cross through
	Delete and close-up	⁀ / ‿	Above and below matter to be taken out
	Leave as printed (when matter has been crossed out by mistake)	------	Under matter to remain
	Change to capital letters	≡	Under letters or words altered
	Change to lower case letters		Encircle letters altered
	Change to bold type	~~~	Under matter altered
	Change to bold italic type	≈≈	Under matter altered
	Change to italics	——	Under matter altered
	Change to roman type		Encircle matter altered
	Replace by similar but undamaged character or remove extraneous marks		Encircle letter to be altered
	Insert (or substitute) superior figure or sign	⸜ or /	
	Insert (or substitute) inferior figure or sign	⸜ or /	
	Insert (or substitute) hyphen	⸜ or /	
	Insert (or substitute) dash	⸜ or /	
	Insert (or substitute) solidus	⸜ or /	
	Insert (or substitute) ellipsis	⸜ or /	
	Close-up - delete space	‿	Linking words or letters
	Insert space	| or Y	Between items
	Make spacing equal	|	Between items
	Reduce space	| or ↑	Between items
	Insert space between lines or paragraphs		
	Reduce space between lines or paragraphs		
	Transpose		Between letters or words, numbered when necessary
	Transpose lines		
	Place in centre of line	⌋ ⌊	Around matter to be centered
	Move to the left		
	Move to the right		
	Begin a new paragraph	□	Before first word of new paragraph
	No fresh paragraph here		Between paragraphs
	(Caret mark.) Insert matter indicated in margin		
	Insert single / double quotes	⸜⸜	

Remarks

To indicate a substitution, simply cross out the letters or words to be replaced, and write the correct letters or words in the margin. It is not necessary, nor even desirable, to use the marks for *delete* and *insert* when making a substitution. If there is more than one substitution in a

line, place them in the correct order in the margin, and indicate the end of each correction with an oblique stroke / . Alternatively, continental location marks may be used, but these are to be placed in front of the corrections, not behind as in the case of the oblique stroke.

The typesetter treats all letters and words in the margin as insertions or substitutions, so—to avoid misunderstanding—any comments *not* intended to form part of the text should be encircled.

All alterations should be marked clearly so that there is no risk of misunderstanding; long additions or amendments should be typed on separate slips and attached. *Only really essential alterations should be made at proof stage*. In addition to reading the proofs, please look through your correction grid to see if there are *any queries from the copy editor*, and if so, answer the queries on the proofs.

QUERIES

During the copy editing process of your article there might have been some changes made to your article. If so then, they have been inserted to the correction grid. Please go over those changes and indicate those which you reject and then add the appropriate correction to be made, all changes without any comments will be considered accepted.

If you are using Acrobat Reader just add a comment to the change using the Review & Comment tool. If you are not using Acrobat Reader please use the symbols indicated on the previous page.

This is the pre-filled section of your correction grid with the non-style related changes made during the copy editing process and queries for additional information. All style related changes were made according to our style-guide which is included on the following page.

For any additional changes and/or comments use either Acrobat Reader and comment directly the proof; or use the empty correction grid below.

Page	Line	Changes made	Author's response
200	4	Please provide an affiliation	
200	Footnote	Please provide a full mailing address	
205	Footnote	Please complete the footnote	
217	3	Please provide the acknowledgements	
219	11	Please confirm that the reference is from year 2005	

Deafult Rules

In our journal we are using the following default rules to format the text. You article has been formatted according to these rules, please pay attention to this guide when reading your proofs. If you wish that your article is typeset in a different way, please tell us so. If your use of quotation should differ from the one used in our journal, please add a footnote at the beginning of the text to explain the deviant convention you adopted.

TITLE

By default, we distinguish the subtitle from the main title by a colon ':'.

EMPHASIS

To emphasise a certain part of the text we use only *italics*.

DASHES

In English, there is no space before and after em-dash — :

. . .so I think—provided this is correct—that. . .

In Estonian and German, there is a space before and after em-dash —

. . .seega — oletades et X — saab järeldada. . .

QUOTES

Quotes are in small font.

QUOTATION MARKS

Single and double quotes: unless the author specifies his/her usage of quotation-marks, we will (with the consent of the author) use the following style for single and double quotation:

Mention = single quotation

Single quotation: For all cases in which a word or a string of words is mentioned:

> The word 'house' has five letters.
>
> 'Der Schee ist weiß.' is a syntactically well-formed sentence of German.

(In case of mentioning meanings (such as concepts) we suggest to the author to use *italics*.

> The word 'house' expresses the concept *house*.)

Use = double quotation

Double quotation marks are for use. Either for the use of quoted words and strings of words:

> According to Quine, translation is always "underdetermined."

or for the use of words that the author is using only metaphorically, or else wants to make clear to the reader that he does not endorse this way of expressing things:

> Of course, Heidegger was a far "greater" philosopher than Tarski, if you bear in mind that Tarski was only about 1.60m tall.

The only case of *use* in which single quotations are used, is when they occur within double quotations (thus when the author quotes a string of words that contains itself a quote.

Metalanguage quotation & quantifying in

As a standard, we suggest those authors who need an additional quotation devise (to express quasi-quotation or a special metalanguage quotation) the standard quasi-quotes:

> $\ulcorner p \urcorner$ is true iff *p*

Page	Line	Footnote	Equation	Table	Figure	Incorrect	Correct

Editor in Chief: Roomet Jakapi **roomet.jakapi@ut.ee**
Editor (Theoretical Philosophy): Daniel Cohnitz **cohnitz@ut.ee**
Editor (History of Philosophy): Eduard Parhomenko **eduard.parhomenko@ut.ee**
Editor (Practical Philosophy): Kadri Simm **kadri@eenet.ee**

Psychology and the Use of Intuitions in Philosophy

Brian Talbot

First Affiliation

There is widespread controversy about the use of intuitions in philosophy. In this paper I will argue that there are legitimate concerns about this use, and that these concerns cannot be fully responded to using the traditional methods of philosophy. We need an understanding of how intuitions are generated and what it is they are based on, and this understanding must be founded on the psychological investigation of the mind. I explore how a psychological understanding of intuitions is likely to impact a range of philosophical projects, from conceptual analysis to the study of (non-conceptual) "things themselves" to experimental philosophy.

