Errata

p. 11 line 22: replace ‘89’ with ‘90’

p. 11, line 23: replace ‘90’ with ‘89’

p. 76 line 12-11 (from bottom of page): replace ‘in the passage just quoted’ with ‘above’

p. 84 line 21-23: replace ‘For instance, the speaker in Raffman’s example has a first-order disposition to judge #30 red, and a second-order disposition to judge #30 orange’ with ‘For instance, if we modify IC2 in Raffman’s example so that in IC2, the speaker is disposed to judge #1-#24 red and #26-#50 orange (in IC2), then the speaker will (in IC1) have a first-order disposition to judge #26 red, and a second-order disposition to judge #26 orange.’

p. 84 line 16 (from bottom of page): replace the first occurrence of ‘#30’ with ‘a certain patch’, and replace the second occurrence of ‘#30’ with ‘that patch’

p. 84 line 15 (from bottom of page): replace ‘#30’ with ‘it’

p. 87 line 4 (from bottom of page): replace ‘lacks’ with ‘has’

p. 119 lines 17 and 19: replace ‘induced in’ with ‘inducted into’

p. 135: delete footnote 131

p. 137 line 11 (from bottom of page): replace ‘induced in’ with ‘inducted into’

p. 152 line 1 (from bottom of page): replace ‘”’ with a single quotation mark
Extensions in Flux
An Essay on Vagueness and Context Sensitivity

Jonas Åkerman
Contents

Introduction ........................................................................................................................................7

1. Theories of Vagueness ..............................................................................................................9
  1.1 What is vagueness? ...............................................................................................................9
  1.2 Many-valued theories .........................................................................................................16
  1.3 Supervaluationism .............................................................................................................22
  1.4 The epistemic view ............................................................................................................25

2. Contextualism about Vagueness ..........................................................................................33
  2.1 Vagueness as a species of context sensitivity ..................................................................33
  2.2 Open texture and judgement dependence ....................................................................36
  2.3 Weak tolerance ..................................................................................................................38
  2.4 Different ways to shift the extension ..............................................................................45
  2.5 Some worries about non-indexicalism ...........................................................................53

3. Varieties of Context ..............................................................................................................59
  3.1 Partiality and context sensitivity ......................................................................................59
  3.2 Conversational score .........................................................................................................61
  3.3 The significance of social factors ....................................................................................67
  3.4 Score and logic ..................................................................................................................71
  3.5 Interests and gradability ....................................................................................................74
  3.6 Internal contexts ................................................................................................................81
  3.7 Sharp boundaries .............................................................................................................90

4. The Psychological Question ................................................................................................96
  4.1 The question .....................................................................................................................96
  4.2 Confusion strategies .........................................................................................................97
  4.3 Fara's alternative .............................................................................................................101
  4.4 Fixing the context .............................................................................................................105
  4.5 Verb phrase ellipsis ..........................................................................................................107
  4.6 Stabilisation .......................................................................................................................111
  4.7 Blindness ..........................................................................................................................114
  4.8 The psychological question revisited .............................................................................121

5. The Forced March ................................................................................................................124
  5.1 Origins of the forced march .............................................................................................124
  5.2 The best option? ...............................................................................................................128
5.3 Competence in the forced march ................................................................. 133

Chapter 6: Unstable Contexts ........................................................................ 140
  6.1 The Heraclitus problem ............................................................................. 140
  6.2 Keefe’s and Sorensen’s objections ............................................................... 142
  6.3 Collection .................................................................................................. 144
  6.4 Speech reports and belief contents ............................................................... 149

7. Concluding Remarks .................................................................................... 156
  7.1 Contextualism and its competitors .............................................................. 156
  7.2 Notes on methodology .............................................................................. 159

Bibliography .................................................................................................... 163

Index ............................................................................................................... 167
Preface

The popular image of the philosopher as someone who spends his days absorbed into his own thoughts is only partly correct. Although doing philosophy requires a lot of solitary work, interaction with other philosophers is close to a necessary condition for progress. I would therefore like to express my gratitude to all of those who have taken the time to read, listen to, and discuss my attempts to contribute to the philosophical debate on vagueness.

First of all, I want to thank my supervisor Peter Pagin, who has helped, inspired, and encouraged me during the past years, and without whom I am sure this essay would never have been written.

In the fall of 2006, I visited Arché at the University of St Andrews for three months, where a research project on vagueness had been up and running for a couple of years. I consider myself very privileged to have been given the opportunity to work in such a great intellectual environment, and I would like to thank everyone at Arché for making my stay so pleasant. I am especially grateful to Patrick Greenough who not only agreed to supervise me during my stay, but also kindly invited me to do some joint work on contextualism about vagueness. Also, I am hugely indebted to all the people who attended the vagueness seminars, or shared their thoughts on vagueness with me in some other way, including Maria Cerezo, Richard Dietz, Sebastiano Moruzzi, Diana Raffman, Paula Sweeney, Crispin Wright, and Elia Zardini. I would also like to thank K & A Wallenbergs Stiftelse for their financial support.

In the fall of 2007, I presented a paper at the Oxford Graduate Conference, parts of which are included (albeit in a rather different form) in chapter four. I would like to thank the audience on this occasion, and especially my commentator Delia Graff Fara for helpful comments and discussion.

Most of the material below has been presented in some form or other at the Logic and Language seminar or the Higher Seminar in Theoretical Philosophy at the Department of Philosophy at Stockholm University. I am grateful for having been given the opportunity to share my ideas with such competent philosophers on these occasions, and for all the feedback received.

I have also received valuable feedback from (anonymous) referees and other people who have been kind enough to read and comment on previous drafts and papers. These include some of the people mentioned above, but
also Sama Agahi, Martin Montminy, Mikael Pettersson, Sven Rosenkranz, Daniel Rønnedal, and Levi Spectre.

I would also like to thank the Department of Philosophy at Stockholm University for its generous support, and all my colleagues for keeping me company during my time as a graduate student.

Last, but certainly not least, I want to thank my family and friends for providing me with such excellent reasons for not spending every waking hour at my desk. Above all, I would like to thank my wonderful wife Emily for her never ending support and understanding during times when my attention has been focused on work rather than family.
Introduction

How many grains of sand does it take to make a heap? One grain is clearly not enough. Ten thousand grains is clearly enough, provided that we arrange them in an appropriate way. Suppose then, that we have a heap consisting of ten thousand grains of sand. Now, it seems that we cannot make something that is a heap into something that is not a heap by removing only one grain of sand. But suppose that we start removing the grains from our heap one by one. The removal of the first couple of thousand grains will probably not make us inclined to say that we no longer have a heap in front of us, but the longer we keep on removing grains, the more uncomfortable we will feel about calling the collection of grains a heap. And finally, when we have removed all the grains but one, it clear that it is no longer a heap. Which grain made the difference? Well, if the removal of one grain cannot make any difference, then no grain could have made the difference. But then it follows that the “collection” consisting of the one grain left is a heap. Contradiction. In the philosophical literature on vagueness, this is known as the sorites paradox.

It is widely agreed that the appeal of the reasoning above is due to the vagueness of the predicate ‘is a heap’. There is considerably less agreement about what the underlying source of vagueness is. The notorious puzzles generated by vagueness have been known since antiquity. However, for a very long time philosophers devoted very little attention to them. Arguably, the birth of the modern philosophical debate on vagueness would be most appropriately dated to 1975, when *Synthese* published a number of seminal papers in a special issue on this topic. Since then, the literature on vagueness has grown rapidly in many different directions, and the current situation inspires no hope for a development towards consensus. The leading theories, which will be considered in chapter one below, all seem to suffer from significant flaws, and there is little agreement about which is the best, or least bad option. So it might seem like a good idea to look for further alternatives.

One salient feature of vague predicates is that they are context sensitive. Whether or not something counts as a heap appears to depend on the situation at hand, and likewise for other vague predicates like ‘is rich’ and ‘is tall’. In recent years, a number of authors have attempted to deal with vagueness by appealing to context sensitivity in different ways. The main concern of this essay will be with a certain subclass of these theories, to be further characterised in chapter two and three below. This means that many
theories which could adequately be labelled ‘contextualist theories of vagueness’ will not be considered in detail.¹ Rather, the focus will be on a family of theories, which may be referred to as mainstream contextualism about vagueness, since most of the public discussion of contextualism about vagueness so far has been concerned with these very theories.

Chapter one contains a brief introduction to the topic of vagueness, and an overview of the most popular philosophical theories of vagueness on the market. In chapter two and three the specific kind of contextualism about vagueness that will be discussed in the rest of this essay is described. In chapter two, a generic version of contextualism about vagueness is developed, and some alternative forms of context sensitivity are introduced. In chapter three, the specific contextual factors appealed to by different contextualists are considered in detail. In chapter four, various contextualist attempts to explain the appeal of soritical reasoning are discussed. One popular line of objection against these strategies is based on the observation that it seems possible to nail down the extension without eliminating the symptoms of vagueness. A number of objections of this kind are considered, and it is argued that contrary to what some of its proponents have claimed, contextualism about vagueness is not superior to other comparable theories of vagueness when it comes to explaining the appeal of soritical reasoning. In chapter five, we take a closer look at attempts to motivate contextualism by appeal to (assumptions about) normal speakers’ behaviour when they are exposed in a certain way to a certain version of the sorites paradox. It is argued that such “data” cannot lend any firm support to contextualism about vagueness. In chapter six, some problems concerning the instability of the contextual factors are considered. One problem is that contextualist diagnoses of the sorites which locate a fallacy of equivocation in the reasoning seem to render non-soritical reasoning fallacious as well. A model for treating this problem is suggested, but on closer consideration, it turns out to be problematic. Moreover, this model is of no help in solving the more general problem that even if classical logic remains valid for vague language on some contextualist views, the instability of the extensions of vague predicates makes it difficult to know when a certain piece of reasoning instantiates a valid argument form. Chapter seven concludes with a summary and some methodological remarks.