Keywords: intuitions, psychology, experimental philosophy, conceptual analysis

Philosophers use intuitions when doing philosophy. Not exclusively, not always, and perhaps not all philosophers, but most of us and quite often. Intuitions in many cases play the role that observation does in science—they are the data that must be explained, the confirmers or the falsifiers of theories. However, unlike observation in science, there is widespread controversy about the role intuitions play in philosophy. Robert Cummins (1998), for example, argues that they are "epistemologically useless" in part because of concerns about their accuracy (Cummins 1998, 125), and Hilary Kornblith argues that "philosophy cannot live up to its ambitions" if it continues to emphasize the use of intuitions, since, on his view, they merely tell us about our concepts (Kornblith 2006, 11). More traditionally minded philosophers have defended the use of intuitions against these sorts of criticisms. George Bealer and Lawrence BonJour have argued, for example, that intuitions are essential to the practice of philosophy and attempted to defend their accuracy and usefulness on *a priori* grounds (Bealer 1998, BonJour 1998). So-called experimental philosophers have come down on both sides of this debate. Famously, Jonathan Weinberg, Shaun Nichols, and Steven Stich have claimed

Corresponding author's address: Brian Talbot, Somestreet xx, Sometown, Somedistrict, USA
Email: btalbot@usc.edu

Online ISSN: 1736–5899
Studia Philosophica Estonica (2009) **2.2**, 200–219 Published online: Themonth 2009 *www.spe.ut.ee*

on the basis of experimental results that intuitions about knowledge vary from culture to culture, and thus should not be used as the basis for normative conclusions (Weinberg et al. 2001). Others have claimed that careful use of experimental methods can potentially help us respond to some criticisms of intuitions.[1]

In this paper I will advocate a new approach to this debate. Concerns about the use of intuitions are legitimate and justified, and I argue that they cannot be dismissed using only the *a priori* methods of traditional philosophy. However, abandoning intuitions on the basis of these concerns is too hasty. Instead, we should improve our understanding of what intuitions are and how they are generated in order to assess what role they can and should play in philosophy. I will argue that intuitions are the results of unconscious processes that can only be understood through psychological investigation of the mind. It turns out that these processes are capable of generating useful and accurate evidence about a number of issues in philosophy, although not necessarily all of them. They are able to tell us not only about our concepts but also in some cases about things themselves—extra-conceptual facts—but proper use of intuitions both in conceptual analysis and as evidence about extra-conceptual facts should be guided by an understanding of psychology. Finally, I will look at how this might impact some of the various projects of experimental philosophy.

1. Worries about Intuitions

Whatever position one occupies in the debate about intuitions, it is hard to deny that worries about their use in philosophy are legitimate. Intuitions are called upon to do a lot of work for us: we advance philosophical theories on the basis of their agreement with our intuitions, and plausible and useful theories have been discredited because of conflicts with intuitions. At the same time, we generally give no reasons why one should accept the specific intuitions we use as evidence, there are no widely agreed upon views of the sources of intuitions, and despite the fact that ~~they~~ are a mental phenomenon, philosophers generally have little understanding of the mental processes that affect them. What is more, we know for a fact that intuitions are not a wholly reliable source of evidence; not only can different people have different intuitions about the same case, the intuitions of a single individual can sometimes conflict. There seem to be few clear marks that differentiate trustworthy types of intuitions from untrustworthy, nor do we have any good data on the frequency with which our intuitions are wrong. When so much weight is placed upon a source of alleged evidence that we do not

[1] (Weinberg et al. ~~2005~~).

understand, and the reliability of which can easily be questioned but not easily checked, it makes sense to be concerned.

One might, however, accept that reasons for concern exist without accepting that these concerns must be responded to. Ernest Sosa (1998) has argued along these lines. He claims that worries about intuitions are similar to those we have about perception; since our use of perceptual evidence is justified despite these worries, our use of intuitions is as well. We certainly know that sometimes our senses mislead us (~~seeing~~ small objects, or those far away, for example), and we know that our senses might *entirely* mislead us (if there were an evil demon). In addition, people did not understand how sense perception worked for most of human history. Even so, our use of our perceptual faculties was and remains justified. Why, then, demand that we understand how our intuitions work or be able to assuage worries about their reliability in order to use them as evidence?

Worries about intuitions are more pressing than those about perception. Let us bracket evil demon style skepticism; few of us take the possibility of evil demons as reason to stop using our senses, and worries about intuitions are not of this sort. These worries to the side, we have a good understanding of when sense perception actually goes astray. That is, we can give a systematic account of the conditions in which we are likely to get bad data from our senses (e.g. when we are asleep, or very tired, or have ingested certain chemicals). This prevents facts about failures of our senses from giving rise to general doubts about the use of perception, since our evidence about perceptual error is that (as far as we know) it is limited to an identifiable set of circumstances. We are not in an analogous position with regards to intuitions in philosophy. There are some identifiable classes of intuitions that we know are especially error prone—intuitions about infinite sets are a good example. But we can point to examples of erroneous intuitions throughout philosophy, and these errors do not seem to be limited to specific philosophical domains or topics, nor (as far as we currently know) do they only occur in identifiable circumstances. I know of no attempt to systematize all or the majority of errors in philosophical intuitions, and the lack of a systematic account of intuitive errors puts us in a different, and worse, epistemic position with respect to intuitions than we are with respect to perception. The proper response to concerns about intuitions is not to try to argue for the *status quo* ~~(~~the continued use of intuitions with no understanding of their sources or reliability~~); rather, it~~ should involve determining whether and to what extent intuitions can accurately tell us facts of philosophical interest.

The best way of doing this is to develop a general and systematic understanding of how intuitions work: where they come from, how they are generated, what they are and are not based on, what factors affect them. Such

an understanding is worth pursuing for a number of reasons. It, combined with an understanding of what kind of evidence we need for our various philosophical projects, could alleviate uncertainty about the usefulness of intuitions, allow us to refine our methods of gathering them, and help us to only use them when they are reliably accurate. Such an understanding may also be helpful in resolving conflicts between intuitions, since some of the conflicting intuitions may turn out to be of an unreliable sort. There are, of course, other ways of learning about the reliability of intuitions, among them checking intuitions against known facts, but there are limits on their applicability that would not affect a general understanding of the sources of intuitions. For example, checking intuitions against known facts to test their reliability will only work to the extent to which we know the answers our intuitions should give, and would not be very useful in philosophical domains about which relatively little is currently known for certain. A general understanding of how intuitions work could be useful in checking the reliability of our intuitions in such domains, however. Even with only a little knowledge about some philosophical topic, we might be able to set standards (at least minimal ones) that something would have to meet to qualify as a source of data about it. Given a general understanding of how intuitions work, we could then determine if they at meet those standards.

George Bealer and Lawrence BonJour, among others, have accounts of intuitions that aim at giving us a general understanding of how they work. Their accounts are attempts to build theories of intuitions *a priori*. I argue that a correct understanding of how intuitions work can only be gained empirically and only by doing psychology, not philosophy. As we will see in the next section, this follows in part from the nature of intuitions.

2. Intuitions and Psychology

In order to see that psychology is necessary to understand how intuitions work, we first need to know what intuitions are. In colloquial use, 'intuition' refers to a faculty and also to the deliverances of that faculty: we can say 'My intuition tells me P', and also 'I have the intuition that P'. I will use the term only in the second way, in part because that is how the term is used in contemporary philosophy, and also so as not to assume that there is a single faculty of intuition. Intuitions in this sense are had by people; let us call a person who has a given intuition an *intuitor*. When an intuitor has an intuition, that intuition has some propositional content, and because of this we can say that the intuition is about something (the things that the content represents). So, if Fred has the intuition that murder is wrong, Fred is the intuitor, the content of the intuition is that murder is wrong, and the intuition is about murder and wrongness.

But what ~~is~~ the intuition?[2] An intuition is not its content, just as beliefs and desires are not identical to their contents. An intuition is a kind of experience.[3] George Bealer's term for it, which I think apt, is '*seeming*'—an intuition is some content seeming to be true (Bealer 1998). However, not every seeming is an intuition. Intuitions are typically distinguished from what are sometimes called "perceptual seemings", such as the seeming that there is a computer in front of me that is due to my seeing a computer in front of me; from seemings due to recollection, such as the seeming that I have been to Disneyland that is due to my recalling that I have been to Disneyland; and from seemings that are due to beliefs becoming occurrent, such as the seeming that intuitions are seemings that is due to my becoming once again conscious of my belief that this is true.

I want to distinguish intuitions from one other type of seeming, as this distinction is essential to understanding what intuitions are. Sometimes something seems true to one just because one has consciously employed some sort of reasoning and concluded that it is true. For example, imagine I hear an argument, consider each of its premises and come to understand that they are true, and employ truth tables and come to see that the argument is valid. Based only on this, the conclusion of the argument seems true to me. This seeming is not an intuition. This is true in part because this just is not how we use the term 'intuition'. What we call intuitions are things that just strike us as true without us knowing entirely why they do. Even more compellingly, if intuitions were seemings due entirely to conscious reasoning, they would not play the role in philosophy that they do. Intuitions are often used as if they were evidence, so the principle of charity tells us that we should take them to be the sort of thing that could possibly be evidence. If a proposition seems true because we have reasoned about it (and only because of this), the fact that it seems true does not give us any evidence that it is true beyond the evidence upon which we based our reasoning. If we counted the feeling as evidence in addition to the evidence we reasoned from, we ~~could~~ be double counting our evidence, since the feeling comes solely from the evidence. To make the same point another way, for any proposition that seems true solely on the basis of conscious reasoning, we would have just as much evidence for its truth even if we had reasoned in exactly the same way to the conclusion and it did not feel true. Thus, if some proposition seems to be

[2] Here I am trying to draw upon the consensus about intuitions in philosophy; although I disagree with many ~~of these philosophers'~~ views of how intuitions come about and their exact evidentiary status, I want to be talking about the same thing as they ~~do~~. See (Sosa 1998), (Bealer 1998), (Pust 2000), (BonJour 1998), (Cohen 1986), for more detail on the claims in this paragraph.

[3] See (Pust 2000) for a discussion of why accounts that allow intuitions to be dispositions, or non-occurrent in some way (thus not necessarily experiences) fail.

true and that seeming arises solely from conscious reasoning, the seeming is not evidence for its truth. Since intuitions are supposed to be evidence (at least some of the time), they cannot be based entirely on conscious reasoning (although they are often based partly on it).[4] That intuitions cannot be based solely on conscious reasoning should not be surprising. Philosophers ought to be interested in a source of evidence that is not based on conscious reasoning, since conscious reasoning often (maybe even always) involves application of theory and we use intuitions to criticize or support theories. The fact that they are not based solely on conscious reasoning makes intuitions seem like a non-question begging source of evidence for and against theories.

This distinction is crucial to the investigation of intuitions. We should be pursuing an understanding of how intuitions come about, what factors affect them, and so forth. Intuitions do not come solely from conscious mental processes, and conscious mental processes are the only ones we have introspective access to; thus, we cannot gain this understanding wholly through introspection. We also cannot figure out how intuitions come about through *a priori* reasoning alone, since there are a great number of possible unconscious mental processes that could generate seemings of the sort we are discussing. This is not to say that introspection and *a priori* reasoning are wholly irrelevant to the study of intuitions, or that they cannot tell us anything about them. We can rule out some theories of intuitions *a priori* (for example, logically impossible ones, or ones that would make intuitions infallible) or on the basis of introspection (for example, those that would produce conscious mental states that we do not experience). However, once we have eliminated all the theories of how intuitions work that we can in this way, we are still left with a number of contenders and must look to other methods. Since introspection and *a priori* reasoning are the traditional tools of philosophy, we must look outside of philosophy for these methods. Given that intuitions are at least partly mental phenomena, we should learn about them via the rigorous, scientific study of the mind; in other words, an understanding of intuitions should come from psychology (or cognitive science, but I will use these terms interchangeably throughout this paper).