1. Theories of Vagueness

1.1 What is vagueness?

It is not very easy to characterise the subject matter of philosophical theories of vagueness in a theory neutral way. In ordinary language, the term ‘vague’ is used to designate various features of utterances or linguistic expressions. If someone says that an utterance is vague, there are a number of different things that she might have in mind, and that leads her to make such a verdict. As J.L. Austin points out, a description, for instance, might count as vague by everyday standards for a number of different reasons:

- (a) a rough description, conveying only a ‘rough idea’ of the thing to be described; or
- (b) ambiguous at certain points, so that the description would fit, might be taken to mean, either this or that; or
- (c) imprecise, not precisely specifying the features of the thing described; or
- (d) not very detailed; or
- (e) couched in general terms that would cover a lot of rather different cases; or
- (f) not very accurate; or perhaps also
- (g) not very full, or complete.

(Austin 1962: 126)

Similarly, William Alston (1967: 219) points out that “[t]he word ‘vague’ is commonly used quite loosely to cover a variety of features of discourse that should be distinguished”. However, philosophers nowadays use the term ‘vague’ in a much more restricted sense than ordinary speakers do. This is quite in order since, as Timothy Williamson (1994: 71) has emphasised, “[p]hilosophy, like every other discipline, needs and is entitled to its own technical terms”. Consequently, ‘vague’ has, within the philosophical profession, become a technical term, with an artificially (but legitimately) restricted meaning, corresponding roughly to Austin’s (c), i.e. imprecision. More specifically, the feature denoted by ‘vague’ as it is used in the modern philosophical debate is what Alston (1967: 219) calls degree-vagueness, and which “stems from the lack of precise boundaries between application and non-application along some dimension”. In what follows, ‘vague’ (and expressions derived from this term) will be used exclusively in the technical philosophical sense. In order to further clarify what this sense is, let us first
explicitly distinguish vagueness from the other features listed by Austin, and then take a closer look at the kind of imprecision ‘vague’ is used to denote.

Firstly, vagueness is distinct from lack of specificity. A statement like ‘Charles is between 25 and 190 centimetres tall’ is not very specific, and hence not very informative (depending, of course, on the purposes at hand). In Austin’s words, the statement can be said to be a rough description of Charles’s length. However, the predicate ‘is between 25 and 190 centimetres’ has perfectly precise boundaries of application and non-application along the dimension of length, so the description is quite precise in this sense, and thus it is not vague. Secondly, vagueness is distinct from ambiguity, i.e. having more than one main sense. The expression ‘bank’ is ambiguous – it can be used to refer to either financial institutions or slopes next to water – but it is not thereby vague. Although both of its disambiguations may have imprecise boundaries of application, these features are arguably distinct. As Williamson (1994: 66) points out, “[a] word may have one vague sense, or two precise ones”. Thirdly, vagueness is also distinct from generality in the sense of corresponding to more than one set of facts. Russell (1923) emphasises that although a statement such as ‘This is a man’ may be verified by many different facts like ‘this’ being Brown, Jones, or Robinson, that does not make it vague. Finally, in order to see that vagueness is distinct from lack of detail, incompleteness, and inaccuracy, consider the statement ‘The statue is 65.3 centimetres tall’. This is not a very detailed, full or complete description, but quite precise with respect to the feature described. Moreover, if the statue is in fact 80 centimetres tall, the description is not very accurate, but clearly this does not make it vague.

So, there are various features that should not be identified with vagueness, but what can we say by way of positive characterisation? Let us start with a couple of examples, and let us start from the beginning. Among the most famous examples of vague expressions are ‘heap’ and ‘bald’, which were used by Eubilides of Miletus (a contemporary of Aristotle) in order to construct two closely related puzzles, known as the Heap and the Bald Man. The ancient term for the former has given name to the kind of paradox that both of the puzzles instantiate: the sorites paradox. Eubilides presented the puzzles by asking questions like the following: Does one grain make a heap? The answer to this question is clearly ‘no’. But what about two grains? Three grains? Four grains? If we go on like this for long enough we will eventually feel that the number of grains we are asked about is enough to make a heap (provided that the grains are arranged in an appropriate way). But can a single grain really make the difference between a non-heap and a heap? If we

---

2 Even if ‘is a man’ does lack precise boundaries, the vagueness of the complex expression is distinct from its generality. If we replace ‘is a man’ with a precise counterpart, the vagueness disappears but the generality remains. As Williamson points out, Russell did not himself adhere to this crucial distinction. See Williamson (1994: 59-61) for discussion.
answer this question in the negative, as most of us are inclined to do, we seem to commit ourselves to the conclusion that no number of grains can make a heap. Similarly, the Bald Man goes as follows: Is a man with 200,000 hairs on his head (evenly distributed) bald? No, clearly not. What about a man with 199,999 hairs? Or 199,998 hairs? And so on until we reach the point where a negative answer is clearly false. But if no single hair can make a relevant difference, then there is no point at which we can start giving a positive answer to the questions.

Soritical reasoning of the kind exemplified by these ancient puzzles can be applied to many natural language terms. One can easily see how similar paradoxes can be constructed for other expressions like ‘rich’, ‘tall’, ‘old’, and many more. We just start with a case where there is a clear negative answer to the question, and then we proceed by small steps towards a case where there is a clear positive answer to the questions. If the steps are small enough, it will seem to us that there is no point at which we can switch from a negative to a positive answer. What makes it possible to use these expressions to construct arguments of the above form that strike us as compelling is that they are vague. In contrast, we would not be inclined to buy into the reasoning at all if the expression involved were precise. Consider the mathematical expression ‘is identical to 3’. Is 1 identical to 3? Clearly not. Is 2 identical to 3? Clearly not. Is 3 identical to 3? Yes, clearly so. Or take the predicate ‘is an acute angle’. Is an angle of 89 degrees acute? Clearly not. Is an angle of 90 degrees acute? Yes, clearly so. No matter how small steps we take in a progression of questions like this one concerning a precise term, there will be a clear point at which we should switch from a negative to a positive answer. So, one thing that distinguishes vague expressions from precise ones is that the former can be used to create sorites paradoxes, while the latter cannot.

A feature of vague expressions that emerges in the examples above is a certain kind of unclarity. Although it is perfectly clear that a man with no hair on his head is bald, and that a man with 200,000 hairs on his head (arranged in the proper way) is not bald, it is unclear where to switch from a negative to a positive answer to the questions. Importantly, this unclarity is not due to any ignorance about the numbers of hairs or grains, or their arrangements. In contrast to the cases involving precise expressions like ‘acute’, the unclarity about where to switch remains even when we know all there is to know about the subject matter. To take another example, borrowed from Williamson, we might ask when Rembrandt became old:

For each second of his life, one can consider the statement that he was old then. Some of those statements are false; others are true. If all of them are

---

3 This is not to say that vagueness cannot consist in some kind of ignorance, only that it cannot consist in ignorance regarding facts about the objects under consideration like the ones mentioned in the text.
true or false, then there was a last second at which it was false to say that Rembrandt was old, immediately followed by a first second at which it was true to say that he was old. Which second was that? We have no way of knowing. Indeed, it is widely felt to be just silly to suppose that there was such a second. Our use of the word ‘old’ is conceived as too vague to single one out. (Williamson 1994: 2)

No matter how silly it may seem, we cannot at this stage rule out that there is in fact a first second at which it was true to say of Rembrandt that he was old. Our purpose here is to give an initial characterisation of vagueness which is neutral between the various theories of vagueness on the market, and some philosophers, most prominently Williamson himself, argue that vague expressions like ‘old’ do in fact draw sharp boundaries, and thus that there is such a second. However, this still leaves room for the kind of unclarity that is characteristic of vagueness:

At some times, it was unclear whether Rembrandt was old. He was neither clearly old nor clearly not old. The unclarity resulted from vagueness in the statement that Rembrandt was old. We can even use such examples to define the notion of vagueness. An expression or concept is vague if and only if it can result in unclarity of the kind just exemplified. Such a definition does not pretend to display the underlying nature of the phenomenon. In particular, it does not specify whether the unclarity results from the failure of the statement to be true or false, or simply from our inability to find out which. (Williamson 1994: 2)

We can now connect this notion of unclarity to two of the most frequently cited symptoms of vagueness. Firstly, the fact that there was no second at which it was clearly true to say of Rembrandt that he was old, immediately proceeded by a second at which it was clearly false to say of Rembrandt that he was old, may be expressed by saying that the extension of ‘old’ has blurred boundaries. Secondly, the fact that there are times at which it was unclear whether Rembrandt was old may be expressed by saying that ‘old’ gives rise to borderline cases. The idea here is that as long as we do not take a stand on what the underlying source of these symptoms are, we can use them to characterise the philosopher’s technical sense of ‘vague’ without thereby excluding any of the more substantial candidate theories. Without a theory neutral characterisation of vagueness, we could not even be sure that the different theories dealt with the same issues. However, by pointing to examples of the kind given above, and state the relevant features that they have in common, we can achieve a good enough grasp of what philosophers mean by ‘vague’ in order to see that the different theories do have a common subject matter.