3. Understanding Intuitions without Psychology

One might try to avoid this conclusion by claiming that the type of intuitions philosophers are interested in are a subset of the seemings I am calling "intuitions", and that we can know how this subset works without consulting

[4] The discussion in this paragraph owes a lot to talks I have had with ~~[removed for blind review]~~. It is also similar to an argument made in (Cohen 1986).

psychology. For example, both George Bealer (1998) and Lawrence BonJour (1998) give accounts of how intuitions are generated (of varying degrees of completeness) that are not based on psychological research. However, any account of the workings of philosophical intuitions that is entirely *a priori* will run into a significant problem: while we may be able to show *a priori* that a certain type of mental event must be produced in a certain way, the claim that the seemings philosophers experience and use as evidence are of that type is an empirical claim.[5]

To illustrate, let us consider Bealer's account of intuitions. Bealer's theory of the workings of our intuitive faculties starts from the claim that our intuitions must be a good source of evidence. His argument for this is based on the following premise: worries about the use of intuitions as evidence are themselves based on intuitions. He goes on to argue that if intuitions are unreliable, then these worries are ill-founded; if intuitions are reliable, then "we have a wealth of concrete-case intuitions to the effect that intuitions are *prima facie* evidence [...] Because these intuitions about the evidential status of intuitions would be reliable, it would follow that intuitions are in fact *prima facie* evidence [...]" (Bealer 1993, 107). In either case, the argument goes, we need not be concerned about the evidential status of intuitions.

There are a number of problems with this argument, but I will focus on one only.[6] Even if intuitions are generally reliable, this does not mean that they are reliable in every circumstance or about every subject—for example, intuitions about intuitions might be unreliable. Further, it does not mean that intuitions about the evidential status of intuitions are *correct*. So Bealer has not shown that intuitions are *prima facie* evidence. Nor has he shown that, if intuitions are reliable, we even have evidence that intuitions are evidence; this requires either that 'X is reliably accurate' entails 'X is evidence', or that we have evidence that intuitions are reliable. Bealer's argument about the evidential status of intuitions requires that we know something about how intuitions are produced and when they do and do not go wrong. It cannot, then, be used as the basis for an account of how intuitions work.

BonJour's account of intuitions runs into a similar problem. Like Bealer, BonJour bases his account of how intuitions work on claims about epistemology. Specifically, he argues that to avoid skepticism we must have a source of *a priori* justification, and that the only one that will do is intu-

[5] This is not true across the board; if one consequence of a theory of how intuitions work is that they are always accurate, for example, we can show that our intuitions are not produced in that way without consulting psychology. But for any viable theory of intuitions, showing that it applies to *our* intuitions is still a largely empirical project.

[6] See (Cummins 1998) especially footnote 8, for a response to the claim that worries about intuitions are based on intuitions and self defeating.

ition; he then goes on to explain how intuitions could work in order to avoid skepticism. Even granting BonJour's claims about skepticism and *a priori* justification, he has not given a strong foundation for a general theory of the sources of intuitions. The connection between intuitions and skepticism ~~that BonJour brings up~~ is ~~based on a need for~~ *a priori* justification in employing certain reasoning methods~~, and all~~ that needs to be true about our intuitions to avoid the skeptical problems BonJour raises is that some intuitions about certain reasoning methods give us justification for using these methods.[7] There are a number of ways that intuitions could be generated so that they would justify use of these reasoning methods, but unfortunately many of these differ in how much justification we would get from intuitions they generate on other topics. One can fairly easily conceive of ways of generating intuitions that give us justified beliefs about reasoning methods but vary widely with regards to, for example, the justificatory status of the moral or metaphysical intuitions they produce.[8] So even if BonJour is right about the connection between intuitions and skepticism, the question of how we generate our intuitions remains open and interesting, and the answer will be contingent and *a posteriori*.

What lesson does this illustrate? Developing *a priori* a theory of the sources of the intuitions that philosophers experience and use as evidence is not going to produce a very useful theory. Too much about these seemings is, due to their nature, hidden and not amenable to philosophical scrutiny. Because of this, there are a great number of importantly different theories that fit what we know *a priori* (or due to introspection) about philosophical intuitions. In order to determine how intuitions work, we need more facts, facts that will come from psychology.

One final point: philosophers should not be only interested in psychological studies of the intuitions we use in philosophy (intuitions about philosophical topics like good and bad, knowledge and justification, substance and mind, and so forth). We should be very interested in studies of ordinary, every-day intuitions—intuitions about the categorization of animals and household objects, or the possibility of ordinary events occurring, or intuitions about the ordinary behavior of other human beings. To see why this is, consider one source of serious worry about intuitions in philosophy: that we do not know the extent to which they are reliable. Robert Cummins argues that if we could address concerns about the reliability of intuitions in

[7] See (BonJour 1998, chapter 1).

[8] For a very crude example, compare the following two: the first is whatever source you like that gives one justified beliefs about *any* philosophical issue. The second is that same source except with a "mental block" when (and only when) it comes to producing intuitions about ethical questions.

philosophy, then we would not actually need to use intuitions as evidence (Cummins 1998). His argument is that in order to know whether or not intuitions are reliable sources of data we need to determine the extent to which (and the conditions in which) they get us the correct answers to questions. However, if we can do this, then we must have a source of correct answers to philosophical ~~intuitions~~ that is not based on intuitions, and thus we do not need intuitions. So, he argues, either we cannot know intuitions are reliable (and thus should not use them) or we do not need to use intuitions. Cummins has, however, overlooked one way of checking the reliability of our intuitions. We can determine how intuitions work—the data they are likely to be sensitive to and the data they are likely to ignore, and what factors make them more or less accurate—by studying intuitions about non-philosophical questions we know the correct answers to. These are questions about ordinary objects, behavior, possibilities, and so forth. We can compare what we learn about how intuitions do and do not work for ordinary questions with our demands on a source of evidence for philosophical questions, and calibrate our intuitions in this way. But this means that we need to inform ourselves about the workings of intuitions about somewhat prosaic topics.[9]

One might wonder how an understanding of intuitions based in psychology would intersect with different types of philosophical projects. Is it really of relevance to every type of philosophical inquiry? Are there domains about which we can ~~tell~~, without psychology, that intuitions just cannot tell us anything interesting, or those about which we can put concerns to the side without looking to psychology? In the next three sections, I will consider these questions by discussing conceptual analysis, the study of extra-conceptual facts (facts about things other than concepts), and experimental philosophy.

[9] One worry about this claim comes from the theory that the mind is modular—that judgments on specific topics are generated by parts of the mind devoted to that topic along—and that learning about how intuitions about a given topic are generated would give us limited or no insight into how intuitions about different topics come about. This is only a worry if differences in how judgments on different topics are generated are largely innate—if the processes used by mental modules to generate judgments are almost entirely the product of genetics. It could be, though, that mental modules are the result of one, or a few, general learning processes that build them over our lifetimes. If so, we could learn how various modules work by learning how the general module-building process works. A large number of theorists who take the mind as modular do not accept that these modules are innate, and I think the evidence for innateness is quite weak, but this debate is outside the scope of this paper (for more, see Carruthers 2006).

4. Do We Need Psychology to Do Conceptual Analysis?

One view of the role of intuitions in philosophy is that they help us to do conceptual analysis. By examining one's intuitions about X one gains a better understanding of one's concept of X. Conceptual analysis is an important step on the road to learning about X, since it is difficult to answer questions about something when one does not know what it is the questions are about. For example, if I want to answer the question 'Do I have free will?' it is very important for me to know what my concept of free will involves, which requires me to do conceptual analysis, which requires that I use my intuitions. This is a relatively modest view of the role of intuitions (to borrow a phrase from Jackson 1998); according to it, intuitions need not reflect anything about the world outside of our heads. Conceptual analysis is generally seen as a prototypical armchair project, one for which the traditional tools of philosophy are sufficient (see, e.g., Fumerton 1999). Given this, we would expect many conceptual analysts to take psychological findings on intuitions ~~are~~ irrelevant to their project. ~~This is not the case~~, because intuitions about a subject matter do not always reflect one's concept of that subject matter, and when they do reflect one's concepts, they often do so in a less than straightforward way. Determining the relationship between our intuitions and our concepts requires that we understand how intuitions are produced.[10]

Let us look at some examples. In the right conditions, an intuition with some content can be caused simply by recently hearing or seeing a sentence with the same or related propositional content, even if the intuitor was given no evidence that that sentence is true, and sometimes even if they were told that the sentence is false (Gilbert 1991, Gilbert et al. 1990, 1993, Begg et al. 1992). An intuitor thus might have the intuition that "one cannot try to do something without intending to do it", due not to that intuitor's concepts of trying or intending, but rather due to having heard that statement recently made.[11] Intuitors can also interpret thought experiments in surprising ways without knowing that they are doing so. This can cause a philosopher to form an erroneous view of the concept ~~they~~ the thought experiment is supposed to ~~tests~~. For example, people have what is called a *hindsight bias*. This bias causes them, once they know the outcome of an action or event, to believe that the outcome was more or less inevitable, and that prior to the outcome people could have or did know that the outcome was inevitable (Schwartz and Vaughn 2002). This is likely to affect intuitions about moral luck. In many thought experiments about moral luck, two agents perform

[10] This argument is developed more in my paper "The End of the Armchair for Conceptual Analysis?" (manuscript).

[11] This example was picked more or less at random, and I mean to cast no aspersions on any who actually have that intuition.

the same action, but the results of their actions are different. Intuitively, they are differently praise- or blameworthy. This is supposed to show us that our concepts of praiseworthiness and blameworthiness are such that a person can be properly praised or blamed for things outside their control. However, hindsight bias may cause intuitors to unconsciously "believe" that the agents in the thought experiment knew (or should have known) how their acts would turn out. Thus, the differential praise or blame may be due to seeing the agents as acting differently, one with the foreknowledge that things will turn out well, the other with the foreknowledge that things will turn out ill~~, which~~ does not generate a moral luck problem. We can discover whether or not ~~this is the case~~, and potentially control for ~~it if it is~~, through rigorous study; however, this possibility is not one that we would be aware of without an understanding of psychology. This shows that conceptual analysis via intuitions is not always straightforward and it ~~is~~ may be quite easy to go wrong without an understanding of our psychology.

Psychology can not only affect the way we interpret our intuitions, but also the shape~~s~~ of analyses of concepts based on intuitions.[12] Since at least Wittgenstein, philosophers have been aware of how difficult it is to analyze concepts into sets of a certain kind of necessary and sufficient conditions. Further, psychologists have produced evidence that, if our intuitions are an important guide to the shapes of our concepts, then for many concepts no list of necessary and sufficient conditions of the kind philosophers are interested in can be given.[13] However, there is also psychological research that suggests that some types of concepts are more likely than others to be amenable to analysis into philosophically interesting necessary and sufficient conditions; these are what are called "basic level" concepts, which are less likely to be Wittgensteinian family resemblance categories than so-called "superordiante" concepts (for more on basic level categories, see Mervis and Rosch 1981, Rosch and Mervis 1975, Murphy 2002). If it turns out that basic level concepts are more often analyzable into necessary and sufficient conditions using intuitions than non-basic level concepts, then the methods used to analyze a given concept, and the sorts of results we expect to produce, should vary based on whether or not the concept in question is basic level; identifying concepts as basic level requires an understanding of psychology.

[12] I am not by any means the first to notice this. See, for example, (Ramsey 1998).

[13] The most famous discussion of this topic is from (Rosch and Mervis 1975), but controversy about their results and what they mean is ongoing. It may be, for example, that concepts are better captured by looking at a combination of intuitive and reflective use of words, so that we can give necessary and sufficient conditions for application of a concept as long as we look to data from non-intuitive use of the concept. Further, this is also not to say that no list of necessary and sufficient conditions can capture these concepts, but rather that these lists will look quite different than those philosophers are typically interested in.

My goal here is not to list every way in which psychological research bears on the use of intuitions for conceptual analysis, but rather to show that it can and does in some ways, in order to show that it is important for us to start figuring out what those ways are. We can see, then, that even if one's interest in intuitions is due only to an interest in conceptual analysis, one ought to pay attention to psychological research.