As we saw above, the sorites paradox as originally formulated by Eubilides consisted in a series of questions. In the modern philosophical literature it is often given a more rigorous formulation, and it comes in many dif-
ferent versions. But what is it about vague expressions that makes it possible to generate sorites paradoxes? Well, the phenomenon of blurred boundaries can easily be taken to imply that vague predicates fail to draw any sharp boundary at all. As Williamson points out in the quote above, it may seem silly to suppose that there could be a sharp boundary for the predicate ‘is old’ such that it applied to Rembrandt at time $t$ but not at time $t'$, where $t'$ occurs just one second later than $t$. In other words, many of us may feel that just one second cannot make a difference with respect to the correct application of ‘is old’, and more generally, that for any vague predicate $F$, a sufficiently small change along the relevant dimension of comparison for $F$ cannot make a difference for the correct application of $F$. If we take this feeling to trace a genuine semantic feature of vague predicates, we will be inclined to accept that vague predicates are semantically tolerant, and thus obey something like the following principle of tolerance:

(PT) If $F$ is a vague predicate, and $a$ and $b$ are sufficiently similar with respect to $F$, then $Fa$ if and only if $Fb$.  

If vague predicates are tolerant, they can be used to generate sorites paradoxes. Let $a_1, \ldots, a_n$ be a sorites series for the vague predicate $F$. That is to say, let $a_1$ be such that $Fa_1$ is clearly true, let $a_n$ be such that $Fa_n$ is clearly not true, and let every object in the series be such that the difference with respect to the relevant properties between it and the adjacent objects is sufficiently small. Now, if $F$ is tolerant, then for every object $a_i$ and $a_{i+1}$ in the series, if $Fa_i$, then $Fa_{i+1}$. Formally, the paradox runs as follows:

\begin{align*}
(i) & \quad Fa_1 \\
(ii) & \quad \neg Fa_n \\
(iii) & \quad \forall a_i, a_{i+1} (Fa_i \supset Fa_{i+1}) \\
(iv) & \quad Fa_n
\end{align*}

From the premise (i), we reach the conclusion (iv), by iterated application of the inductive premise (iii); but since premise (ii) is true by assumption, we get a contradiction: $Fa_n$ and $\neg Fa_n$. This kind of sorites argument with a universally quantified inductive premise is usually called generalised sorites. We may also dispense with the quantification, and explicitly state each instance of (iii) as a premise. That would result in what is usually referred to as a particularised sorites. We could also vary the quantifiers and connectives in (iii). For instance, we could replace (iii) with the following:

\begin{align*}
(iii') & \quad \exists a_i, a_{i+1} (Fa_i \& \neg Fa_{i+1})
\end{align*}

\footnote{The term ‘tolerance’ was introduced in Wright (1975). See section 2.3 for a more detailed discussion of tolerance.}

13
The result would be what is sometimes called the no sharp boundaries paradox. Or we could replace the material implication in (iii) with the following classically equivalent generalised disjunction:

$$(iii'') \forall a_i, a_{i+1} (\neg F a_i \lor F a_{i+1})$$

Just as in the case of (iii), we could dispense with the quantifiers and use a series of negated conjunctions of the form $\neg(Fa_i \& \neg Fa_{i+1})$ instead of (iii'), or replace (iii'') with its instances. In each case, the paradox will be derivable from the premises by classically valid rules of inference.

Whether or not you take the sorites to pose a serious problem will probably depend a great deal on your philosophical outlook. On the one hand, if you are only interested in the properties of formal methods as applied to artificial languages purged from all the defects of natural languages, you will probably not be much bothered by the fact that natural languages are vague and thus contain (seemingly) sorites-susceptible expressions. Rather, you will presumably feel inclined to follow Frege and other philosophers at the beginning of the analytical tradition in dismissing natural language on the grounds of its defects, including vagueness, and rest content with some brief remarks about why a logically perfect language cannot contain vagueness. As Williamson puts it:

For Frege, a logical calculus is a powerful but delicate engine which cannot tolerate grit. Blurred boundaries make one form of grit. Logic is to be formulated in an artificial language of perfect precision. Vagueness, like madness, must be mentioned in order to be excluded. (Williamson 1994: 37)

On the other hand, if you have a more Wittgensteinian outlook according to which philosophical theorising is to be viewed with suspicion and the proper focus is the actual use of ordinary language, you will probably be as unimpressed by sorites paradoxes as Frege. Although you will recognise vagueness as a real and important phenomenon worthy of study in its own right, you are unlikely to feel threatened by the fact that the application of certain logical rules of inference to natural language seems to generate paradox. These two, quite different philosophical positions could agree that there is no reason to suppose that natural languages should live up to the standards of formal logic. The “logician” will simply dismiss vague language as imperfect, and the “Wittgensteinian” will dismiss the whole idea of applying formal methods to natural languages as misconceived. As Williamson points out, the urgency of the sorites paradox will transpire only when we combine certain elements of these approaches:

Only the standards of formal logic, applied to ordinary language, demand something more: a precise and general answer to the question ‘What forms of
inference are valid in a vague language?’, underwritten by an appropriate theory of meaning for such a language. (Williamson 1994: 72)

This may be one reason why most of the work on vagueness has been conducted in more recent years, when such an intermediate position has become more widely occupied by philosophers of language. The problem that the sorites raises for this approach can be stated as follows: On the one hand, classical logic provides a powerful tool in many areas, and we are also inclined to take classically valid rules of inference to be reliable when we reason with natural languages. On the other hand, sorites paradoxes seem to show that such rules of inference are not reliable, since, given tolerance, they can take us from a clearly true premise to a clearly false conclusion. In order to resolve the paradox, something will have to give way.

Blocking the sorites paradox in all its versions by denying the validity of the reasoning means that we would have to give up several fundamental rules of inference. The particularised versions only require rules like modus ponens and disjunction elimination (when (iii) or (iii’)) are replaced by their instances) in order to go through. And in order to derive a contradiction from the generalised versions, we only need to add universal instantiation. As Dummett (1975: 306) has argued, this seems a great price to pay, given how central these rules are to the meaning of the connectives and the quantifiers. Blocking the paradox by denying (i) or (ii) amounts to denying either that vague expressions have cases of application or that they have cases of non-application. Although this strategy could help us avoid the contradiction, it seems highly problematic in its own right, since it commits us to a fairly obviously false claim.

The most popular strategy for treating the sorites paradoxes is to deny the (strict) truth of (iii), (iii’), (iii’’), or some of their instances. Insofar as all of these are entailed by tolerance, this amounts to a denial of (PT), and insofar as genuine sorites-susceptibility turns on tolerance, this also amounts to denying that vague predicates really are sorites susceptible. Thus, if we want to stay on neutral ground, neither tolerance nor genuine sorites-susceptibility can be taken to be a symptom of vagueness. We will have to rest content with something weaker, for instance that vague expressions appear to be tolerant and sorites-susceptible. Questions about the underlying nature of these phenomena must wait until we leave common ground and start theorising. But before we turn to the main candidate theories of vagueness, there is one final phenomenon of vagueness that we must mention.

---

5 One might also reject the particularised versions without rejecting the inference rules applied in each step, if one is prepared to deny the transitivity of validity. See Keefe (2000: 20) for discussion.

6 Greenough (2003) argues that we can give a more substantial characterisation of the symptoms of vagueness while still remaining neutral between the main candidates.
We have seen that what distinguishes vague predicates from precise ones is that they do not have a clearly demarcated boundary between their cases of application and their cases of non-application. We have also seen that vagueness leaves room for the possibility of borderline cases, i.e. cases for which it is unclear whether or not the predicate applies. So, for each vague predicate, there may be some clear positive cases, some clear negative cases, and some borderline cases. With this threelfold division in hand, we may ask ourselves where the two boundaries enclosing the borderline area are located. We soon realise that those boundaries appear to be blurred in the same way as the one between the cases of application and the cases of non-application. To return to the example above, it seems that the difficulties presented by the question ‘When did Rembrandt become old?’ are also presented by the question ‘When did Rembrandt become clearly old?’ simply because at some times, it was unclear whether it was unclear whether Rembrandt was old. As Williamson and many others have pointed out, the point seems to iterate ad infinitum. If we ask when Rembrandt became clearly old, we will be just as unable to provide an answer as in the cases considered above, and so on for any number of iterations of ‘clearly’. This is known as the phenomenon of higher-order vagueness. Another way to put the point is to say that the terms we use to describe the phenomenon of first-order vagueness, like ‘clearly’ and ‘borderline’ are themselves vague. This gives rise to second-order vagueness, or vagueness in the meta-language. If there is also vagueness in the meta-meta-language, in which we describe the phenomenon of second-order vagueness, there will also be third-order vagueness, and so on. It is widely agreed that an adequate theory of vagueness must be able to accommodate the phenomenon of higher-order vagueness.

1.2 Many-valued theories

If we think that the word ‘old’ is too vague to single out a pair of seconds \( s \) and \( s' \) such that \( s \) immediately precedes \( s' \) and it was false at \( s \) to say that Rembrandt was old, but true to say that Rembrandt was old at \( s' \), then we might feel tempted to introduce a third alternative. For instance, we might say that at some times, it was neither true nor false to say that Rembrandt was old. This amounts to a denial of the principle of bivalence, which says that there are only two truth-values, true and false, and that every sentence that says that something is the case has one of these two values. The idea is

---

7 Not everyone agrees with Williamson. For instance, according to Burgess (1998: 250), “higher-order vagueness (probably) terminates at a fairly low finite level for each vague concept”.