5. Intuition and "Things Themselves"

We have just seen some ways that an understanding of psychology is important to the use of intuitions for conceptual analysis. Many of us, however, are interested in more than simply what our *concepts* of things like responsibility or intention or causation are—we want to know what responsibility, intention, or causation *themselves* actually are.[14] Some philosophers, such as Hilary Kornblith or Frank Jackson, interested in "things themselves" rather than our concepts of them, have argued that intuitions should play at most a very limited role in philosophy (e.g. Kornblith 2006 or Jackson 1998). They argue that we might look to intuitions to understand very generally what the subject of some domain of philosophy (such as epistemology or metaphysics) is, or how we ought to talk about it, but once we have done that intuitions are no longer useful because they do not tell us facts about things themselves.

This conclusion is not always warranted. Psychology shows us that intuitions can tell us about ~~facts beyond simply~~ the content of our concepts, and that they can tell us things we would be hard pressed to discover without them. However, intuitions will not necessarily be useful evidence about every question in philosophy. Philosophers interested in facts about "things themselves" ~~need~~ a psychologically-based understanding of how our intuitions are generated and what information they are based on~~, because~~ intuitions can potentially be an extremely helpful tool ~~but we cannot determine when they will be without understanding their source~~.

To see this, let us consider some facts about the capabilities of our unconscious minds, since intuitions are generated in part by unconscious mental processes. The unconscious is superior to the conscious mind at processing information in some ways. In fact, when we use conscious faculties to

[14] Hilary Kornblith, for example, says

> My own view is that our concepts of knowledge and justification are of no epistemological interest. The proper objects of epistemological theorizing are knowledge and justification themselves, rather than our concepts of them. (Kornblith 2006, 11–12).

make judgments that are usually made unconsciously, the results are often inferior to what the unconscious mind would have produced (e.g., Wilson and Schooler 1991). Our unconscious minds can track relationships that occur over longer periods of time, or are more complex, than our conscious minds can track without mechanical assistance (Lewicki et al. 1992). Our unconscious is also sensitive to information that our conscious minds will not normally notice. Our unconscious detects, processes, and makes judgments based on information that we consciously consider irrelevant (e.g., Lewicki et al. 1989, Betsch et al. 2001). This is important because this information can actually be relevant to judgments without our knowing it. Our unconscious can use information for which we have no words, whereas this can be quite difficult for our conscious minds.[15] The unconscious is less sensitive to distraction and to other mental demands than is the conscious mind—it keeps noticing and processing information even when the conscious mind is overwhelmed (e.g. Betsch et al. 2001, Dijksterhuis 2004, Gilbert and Krull 1988). Some specific examples of judgments that the unconscious excels at making are social judgments and judgments about our own mental states: we are able to ascertain the feelings of others, predict their behavior, and judge when they are honest without knowing how we do so (Ambady and Rosenthal 1992), and our unconscious has access to information about certain beliefs, desires, motivations, and opinions that our conscious mind has no direct access to (Wilson 2002).

What does all this tell us? It tells us that many of our intuitions will be based on information we would not consider using, or ~~know how~~ to use, consciously. This information can be the sort of information we ought to be paying attention to if we wish to make accurate judgments about philosophical topics. To see this, consider three related philosophical ~~topics~~: responsibility, intention, and causation. Attributions of responsibility, or intentionality, or causality, should be sensitive to subtle distinctions between people, or mental states, or physical relationships. Both causation and responsibility come in degrees, and the amount of each which should be attributed most likely depends on a multitude of small and easily overlooked factors present in different situations. The ability to make accurate judgments about these three should require the ability to put together vast amounts of minute details and notice patterns that occur over long periods of time. These are exactly the sorts of things our unconscious mind is capable of doing better than our conscious mind. Thus, we have reason to think that in some cases intuitions about responsibility, intention, or causation will be based on real and important distinctions that we would be likely to overlook using only our conscious faculties. Parallel arguments can plausibly be made for numerous

[15] See for example (Murphy 2002), or research on infants such as (Campos et al. 1978).

topics in metaphysics, ethics, epistemology, the philosophy of action, and the philosophy of mind.

This argument is of necessity something of a promissory note. My point is not that our intuitions will always give us useful information about things themselves, a claim that would be hard to assert given the obvious fact that intuitions are not always accurate. My point is that we have reason to expect that they can in some cases give us such information, and that this information may be difficult to obtain otherwise. A developed, empirically-informed understanding of our intuitive faculties of the sort I have been arguing for in this paper is needed to determine which cases these are, and to allow us to best use intuitions when they can be helpful.

6. Experimental Philosophy

Experimental philosophy is the recent movement to incorporate experimental rigor into the gathering of intuitions. Some experimental philosophers believe that intuitions are a philosophically important source of evidence, while others have employed experimental results to cast doubt on their use. We should be hesitant to accept the results of philosophical experiments if they are not supplemented by an understanding of the psychology behind our intuitions.

To make this point more clearly, let us consider an example, one of the most famous pieces of experimental philosophy: the work of Jonathan Weinberg, Shaun Nichols, and Stephen Stich on epistemic intuitions (2001). They advance the following claims: intuitions about knowledge and justification tend to vary from culture to culture, and this undermines our reasons for using intuitions about knowledge and justification as evidence for epistemic theories. They argue that when intuitions about epistemology differ between groups, we have no good reason to choose one set of intuitions as evidence over the other. If we have no principled way to choose between the intuitions, and intuitions are supposed to be the basis for our theory, we have no way to choose between a theory based on one set of intuitions or the other. It is inappropriate to choose a philosophical theory arbitrarily, or based on provincial considerations (e.g., we are more accustomed to one theory), especially when that theory is normative, as are theories of justification or knowledge. Thus, differences in intuitions about epistemology between groups are problematic for those who wish to found their theories on intuitions.

The evidence Weinberg, Nichols, and Stich give that there are cultural variations in intuitions comes from experiments in which they presented versions of various classical epistemological thought experiments (such as Gettier cases) to subjects from different cultural backgrounds, specifically

East Asians and Westerners, and to subjects of different socio-economic status. They found statistically significant variations in reactions to some of these thought experiments. From this, they concluded that there are differences in intuitions between the groups, and thus that basing theories of knowledge or justification on intuitions is problematic.