8 However, some authors deny this. See section 7.1 below.
that giving up bivalence can lead to an explanation of the phenomena of vagueness. In particular, this allows us say that the reason why it is unclear to us whether borderline statements are true or false is simply that they are neither true nor false. Likewise, the boundary between cases of application and cases of non-application is blurred since there is no sharp boundary between them. This may look appealing at first sight. As already mentioned, sticking to bivalence may seem somewhat silly in the face of vagueness, so why not just drop it? However, abandoning bivalence also means abandoning the classical logic and semantics package, so in order to sustain a non-bivalent view, we also need to supply an alternative framework.

An early attempt to do so can be found in Sören Halldén’s 1949 book The Logic of Nonsense. Halldén adopts a truth-functional semantics, according to which a complex sentence is true or false just in case all its constituent sentences are true or false. Moreover, whenever all constituents are either true or false, the value of the complex sentence coincides with that which would be given by the classical truth-function. So, in cases where the distinctive features of vagueness are absent, there is no deviation from classical semantics. In other words, Halldén’s semantics satisfies what may be called a weak normality constraint. This is all as it should, but it may be argued that we should require something stronger, namely that when the classical truth-values involved are enough to determine a classical value according to the classical semantics, the many-valued semantics should determine a classical value as well. For instance, a conjunction with one false conjunct and one which is neither true nor false should be false rather than neither true nor false. Similarly, a disjunction with one true disjunct should be true, even when its other disjunct is neither true nor false. However, since in Halldén’s semantics the presence of one constituent sentence which is neither true nor false is enough to make the complex sentence neither true nor false, it does not live up to this requirement. We may put this point by saying that Halldén’s semantics fails to satisfy a strong normality constraint.  

An alternative would be to adopt the strong Kleene-tables, which do satisfy the strong normality constraint. This is exactly what Michael Tye does in constructing his three-valued semantics for vague language. In this way, we preserve more of the classical framework, but we can still appeal to the third truth-value in our account of vagueness. For instance, Tye can block the sorites arguments by claiming that although the reasoning is truth-preserving, and thus valid on his view, one of the premises will be neither true nor false. However, as Tye (1994: 194) himself observes, the Kleene-tables yield some rather implausible truth-value assignments. For instance, both explicit contradictions of the form $p \& \neg p$, which should always come out as false, and trivial implications of the form $p \supset p$, which should always come

---

10 These tables are given in Kleene (1952: 334).
out as true, come out as neither true nor false whenever $p$ is neither true nor false.

These defects seem serious enough, but there is another, even more fundamental problem with three-valued accounts like the ones just sketched. The rationale for introducing a third truth-value was that it seemed impossible to classify all statements involving vague expressions as either true or false. It was thought silly to suppose that there was a second at which it was true to say that Rembrandt was old immediately preceded by a second at which it was false to say that Rembrandt was old. But it seems that it would be at least as silly to suppose that there was a second at which it was true to say that Rembrandt was old immediately preceded by a second at which it was neither true nor false to say that Rembrandt was old, especially if we acknowledge second-order vagueness. More generally, given that this point iterates ad infinitum, as suggested by Williamson, it seems that no finite number of values can help us get around this problem. So, one may think, why not adopt infinitely many values?

Indeed, it may seem that an infinite-valued approach is independently motivated by certain features of vague predicates and the properties which are relevant for their application. Consider the predicate ‘is red’. To say that two colour patches differ with respect to their redness is to say that they are red to different degrees. An intuitively attractive idea is then to treat vague predications as not just true or false, but rather as true to certain degrees, depending on the amount of presence of the relevant property.\(^{11}\) There are various ways to invoke the idea of degrees of truth in order to account for vagueness and there will not be room for careful consideration of all of them in this brief introduction. However, a quick look at some of them should be enough for present purposes.

Kenton Machina (1976) defends a degree theory according to which statements have truth-values represented by the real numbers in the closed interval $[0,1]$, where a statement with value 1 is completely true and a statement with value 0 is completely false. Predicates are taken to be functions from objects to truth-values thus represented. He then goes on to construct a truth-functional semantics as follows:

\[
\begin{align*}
\neg p &= 1 - |p| \\
|p \& q| &= \min(|p|,|q|) \\
|p \lor q| &= \max(|p|,|q|) \\
|p \supset q| &= 1 \text{ when } |p| \leq |q|, (1 - |p|) + |q| \text{ otherwise.}\(^{12}\)
\end{align*}
\]

\(^{11}\) For criticism of this line of reasoning, see Keefe (2000: 92-94) and Williamson (1994: 124-127).

\(^{12}\) Intuitively, negation “flips” the truth-value, a conjunction is just as true as its least true conjunct, and a disjunction is just as true as its truest conjunct.
As regards the quantifiers, the standard connections between & and ∨, and between v and ∃ are not affected by the presence of vagueness, and thus the value of ∀xFx coincides with the value of the conjunction of all instances of Fx, while the value of ∃xFx coincides with the value the disjunction of all instances of Fx. Given Machina’s tables above, this means that the value of ∀xF will be the same as the value of the least true instance of F, and the value of ∃xF will be the same as the value of the most true instance of F.13

Machina’s solution to the sorites paradox turns on the idea that an argument is valid just in case it preserves degree of truth so that the conclusion must be at least as true as the least true premise. Premise (i) can be assumed to be completely true, while the conclusion (iv) can be assumed to be completely false. What about (iii)? Well, since the difference in the relevant respect between adjacent items in a sorites series is very small they will only differ slightly in degree of truth. And according to Machina’s semantics, a conditional whose antecedent is only slightly more true than its consequent will have a value close to 1. This means that all instances of (iii) will take a value close to 1, and this means that (iii) itself will also take a value close to 1. Thus, the sorites argument is invalid, since it takes us from premises which are either completely true or nearly completely true to a conclusion which is completely false.

Unfortunately, truth-functional degree theories like Machina’s do not avoid the kind of problems that we raised against truth-functional three-valued theories above. Although sentences of the form p ⊃ p are always completely true on Machina’s semantics, sentences of the form p&p will come out as less than completely false whenever p takes a value intermediate between 0 and 1. For instance, suppose that |p| = 0.5. Then |¬p| = 0.5, and given Machina’s rule for conjunction, |p & ¬p| = 0.5. Moreover, obvious truths like ¬(p & ¬p) or p ⊃ ¬p will also get the value 0.5, which means that they will be just as false as a contradiction.

So what about dropping truth-functionality altogether? Dorothy Edgington (1996) argues that this is exactly what we should do. She attempts to assimilate degrees of truth, or “verities”, to probabilities by introducing a notion of conditional verity, according to which the value of q given p is the value which would be assigned to q if we were to decide to count p as completely true. It is not obvious that this notion can be understood in a way that allows it to yield a unique value in all cases without collapsing Edgington’s theory into a non-degree-theoretic account.14 But let us bracket this for now and instead focus on how Edgington’s theory (if stable) can provide an alter-

13 For infinite domains, the value of ∀xF will be the greatest lower bound of the values of the instances of F, and the value of ∃xF will be the least upper bound of the values of the instances of F. See Keefe (2000: 87-89) for further discussion.

14 For more on this, see Keefe (2000: 99-100).
native to truth-functional theories like Machina’s. She provides the following non-truth-conditional semantics:

\[
\begin{align*}
\neg p &= 1 - |p| \\
|p \land q| &= |p| \cdot |q| \text{ given } p \text{ if } |p| \neq 0, 0 \text{ otherwise.} \\
|p \lor q| &= |p| + |q| - |p \land q| \\
|p \supset q| &= |\neg(p \land \neg q)|
\end{align*}
\]

In contrast to Machina, Edgington takes the sorites argument to be valid, since it has what she calls the constraining property: the degree of falsity of the conclusion cannot exceed the degree of falsity of the premises (the degree of falsity of \( p = 1 - |p| \)). However, in the sorites, the conclusion inherits a small degree of falsity from each premise, in a way that allows it to come out as completely false. So, on Edgington’s view, the argument is valid, the premises are all at least close to completely true, but the conclusion is completely false.\(^\text{15}\)

Edgington’s theory is not committed to the problematic assignments of truth-values to contradictions. Again, suppose that \( |p| = 0.5 \). Then \( |p \land \neg p| \) will equal 0.5 \* |p given \( \neg p|, \text{ and since } |p \text{ given } \neg p| = 0, \text{ we get the result that } |p \land \neg p| = 0, \text{ and this is just what we wanted. So, the undesirable consequences of Tye’s and Machina’s theories do not depend on the introduction of more truth-values per se, but rather the combination of this move and the commitment to a truth-functional semantics. Once the latter is abandoned, we can provide a semantics for negation and conjunction which delivers the desired result that all contradictions are false regardless of the values of their constituents.}

What about the worries about higher-order vagueness? Well, the real numbers in the closed interval \([0,1]\) are densely ordered, so even if the point made above iterates \textit{ad infinitum}, we will never run out of values to assign to borderline cases of any order. But the main point still seems to stand. If it is silly to suppose that there was a second at which it was true to say that Rembrandt was old immediately preceded by a second at which it was false to say that Rembrandt was old, is it not also silly to suppose that there is a second at which it was completely true to say that Rembrandt was old immediately preceded by a second at which it was less than completely true to say that Rembrandt was old? The introduction of infinitely many values does not remove the sharp boundary between complete truth and less than complete truth.

One may attempt to meet the worry that many-valued theories are committed to the existence of boundaries between complete truth and less than

\(^\text{15}\)Strictly speaking, this only holds with respect to the particularised version. I cannot do full justice to Edgington’s treatment of the different versions of the sorites here. The interested reader is referred to Edgington (1992) and (1996).
complete truth by claiming that the meta-language in which the assignments are made is vague. On the degree-theoretic account of vagueness, this would mean that the first-order assignments themselves are only correct to certain degrees. So, it may be claimed that just as there is no second at which it was true to say that Rembrandt was old immediately preceded by a second at which it was false to say that Rembrandt was old, there is no second at which it was completely true to say that it was completely that Rembrandt was old immediately preceded by a second at which it was completely true to say that it was less than completely true that Rembrandt was old. Both of these assignments of values may themselves take intermediate values.\footnote{This strategy is suggested by Edgington (1993: 200), but she does not show how it can be implemented. See also Keefe (2000: 118).}

However, as Rosanna Keefe points out, it is far from clear that the degree-theorist can consistently appeal to vague meta-languages in order to deal with higher-order vagueness. Recall that the main motivation for the introduction of degrees of truth was that since vague statements can take values intermediate between complete truth and complete falsity, any classical bivalent assignment should be rejected as inadequate. But if the first-order assignments of degrees of truth are themselves only true to intermediate degrees, there seems to be just as good reasons for rejecting these first-order assignments as inadequate. Consider the following example given by Keefe:

Suppose, for a given \( p \), ‘\( p \) is true to degree 0.8’ is true only to degree 0.9, and this is the highest value of any sentence of the form ‘\( p \) is true to degree \( x \)’ for the specified \( p \) (so, e.g., it is not also degree 1 true that \( p \) is true to degree 0.9). Can it be appropriate to assign \( p \) any (first-order) truth-value? The best candidate value must be 0.8 but the same faults are evident in saying (without qualification) that \( p \) is true to degree 0.8 as there are in saying that \( q \) is true simpliciter when \( q \) is only true to degree 0.9. (Keefe 2000: 118)

Although we have not discussed all aspects of many-valued theories of vagueness, it seems clear that there are many problems with this approach which lack a straightforward solution.\footnote{For a more detailed and extensive criticism of many-valued theories, see Keefe (2000: chapters 4 and 5), and Williamson (1994: chapter 4).} In fact, it is quite widely agreed that the prospects for a many-valued treatment of vagueness are rather dim. However, it is certainly not widely agreed that we should stick to the principle of bivalence. In the next section we look at another kind of theory which, just like the many-valued theories, rejects bivalence, but nevertheless aims to preserve classical logic.
1.3 Supervaluationism

The term ‘supervaluation’ was coined by Bas van Fraassen, who developed this technique in order to be able to deal with non-referring singular terms and the liar paradox. It was first applied to vagueness by Henryk Mehlberg (1958), and among its more recent proponents we find Kit Fine (1975), David Lewis (1993), and Rosanna Keefe (2000). The presentation below will focus on Keefe’s defence of supervaluationism, and many technical subtleties will be omitted in order to keep the presentation brief and easy to follow.

Supervaluationists agree with the many-valued theorists’ claim that borderline case predications are neither true nor false, but they reject the idea that they take some specific (numerical) value. On the one hand, such predications give rise to truth-value gaps, and this means that the principle of bivalence fails, but on the other hand, the supervaluationists want to preserve classical logic. This may seem impossible, but the supervaluationist has an elegant way of making classical logic available without committing herself to the kind of precision that seems incompatible with vagueness. By imposing a precisification on each vague predicate, i.e. making it precise by filling in the gaps with classical truth-values, we could achieve the precision required for applying classical logic. However, since there are many different, equally good precisifications, choosing one of them would be arbitrary. What the supervaluationist suggests is that instead of imposing a single precisification on each predicate, we should take into account all admissible precisifications.

A precisification is admissible only if it obeys certain constraints. For example, it must preserve truth (falsity) for non-borderline predications and all other unproblematic cases; a precisification that draw boundaries for ‘tall’ and ‘short’ that makes sentences like ‘Bill is tall, and John is taller than Bill, but John is not tall’ or ‘Bill is tall and Bill is short’ come out true will not be admissible. Constraints like these are usually referred to as penumbral connections, since they serve to endow the borderline area (sometimes called the penumbra) with an internal structure. Moreover, all classical logical laws and theorems should be preserved on each admissible precisification.

But if all classical laws are to be preserved on each admissible precisification, then in particular, the law of the excluded middle (LEM) is preserved on each admissible precisification. Given the standard disquotational properties of truth, bivalence follows from LEM, so how can the supervaluationist reject bivalence while sticking to LEM? The key lies in the introduction of the notions of supertruth and superfalsity.

---

18 See van Fraassen (1966), (1968), and (1969).
19 See also section 2.1 below.
A sentence is supertrue (superfalse) iff it is true (false) on every admissible precisification.

A sentence that is neither supertrue nor superfalse is indeterminate. Supertruth is then identified with truth simpliciter, so that a sentence is true iff it is true on every admissible precisification, false iff it is false on every admissible precisification, and indeterminate iff it is neither supertrue nor superfalse.

This move makes it possible to preserve the validity of LEM while at the same time denying bivalence, and so allow for indeterminate sentences. Consider any instance of the schema $p \lor \neg p$, such that $p$ has different classical truth-values on different admissible precisifications. Since each admissible precisification stipulates sharp boundaries for all predicates, $p \lor \neg p$ will be true on every admissible precisification, and hence supertrue. But this does not conflict with the fact that $p$ is indeterminate: since $p$ has different classical truth-values on different admissible precisifications, $p$ is neither supertrue nor superfalse. Consequently, bivalence may fail for sentences containing vague expressions. Similar remarks hold for existentially quantified sentences as for disjunctions: since different instances could make it classically true on different precisifications, the existentially quantified sentence itself may be supertrue, even if all of its instances are indeterminate. This means that the supervaluationist semantics is not truth-functional.

By invoking this framework, the supervaluationist can block the sorites paradox in an elegant way. Since on each admissible precisification, there are sharp boundaries of application for all predicates, each precisification will be such that one instance of (iii) is false, and hence (iii) itself is superfalse. This means that the argument itself is unsound. The solution of the particularised version is slightly different. Since no instance of (iii) is superfalse, no premise of the particularised sorites argument is superfalse. However, no borderline predication is true on all precisifications, so some premises of the sorites argument will always be less than supertrue. So, the supervaluationist can still deny the truth of some of the premises.

But what about higher-order vagueness? It may seem that each sentence is either true on all admissible precisifications or it is not. So, it may seem that each sentence is either (super)true or not, and thus that there is no way to avoid a sharp boundary between true predications and borderline predications. However, this depends on the assumption that the meta-linguistic expression ‘admissible precisification’ is not vague, and Keefe argues that we have good reasons to reject this assumption:

"The notion ['admissible precisification'] corresponds to 'acceptable way of making all expressions precise', and it is natural to expect vagueness over what counts as acceptable here. For example, it is acceptable to make 'tall' precise by drawing a boundary at 6 feet 0 inches but not by drawing one at 5"
feet 0 inches, and there is no point between these two heights which determinately marks a point of sudden change from being an acceptable boundary to an acceptable one. (Keefe 2000: 203)

Since the supervaluationist does not purport to ascribe any exact values at any level, there are no obstacles to adopting a vague meta-language of the kind facing the degree theorist. However, one may feel tempted to object that this move is unacceptable anyway since it allows for the sorites to be formulated within the theory of vagueness itself, and thus threatens to make the theory inconsistent. According to Keefe, such an objection is misplaced since the supervaluationist has a solution to the paradox. For each level, there is a solution to the paradox available, but just as we need to ascend to the meta-language to explain the solution to the first-order sorites, we need to ascend to the meta-meta-language to explain the solution to the second-order sorites, and so on. Keefe contends that such iteration is innocuous, and that it does not lead to any vicious infinite regress. It just reflects the fact that the vague is not reducible to the non-vague.  

But even if Keefe is right that the supervaluationist can deal with higher-order vagueness in an adequate way, the theory will be stuck with some rather counterintuitive consequences. We have already seen that in order to be able to preserve LEM while rejecting bivalence, the supervaluationist must adopt a notion of truth according to which the following schema fails:

\[ (T) \text{ ‘p’ is true if and only if } p. \]

It seems that (T) captures a central feature of the ordinary notion of truth. Indeed, we may even follow Tarski (1943) and claim that a truth-predicate for which (T) fails, cannot be our ordinary truth-predicate. But then, since (T) fails for supertruth, the equation of supertruth and truth simpliciter is mistaken. Keefe tries to fend off this objection by showing that the observations that seem to support (T) really do not commit us to anything that the supervaluationist must disagree with. Nevertheless, if we still feel that abandoning (T) would be too high a price to pay, we will have a strong reason for rejecting supervaluationism.  