One plausible objection to this conclusion comes from Ernest Sosa (2005). Sosa makes the point that, "[g]iven that these subjects are sufficiently different culturally and socio-economically, they may because of this import different assumptions [...]" as they consider the situations given in these thought experiments, with the result that they are not in actuality disagreeing (Sosa 2005, 107). This point, however, is speculative—these subjects *may* be interpreting the thought experiments differently, but we have no particularly strong evidence that they *are*. This is where a psychologically informed understanding of intuitions plays a vital role; the best way to assess Sosa's objection would be to look for empirical evidence that there are or are not cross cultural differences in interpretations of these thought experiments. Consideration of psychological findings on cultural cognitive differences gives us just such evidence.

According to Weinberg, Nichols, and Stich, "Richard Nisbett and his collaborators have shown that there are large and systematic differences between East Asians and Westerners on a long list of basic cognitive processes including perception, attention and memory" (Weinberg et al. 2001). The existence of differences in cognitive processes between the groups Weinberg, Nichols, and Stich tested makes less speculative the claim that such differences may have caused differences in interpretation of the thought experiments used. It also opens up another possible objection to their argument: the processes that generate one culture's intuitions may be systematically better at generating the intuitions in question, or one group may be prone to a bias that makes their intuitions less relevant to epistemology, and this would give us a means of resolving the conflict. Although I do not have the space to do an exhaustive review of Weinberg, Nichols, and Stich's results given findings on cultural cognitive differences, by considering some examples I can show that it plausible that the discovered intuitive differences are due to cultural cognitive differences, and thus show that their research (and experimental philosophy more generally) would benefit from further examination of the psychology behind our intuitions.

According to the researchers cited by Weinberg, Nichols, and Stich, East Asians are supposed to be more subject to hindsight bias than Americans, whereas American subjects are more likely than East Asians to make what is called the "fundamental attribution error" (Norenzayan et al. 2002).[16] As

[16] Weinberg, Nichols, and Stich cite (Nisbett et al. 2001), whereas I am citing (Norenzayan

discussed above, hindsight bias is the tendency, once one knows how something turns out, to think that that outcome was more or less inevitable and predictable from the outset. The fundamental attribution error is the tendency to "make inferences about the dispositions of others even when situational forces explain the behavior quite nicely" (Gilbert 2002, 169). For example, in one study, "students who are randomly assigned to receive bad news may, on average, be judged as more chronically depressed than students who are randomly assigned to receive good news" (Gilbert 2002, 169). These differences could explain differential reactions to thought experiments such as Gettier cases.

What is typical of a Gettier case is that a person is described who uses a belief forming method (such as deductive reasoning) which normally is a good one to use; they end up forming a true belief, but because of details about their situation, this is due largely to luck. Westerners were more likely than Asians to say that person described in Gettier cases only believed something, rather than knew it. Note that in Gettier cases there is a fact—believing something true due to luck—which is perfectly well explained by a quirk of the situation the believer finds themselves in. A person prone to the fundamental attribution error, and thus likely to make character judgments based on single events, might explain this fact however as due to the character of the believer and think that the person described *normally* relies on luck in their reasoning. How might this affect their intuitions? It is plausible that the ways in which one typically reasons and forms beliefs makes a difference as to whether or not one knows any given proposition they believe; this is the core of virtue epistemology. If we are tacit virtue epistemologists, then seeing someone as a person who normally relies on luck to form their beliefs would give us reason to think that a specific belief they formed in this way would not count as something they know. However, if we saw that person as someone who did not normally rely on luck to form true beliefs, then the fact that luck played a role in *this* case might not entail a lack of knowledge (in this case). Thus, Westerners' greater tendency to say that people described in Gettier cases do not know what they believe makes more sense given their greater tendency to commit the fundamental attribution error.

Likewise, cultural differences in intuitions about Gettier cases might also be due in part to hindsight bias. This bias makes people prone to think that the way things actually turned out was inevitable and predictable from the onset. In Gettier cases, one comes to form a true belief through luck; however, if coming to this true belief was inevitable, or predictable, then it looks less like the product of luck. If the role of luck is part of why the believer in

et al. 2002). However, the two papers share two co-authors, and both refer to similar bodies of research.

Gettier cases fails to know what they believe, as many philosophers claim, then it makes sense that people who see luck as less of a factor in the situation described also tend to think that the believer in question really knows what they believe. Asians' greater tendency to experience hindsight bias might partly explain why they have a greater tendency to intuit that people in Gettier cases really do know what they believe.

This is only the sketch of an argument, and more research—both philosophical and empirical—is needed. It is unlikely that either factor by itself explains all of the differences in responses found by Weinberg, Nichols, and Stich; cross-cultural differences in the tendency to commit the fundamental attribution error, for example, are not as large as the differences in responses detected.[17] My ~~point~~, though, is not to refute Weinberg, Nichols, and Stich's arguments, but to illustrate the following point: the success of their argument turns on psychological facts, facts about how thought experiments are interpreted, and about the presence or absence of mental biases that could discount the normative intuitions of some groups. Thus, a full evaluation of their arguments calls for an understanding of the psychology of intuitions. We can extrapolate from this example to experimental philosophy in general, since even when experimental philosophers do not study normative phenomena, their arguments still require an understanding of how intuitors generate their intuitions. Changes in the way we gather intuitions of the sort advocated by experimental philosophers should go hand in hand with the application of the sort of understanding of intuitions that I am advocating.

7. Conclusion

Philosophers have good reason to be concerned about the use of intuitions in philosophy. To address these concerns, we should have an understanding how our intuitive faculties work, what intuitions are based on, and what might make them go awry. Because intuitions cannot be generated by conscious mental processes, but can be generated by any number of unconscious ones, we cannot gain such an understanding just by doing philosophy (that is, purely *a priori* or through introspection). We need to look at what psychologists have learned about intuitions. A psychologically informed theory of intuitions is of relevance to most philosophers, whether they are interested in conceptual analysis or whether they are interested in "things themselves". This does not mean that psychology can replace philosophy, or that it will answer philosophical questions by itself. Theory building in the light of in-

[17] A defense of Weinberg, Nichols, and Stich's results along these lines actually bolsters my claim about the importance to experimental philosophy of an understanding of how our intuitions work, since such defenses are based themselves in an understanding of psychology.

tuitive evidence (or the lack thereof), and thinking about what questions to ask and how to ask them, are philosophical, not psychological, tasks.