The supervaluationist semantics is not truth-functional, and thus it does not get stuck with the same kind of problems as many-valued truth-functional theories. However, since LEM holds on each precisification, all disjunctions of the form \( p \lor \neg p \) will be supertrue even when \( p \) is indeterminate. We thus get the weird result that a disjunction may be true even though none of its disjuncts are true. Similarly, the supervaluationist is committed to

---

20 See Keefe (2000: 202-211) for a more extensive defence of this strategy.
21 If \( p \) is a natural language sentence, we might have to modify the T-schema in order to accommodate indexicality and other forms of context-dependence, but that does not matter for present purposes.
the truth of existentially quantified sentences which lack true instances. Consider, for instance, the negation of (iii') (the major premise of the no sharp boundaries paradox), which says that $F$ is sharply bounded with respect to the sorites series $a_1, \ldots a_n$:

$$(SB) \exists a_i, a_{i+1}(Fa_i \land \neg Fa_{i+1})$$

Even though no instance of a sentence of this form is supertrue when $F$ is vague, the existentially quantified sentence itself is supertrue, since on each precisification, one of its instances is true. On the basis of these observations, the supervaluationist can be charged with seriously misconstruing the meaning of disjunction and the existential quantifier. Moreover, the main motivation for rejecting bivalence is to avoid commitment to sharp boundaries. But (SB) just says that $F$ has sharp boundaries, and the supervaluationist is committed to the truth of (SB) no matter which vague predicate we substitute for $F$ (given that it has cases of application and cases of non-application). Keefe argues that these costs are easily worth paying given the overall advantages of the supervaluationist theory, but this is a claim that opponents of the theory are likely to disagree with. In particular, one may feel that if adopting the supervaluationist theory with all its counterintuitive consequences would also commit us to the truth of (SB), we might just as well try to hang on to bivalence, and see how far we can get without abandoning the classical framework.

### 1.4 The epistemic view

Given the problems facing the non-classical alternatives discussed above, perhaps we should not be so quick to assume that the principle of bivalence must be rejected in order to capture the phenomena of vagueness. This is the idea behind the epistemic view of vagueness, whose most prominent defender is Timothy Williamson. His suggestion is that we should, at the very least, make a serious effort to see how far we can get within the classical framework before we attempt any revision of our logic or semantics. We should keep our logic and semantics fixed in order to discipline our philosophical thinking. Williamson (1997: 218) conjectures that “in the long run the results of discipline will be more satisfying from a philosophical as well as from a logical point of view”.

---

22 This is one of the charges that Bertil Rolf (1984: 232) makes against the supervaluationist account. See Keefe (2000: 182-183) for a reply.

23 The other main proponent of epistemicism is Roy Sorensen (1988), (1998) and (2001). The earliest defence of epistemicism (to my knowledge) is that given by James Cargile (1969).
On the epistemic view, predicates have sharply bounded extensions, and classical logic and semantics can be retained in their entirety. Thus there is no need to supply an alternative logic or semantics, and the sorites paradox is easily solved. Since the principle of tolerance is simply rejected, the crucial steps of the different versions of the sorites which were motivated by appeal to tolerance (like (iii), (iii') and (iii'')) can be taken to be straightforwardly false. So, with respect to the logic and semantics for vague language, the epistemic view offers a very simple account. However, the claim that vague predicates really have sharply bounded extensions may seem outrageous to many, and is often met with an incredulous stare. Of course, a stare does not constitute an objection, but to anyone who has reflected on vagueness will immediately see that the epistemicist’s bold claim raises a number of questions. Williamson too realises that there is some explanatory work to be done, and the result of his attempts to deal with these central questions constitutes the basis of his theory of vagueness.

If vague predicates do not lack sharp boundaries, what is it that makes them vague? One may feel tempted to object that the epistemicist simply fails to take vagueness seriously, since vagueness just is lack of sharp boundaries. However, such temptations should be resisted, since this would be to assume a characterisation of vagueness which already excludes the epistemic view. We have seen above that it is possible to give a neutral characterisation of vagueness which leaves open the question of whether or not the unclarity characteristic of vague expressions results from lack of sharp boundaries or merely ignorance of sharp boundaries. The epistemicist does take the phenomena of vagueness seriously, but argues that the underlying phenomenon is best characterised as a form of ignorance, and accordingly tries to account for the symptoms of vagueness in purely epistemic terms.\footnote{As we will see below, Williamson’s epistemicism is in fact “impure” in the sense that his explanation of our ignorance relies on a certain instability in the meaning of vague expressions. See also Åkerman & Greenough (forthcoming).}

But what is it that we are ignorant of, and what is it about this ignorance that distinguishes it from other forms of ignorance? After all, there are many forms of ignorance that do not give rise to the phenomena of vagueness, and there are many things that we can know even in the face of vagueness. Williamson assimilates the kind of knowledge that we have about vague expressions to a more general phenomenon, namely inexact knowledge. The strategy is to give an independent account of inexact knowledge, and then account for the kind of ignorance which constitutes vagueness in terms of the more general phenomenon. So what is inexact knowledge then? Williamson suggests that this notion is best understood via examples, and lists vision, hearing, touch, smell, taste, memory, and testimony as potential sources of inexact knowledge:
In each case, the knowledge is inexact. One sees roughly but not exactly how many books a room contains, for example: it is certainly more than two hundred and less than twenty thousand, but one does not know the exact number. Yet there need be no relevant vagueness in the number. The inexactness was in the knowledge, not in the object about which it was acquired. (Williamson 1994: 217)

In general, inexact knowledge requires a *margin for error*. For instance, if there are in fact exactly eight thousand books in the room, I cannot come to know this just by looking into the room, even if I happen to arrive at the true belief that the room contain eight thousand books. I may gain some knowledge just by looking, like the one described in the quote above, but in order to come to know that the room contains exactly eight thousand books I need to use some other method – for instance, counting the books carefully – which allows me to arrive at such exact knowledge.25 Another way to put this is to say that my knowledge needs to be *safe*. This means that in general, if there is a possible situation $S'$ that I cannot distinguish from the present situation $S$ as long as I stick to the same method $M$ that I am using to try to gain knowledge, then, if it is false that $p$ in $S'$, I cannot come to know that $p$ in $S$ by using $M$, even if it is in fact true that $p$ in $S$ and I come to believe that $p$ in $S$ by using $M$. A true belief that is not safe is not reliable enough to count as knowledge, and when our potential sources of knowledge only give us inexact knowledge, safety requires that we leave a margin for error. So, when knowledge is inexact, a *margin for error principle* obtains:

(M) ‘$A$’ is true in all cases similar to cases in which ‘It is known that $A$’ is true.

If this is right, then, inexactness is a general phenomenon which infects any judgement that is based on certain methods, including precise judgements like ‘The room contains eight thousand books’. So what is it about vague judgements that distinguishes them from precise ones, and how can principles like (M) help us explain the phenomena of vagueness? According to Williamson, the distinctive source of the inexactness which infects vague judgements is the instability of the meaning of vague terms, which in turn means that the boundaries of vague predicates like ‘thin’ are unstable, even though they are sharp:

Suppose that I am on the ‘thin’ side of the boundary, but only just. If our use of ‘thin’ had been very slightly different, as it easily could have been, then I should have been on the ‘not thin’ side. The sentence ‘TW is thin’ is true, but could very easily have been false without any change in my physical meas-

25 I might not be able to reliably count the books on my own, but the point is just that there are methods for arriving at exact knowledge, distinct from the methods that only give you inexact knowledge.
urements or those of the relevant comparison class. Moreover, someone who utters the sentence assertively could very easily have done so falsely, for the decision to utter it was not sensitive to all the slight shifts in the use of ‘thin’ that would make the utterance false. (Williamson 1994: 231)

This means that beliefs about cases that are sufficiently close to the boundary for ‘thin’ cannot be safe enough to count as knowledge, since beliefs about such cases do not have the required margin for error. Meaning supervenes on use, and since we have no method by which we can gain exact knowledge about either the pattern of use or the supervenience relation, our knowledge about the boundaries is inexact. We can know the status of some clear cases, but the exact location of the boundary remains concealed from us. In this way, one can argue for the conditional claim that if vague predicates have sharp boundaries, we shall not be able to find them. Thus, our inability to find them should not count as evidence that they do not exist. The idea here is that margin for error principles can both explain our ignorance of the boundaries, and undermine a popular reason for resisting the epistemic view of vagueness.

Even if Williamson is right that there is this distinctive kind of obstacle to knowledge about borderline cases, one may have some doubts about the explanatory power of his account. Keefe complains that his explanation of why many philosophers hold a strong belief that there are no sharp boundaries is implausible and uncharitable:

We do not generally believe something does not exist just because we cannot find it. Our reasons for believing that are no sharp boundaries include, for example, the thought that nothing could determine sharp boundaries (…). At the very least there is a further task for the epistemicist to complete. (Keefe 2000: 72)

According to Keefe, explaining away the intuitions that run counter to the epistemic view requires explaining why we do believe that vague predicates lack sharp boundaries, rather than explaining why we cannot know where the boundaries are (if there are any). Knowing that \( p \) requires believing that \( p \), but if we do not even take this first step towards knowing that \( p \), how can there being an obstacle to knowing that \( p \) explain why we in fact do not know that \( p \)\? An obstacle to knowledge that is never encountered cannot explain our ignorance unless recognition of this obstacle prevents us from trying to gain knowledge. But, as Keefe points out, it cannot reasonably be assumed that those of us who believe that vague predicates lack sharp boundaries recognise the epistemicist explanation of why knowledge of such boundaries (if they exist) is impossible. So if the epistemicist were to follow
this strategy, he would still owe us an explanation of why we believe that we cannot gain such knowledge.\textsuperscript{26}

Another worry about Williamson’s account of our ignorance in borderline cases concerns our knowledge and understanding of vague expressions. In order for a speaker to know that an utterance $u$ of a sentence $A$ says that $p$, it seems that ‘$A$ says that $p$’ must be true in all cases similar to the situation in which $u$ was made. But if the meaning of $A$ varies across such cases, as it will if $A$ is vague and Williamson’s view is right, $A$ will express different propositions in relevantly different but similar cases, and thus ‘$A$ says that $p$’ will not be true as uttered in such cases. Hence, the speaker’s belief that her utterance of $A$ means that $p$ is not safe, and thus cannot count as knowledge according to Williamson’s own standards. So, it seems that the epistemic view prevents us from knowing what we mean by our own utterances.