Acknowledgements

Bibliography

Ambady, N. and Rosenthal, R. (1992). Thin slices of expressive behavior as predictors of interpersonal consequences: A meta-analysis, *Psychological Bulletin* **111**: 256–274.

Bealer, G. (1993).

Bealer, G. (1998). Intuition and the autonomy of philosophy, *in* M. DePaul and W. Ramsey (eds), *Rethinking intuition*, Rowman & Littlefield, Lanham, pp. 201–240.

Begg, I., Anas, A. and Farinacci, S. (1992). Dissociation of processes in belief: Source recollection, statement familiarity, and the illusion of truth, *Journal of Experimental Psychology: General* **121**: 446–458.

Betsch, T., Plessner, H., Schwieren, C. and Gutig, R. (2001). I like it but i don't know why: A value-account approach to implicit attitude formation, *Personality and Social Psychology Bulletin* **27**: 242–253.

BonJour, L. (1998). *In defense of pure reason*, Cambridge University Press, Cambridge.

Campos, J. J., Hiatt, S., Ramsay, D., Henderson, C. and Svejda, M. (1978). The emergence of fear on the visual cliff, *in* M. Kewis and L. Rosenblum (eds), *The development of affect*, Plenum, New York, pp. 149–182.

Carruthers, P. (2006). The case for massively modular models of mind, *in* R. Stainton (ed.), *Contemporary debates in cognitive science*, Blackwell, Malden, pp. 3–21.

Cohen, L. (1986). *The dialogue of reason*, Clarendon Press, Oxford.

Cummins, R. (1998). Reflections on reflective equilibrium, *in* M. DePaul and W. Ramsey (eds), *Rethinking intuition*, Rowman & Littlefield, Lanham, pp. 113–128.

Dijksterhuis, A. (2004). Think different: The merits of unconscious thought in preference and decision making, *Journal of Personality and Social Psychology* **87**: 586–598.

Fumerton, R. (1999). A priori philosophy after an a posteriori turn, *Midwest Studies in Philosophy* **23**: 21–33.

Gilbert, D. (1991). How mental systems believe, *American Psychologist* **46**: 107–119.

Gilbert, D. (2002). Inferential correction, *in* T. Gilovich, D. Griffin and D. Kahneman (eds), *Heuristics and biases: The psychology of intuitive judgment*, Cambridge University Press, Cambridge, pp. 167–184.

Gilbert, D. and Krull, D. (1988). Seeing less and knowing more: The benefits of perceptual ignorance, *Journal of Personality and Social Psychology* **54**: 193–202.

Gilbert, D., Krull, D. and Malone, P. (1990). Unbelieving the unbelievable: Some problems in the rejection of false information, *Journal of Personality and Social Psychology* **59**: 601–613.

Gilbert, D., Tafarodi, R. and Malone, P. (1993). You can't not believe everything you read, *Journal of Personality and Social Psychology* **65**: 221–233.

Jackson, F. (1998). *From metaphysics to ethics: A defense of conceptual analysis*, Oxford University Press, Oxford.

Kornblith, H. (2006). Appeals to intuition and the ambitions of epistemology, *in* S. Hetherington (ed.), *Epistemology futures*, Oxford University Press, Oxford, pp. 10–25.

Lewicki, P., Hill, T. and Czyzewska, M. (1992). Nonconscious acquisition of information, *American Psychologist* **47**: 796–801.

Lewicki, P., Hill, T. and Sasaki, I. (1989). Self-perpetuating development of encoding biases, *Journal of Experimental Psychology: General* **118**: 323–337.

Mervis, C. and Rosch, E. (1981). Categorization of natural objects, *Annual Review of Psychology* **32**: 89–115.

Murphy, G. (2002). *The big book of concepts*, MIT Press, Cambridge.

Nisbett, R., Peng, K., Choi, I. and Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition, *Psychological Review* **108**: 291–310.

Norenzayan, A., Smith, E., Kim, B. and Nisbett, R. (2002). Cultural preferences for formal versus intuitive reasoning, *Cognitive Science* **26**: 653–684.

Pust, J. (2000). *Intuitions as evidence*, Routledge, New York.

Ramsey, W. (1998). Prototypes and conceptual analysis, *in* M. DePaul and W. Ramsey (eds), *Rethinking intuition*, Rowman & Littlefield, Lanham, pp. 161–178.

Rosch, E. and Mervis, C. (1975). Family resemblances: Studies in the internal structure of categories, *Cognitive Psychology* **7**: 573–605.

Schwartz, N. and Vaughn, L. (2002). The availability heuristic revisited:

Ease of recall and content of recall as distinct sources of information, *in* T. Gilovich, D. Griffin and D. Kahneman (eds), *Heuristics and biases: The psychology of intuitive judgment*, Cambridge University Press, Cambridge, pp. 103–119.

Sosa, E. (1998). Minimal intuition, *in* M. DePaul and W. Ramsey (eds), *Rethinking intuition*, Rowman & Littlefield, Lanham, pp. 257–270.

Sosa, E. (2005). A defense of the use of intuitions in philosophy, *in* D. Murphy and M. Bishop (eds), *Stich and his critics*, Blackwell, Oxford, pp. 101–112.

Weinberg, J., Crowley, S., Gonnerman, C., Swain, S. and Vandewalker, I. (~~2005~~). Intuition and calibration. manuscript.

Weinberg, J., Nichols, S. and Stich, S. (2001). Normativity and epistemic intuitions, *Philosophical Topics* **29**: 429–460.

Wilson, T. (2002). *Strangers to ourselves: Discovering the adaptive unconscious*, Belknap Press, Cambridge.

Wilson, T. and Schooler, J. (1991). Thinking too much: Introspection can reduce the quality of preferences and decisions, *Journal of Personality and Social Psychology* **60**: 181–192.