Williamson considers two alternative reactions to this line of objection. The first option is simply to concede that speakers only roughly know what their utterances mean, and that they cannot uniquely identify their meanings. The second option is less sceptical, and consists in an attempt to show that the fact that our vague words could easily have had different meanings than the ones they actually have need not undermine our knowledge of what our utterances containing them say. Williamson develops an analogy with our ability to recognise faces. Arguably, we can know who someone is by seeing her face although there could easily have been someone else who is facially indistinguishable from the known person. The mere possibility of such a look-alike does not undermine our ability to recognise the person.\textsuperscript{27} According to Williamson, the same goes for recognition of meaning:

Similarly, why should our ability to recognize the meaning of utterances in our language be undermined by the mere possibility of indiscriminably different meanings? It is not as though such meanings need be actually present in the language. In particular, slight differences in use between speakers do not generate indiscriminably different meanings, for linguistic meaning is socially determined. (Williamson 1994: 236)

Williamson develops the analogy further, and compares the ability to locate a given person on a continuum of possible people with the ability to locate the actual meaning on a continuum of possible meanings, and argues that neither of these abilities is required in order to be able to recognise faces or meanings, respectively. With respect to meanings, knowledge only requires that the expression is used within the appropriate practice. There is no need to know metaphysical facts like ‘Anyone with exact physical measurements $m$ is thin’ in order to count as fully understanding ‘thin’:

\textsuperscript{26} For a more detailed discussion, see Keefe (2000: 70-72).
\textsuperscript{27} Even the existence of some such look-alike need not undermine it given that the look-alike is not actually present in the neighbourhood. See Williamson (1994: 236).
On the epistemic view, our understanding of vague terms is not partial. The measure of full understanding is not possession of a complete set of metaphysically necessary truths but induction into a practice. (…) To know what a word means is to be completely inducted into a practice that does in fact determine meaning. (Williamson 1994: 211)

In a nutshell, then, Williamson takes meaning and sharp boundaries to be determined by use, and he takes knowledge of meaning to consist in being a member of the linguistic community rather than having knowledge of the boundaries determined by the communal use. But what does he have to say about the charge above that speakers’ beliefs about what their utterances say cannot count as knowledge according to his own standards? Well, Williamson takes the content of thoughts in general to be determined by the very same facts that determine contents of utterances, and on this view it is simply false that there are relevantly similar counterfactual situations in which utterances of sentences of the form ‘A says that p’ express something false. This kind of co-determination guarantees that we can have safe beliefs about the contents of our utterances:

An utterance of ‘TW is thin’ and a thought that TW is thin supervenes on the same facts. So if I think that my utterance of ‘TW is thin’ says that TW is thin, what determines what the utterance says is the same as what determines what I think the utterance says. No gap need open between what one means and what one thinks one means when the same facts determine both. I know that my utterance of ‘TW is thin’ says that, and is therefore true if and only if, TW is thin. (Williamson 1994: 209-210)

So, on Williamson’s view, just as utterances containing vague words can express different contents in different possible cases depending on our overall pattern of use, the content of beliefs containing vague concepts, like the belief that TW is thin, can also vary with these very same facts.28 This means that although the belief that TW is thin is not safe (since there are relevantly similar cases where the boundary drawn by the concepts used is located in a way that makes TW fall on the other side of it), the belief that ‘TW is thin’ means that TW is thin will be safe, since the thought and the utterance will express the same content in all relevantly similar cases. On this view, then, the belief that TW is thin can express different contents in different cases, and thus it seems that Williamson needs a notion of belief according to which a belief is not determined by its content. As Keefe (2000: 74) points out, this seems problematic, and it could be questioned whether such a notion of belief is at all viable. What does it mean for the same belief to have

28 Williamson explicitly extends his points about the instability of public language sentences to both idiolects and concepts. For more details, see Williamson (1994: 231-232).
different contents, and how can beliefs be individuated if not by their content?  

Finally, it is far from clear that Williamson has provided a satisfactory explanation of how the alleged sharp boundaries of vague predicates are determined. It is not enough to say that meaning is somehow determined by our use. The challenge for the epistemicist is to show that our use can single out a unique function from use to precise extensions. Keefe explicates this line of objection as follows: Consider a function \( f \) which assigns precise extensions to all vague predicates. Now, consider a slightly different function \( f^* \), which is exactly like \( f \) except that it is marginally stricter regarding the membership of just a few extensions. Both of these functions assign a precise set of objects to each predicate; call the sets assigned by \( f \) extensions and the sets assigned by \( f^* \) extensions*. Now, the challenge for the epistemicist is to provide an answer to the following question:

Why is it extensions rather than extensions* that play the role we associate with meanings in, for example, determining the truth-conditions of sentences? What could it possibly be that singles out the uniquely correct extension-determining function? (Keefe 2000: 81)

Similar objections can be raised against any theory according to which a unique function is privileged. For instance, a degree theorist who claims that vague statements take on precise degrees of truth determined by our use will face the same kind of difficulty as the epistemicist. Here the choice might be between a function according to which \( p \) is true to degree 0.321 and another function according to which \( p \) is true to degree 0.322. Again, we could ask what could possibly determine which function is the correct one. The problem cannot be avoided simply by allowing for (infinitely) many precise values rather than just the classical ones. The supervaluationist, however, might claim that since she takes the whole range of (admissible) functions into account rather than making an arbitrary choice between them, the problem does not arise for her theory.

To sum up, then, the most popular accounts of vagueness face rather serious difficulties. However, even if one recognises that one’s theory have peculiar consequences, one may feel reluctant to abandon it if one is convinced that it is the best possible theory. For instance, Lewis (1993: 29) says that once one understands the supervaluationist framework properly, one can also learn to accept that some supertrue existential generalisations have no super-

---

29 As we will see in chapter two, a certain version of contextualism about vagueness invokes a level of content which allows for shifts in truth-value even when both the content and the facts about the subject matter are held fixed. Perhaps such a distinction between different levels of content could also be of use to the epistemicist?

30 Keefe (2000: 114) makes this point, and goes on to examine the possible responses, including the appeal to vague meta-languages discussed above. See Keefe (2000: 115-124) for more details.
true instance. Similarly, Keefe (2000: 182) argues that such awkward features should be accepted because they are part of a theory that is altogether very successful, at least compared to the main contenders. On the assumption that we have all the viable options on the table, and that we have to choose one of them, this reaction is quite natural. If the choice is between a number of theories, all of which have more or less bad consequences, it makes sense to choose the one that fares best on an overall comparison. Arguing for one’s preferred theory then becomes a matter of showing that its bad consequences are not as bad as the ones of the competing theories, or that accepting them is a price worth paying given the superiority of the theory in other respects. However, if one believes that neither of the options considered above is the best possible, it makes more sense to look for further alternatives. In the remainder of this essay, we shall focus on one such alternative, according to which vagueness is to be understood as a specific form of context sensitivity.

---

31 This methodology will be further discussed in chapter section 7.2 below.
2. Contextualism about Vagueness

2.1 Vagueness as a species of context sensitivity

The idea that vagueness should be accounted for in terms of context sensitivity can be implemented in a theory of vagueness in many different ways. In this essay, I will explore a certain kind of contextualism about vagueness, which has been proposed in slightly different forms by Diana Raffman (1994, 1996), Scott Soames (1999), Delia Graff Fara (2000), and Stewart Shapiro (2006). In this chapter, I shall try to capture the common core of these theories by stating a number of key theses. The generic theory comprised by these key theses is thus intended to be neutral between the different versions suggested by these authors. In what follows, the term ‘contextualism’ will be used to refer to this family of theories, unless otherwise indicated.

It is widely agreed, even among those who are strongly opposed to contextualism about vagueness, that many vague expressions are context sensitive in a number of ways. For instance, expressions like ‘tall’ and ‘rich’ are sensitive to differences in comparison class. This means that the truth-value of an utterance of ‘John is tall’ can vary depending on whether we are discussing the tallness of professional male basketball players or professional female dancers, since the members of the comparison classes operative in these respective contexts will have significantly different length properties. Another example is indexical expressions like ‘I’, ‘now’, and ‘here’, which are sensitive to agent, time, and place, respectively. Sentences containing any of these expressions may express different contents relative to different contexts of utterance. But as the opponents to contextualism point out, these uncontroversial kinds of context sensitivity are clearly distinct from vagueness. As Williamson puts it:

Vagueness and context dependence are separate phenomena. The word ‘now’ is not vague merely because its reference depends on the time of utterance. Conversely, vagueness remains even when the context is fixed. In principle, a vague word might exhibit no context dependence whatsoever. In practice, the lack of natural boundaries for vague words makes context dependence hard to avoid, but that is an empirical correlation, not an a priori law. (Williamson 1994: 215)
Here is a passage from Keefe in which she makes the same point:

Vagueness must not be straightforwardly identified with paradigm context-dependence (i.e. having different extensions in different contexts), even though many terms have both features (e.g. ‘tall’). Fix on a context which can be made as definite as you like (in particular, choose a specific comparison class, e.g. current professional American basketball players): ‘tall’ will remain vague, with borderline cases and fuzzy boundaries, and the sorites paradox will retain its force. This indicates that we are unlikely to understand vagueness or solve the paradox by concentrating on context-dependence.

(Keefe 2000: 10)

Contextualists about vagueness deny the claim that the vagueness of a predicate should not be identified with context sensitivity. However, they can happily agree with both Williamson and Keefe that vagueness should not be identified with more familiar instances of context sensitivity. An expression like ‘tall’ is not vague because it can have different extensions relative to different comparison classes, and ‘now’ is not vague because its extension varies with the time of the utterance. Although the contextualist claims that vagueness consists in having different extensions in different contexts, she does not claim that variability with these familiar contextual factors has anything to do with vagueness. The contextual factors that are associated with vagueness are quite different. As we will see in chapter three, there are several suggestions as to what these contextual factors are. In what follows, it will be convenient to have a placeholder notion which is neutral between these alternatives. Therefore, let us refer to these contextual factors as the V-factors. Given this, the first crucial principle of contextualism about vagueness can be stated as follows:

(CV1) The vagueness of an expression consists in that its extension is sensitive to shifts in the V-factors.

However, these contextual extension shifts are not unconstrained. Not all items in a typical sorites series are such that the V-factors are relevant for their belonging to the extension of the vague expression or not, since some items at each end of the spectrum – call them the clear cases – are already guaranteed to fall inside or outside the extension. This idea is more or less explicitly stated as part of the contextualist theories considered here. Raffman (1994: 67) takes clear cases to be limiting cases that lie in the same category relative to all contexts that differ at most with respects to the V-factors. Fara (2000: 57) takes vague expressions to obey clear case constraints, determining ranges of cases for which it will be mandatory or not permissible, respectively, to count them as positive instances. No matter how the boundary shifts due to variation in the V-factors, it can never shift in such a way as to make it permissible to count a clearly not red item as a posi-
tive instance of ‘red’. On Soames theory, vague predicates have what he calls default determinate-extensions and anti-extensions:

The default determinate-extension of $F$ is the set of things that the commun-
unitywide rules or extensions of the language (plus relevant non-linguistic
facts) determine that the predicate applies to. The default determinate-
antiextension consists of the things that the conventions of the language (plus
non-linguistic facts) determine that the predicate does not apply to.
(Soames 1999: 209)

The variation in extension is limited to the initially undefined cases, i.e. the
objects that are not in the default determinate-extension or anti-extension.
Similarly, Shapiro (2003: 40) defines a sentence to be determinately true if
our “thoughts and practices in using the language have established truth con-
ditions for the sentence, and the non-linguistic facts have determined that
these conditions are met”.32 Determinate falseness is analogously defined,
and like Soames, Shapiro takes the variations in extension to be constrained
in that they cannot affect the semantic status of determinate cases. More
generally, something to the effect of the following principle is part of all
contextualist theories:

(CV2) The V-factors cannot determine an extension for a vague expression
$E$ such that positive clear cases fall outside the extension of $E$ or negative
clear cases fall inside the extension of $E$.

There are also principles that govern how extensions are determined with
respect to the unclear or indeterminate cases, i.e. the borderline cases. Fara
(2000: 57) lists a number of constraints on the contextually determined ex-
tensions of vague predicates. Firstly, there are relational constraints, accord-
ing to which an object $a$ that has at least as much of the relevant property as
an object $b$ cannot fall outside the extension if $b$ falls in it. For instance, if $a$
is at least as tall as $b$ it cannot be the case that $b$ but not $a$ falls in the exten-
sion of ‘is tall’. Secondly, there are coordination constraints according to
which an object cannot fall in the extensions of incompatible predicates. For
instance, the V-factors cannot determine that $a$ is both tall and short.33 Al-
though such penumbral constraints are not always explicitly stated, they are
widely agreed upon among theorists of vagueness.34 There is no reason to

32 See also McGee & McLaughlin (1994), from which Shapiro borrows this formulation.
33 Note that the constraints discussed here only hold fixed. For instance, one may be tall relative to one comparison class and short rela-
tive to another, some people may count as clearly tall with respect to one comparison class but
not relative to another one, and $a$ may not count as tall relative to one comparison class while
$b$ counts as tall relative to another comparison class even though $a$ is at least as tall as $b$.
34 For instance, the failure of truth-functional many-valued theories to meet such constraints
(see section 1.2 above) is widely agreed to count against such theories.
think that contextualism is an exception in this respect. Given this, the following principle should be included in the generic contextualist account:

(CV3) The extensions determined by the V-factors respect relational and coordination constraints.

Relational constraints guarantee that as long as the sorites series is monotonic, the V-factors will divide the series in such a way that the positive cases are separated from the negative cases. If we take the V-factors to determine a status for all items in the series, they will determine a boundary between the positive and the negative cases, and if we take the extensions to be gappy, the gap will be located between the positive and negative cases, as expected.

2.2 Open texture and judgement dependence

While there are certain clear or determinate cases that are not affected by variations in the V-factors, it is also essential that there is scope for unclear or indeterminate cases, since otherwise there would be no scope for the kind of contextual variation mentioned in (CV1), and thus there would be no vagueness according to the contextualist. In other words, there must be room for extension shifts due to shifts in the V-factors in order for there to be room for vagueness. Shapiro expresses this idea in terms of what he calls the open-texture thesis:

Suppose (…) that $a$ is a borderline case of $P$. I take it as [a] premise that, in at least some situations, a speaker is free to assert $Pa$ and free to assert $\neg Pa$, without offending against the meaning of the terms, or against any other rule of language use. (…) The rules of language, as they are fixed by what we say and do, allow someone to go either way. (Shapiro 2006: 10)

The term ‘open texture’ is borrowed from Friedrich Waismann (1968), who held that most empirical concepts are open-textured in that there are possible cases in which meaning and facts allow either verdict. Shapiro cites Crispin Wright (1987: 244), Mark Sainsbury (1990: §9), and Soames (1999: 210) as other supporters of the open-texture thesis concerning borderline cases of vague predicates.

One may think that open texture entails that it is entirely up to the speakers how vague predicates should be applied in the borderline area, at least as long as the relevant constraints are respected. Indeed, Shapiro takes open texture to entail judgement dependence:

Since, by open-texture, borderline cases can go either way, the judgments of otherwise competent subjects determine whether the man is bald in the rele-
vant conversational (or psychological) context. (...) Every vague predicate is judgment-dependent in its borderline area (at least). (Shapiro 2006: 40)

However, it is important to note that open texture does not entail that borderline cases can go either way, or that competent speakers’ judgements determine the status of borderline cases. The open-texture thesis as formulated above only says that the meaning of the terms (together with the relevant facts) does not determine borderline cases one way or the other, and thus it is compatible with there being other factors that determine correct application in the borderline area. For instance, the V-factors may determine the status of a certain borderline case before any judgement has been made. To be sure, open-texture is compatible with the V-factors being determined by competent speakers’ judgments, but from the mere fact that certain factors fail to determine the status of borderline cases, it does not follow that their status is determined by the speakers’ judgements. Indeed, if we drop the idea that the V-factors (partly) determine the extensions of vague expressions, we may accept open-texture and still deny that anything at all determine the status of borderline cases.

The idea that vague predicates are judgement dependent plays a central role in several contextualist accounts. Soames does not use this very term, but since he takes speakers to have a discretion to include previously undefined items in the extension or anti-extension of vague predicates by explicitly characterising them one way or the other, he clearly subscribes to the main idea. Raffman and Shapiro express their commitment to judgement dependence in terms of the following biconditional and the circumstances under which it is claimed to hold.

(B) An item lies in a given category if and only if the relevant competent subject(s) would judge it to lie in that category.

While Raffman restricts the biconditional (B) to vague predicates, Shapiro boldly suggests that it is at least largely correct for a vast range of predicates in public languages. To be sure, (B) has exceptions, and Shapiro also emphasises that we must distinguish between cases in which the subjects track the truth and cases where they constitute the truth of their judgments. This is an instance of what Wright (1992: 108-140) calls the Euthyphro contrast, and Shapiro calls the reading on which the judgments are constitutive of truth the Euthyphro reading of (B), while the reading on which the competent judges track the truth is called the Socrates reading of (B). Since the status of clear cases is determined independently of speakers’ judgements in a particular context, (B) should be given the Socrates reading as far as clear cases are concerned. However, when it comes to borderline cases, (B) should be given the Euthyphro reading, and thus it is only with respect to these cases that genuine judgement dependence holds.
Judgement dependence entails that competent speakers will be reliable in their application of vague predicates in the borderline area (at least under favourable circumstances), simply because their judgement determines the status of the object judged. However, judgement dependence is not required for this kind of reliability. An alternative would be to take the V-factors to co-determine the status of the object and the judgement of the speaker. This is distinct from judgement dependence since on this view, the judgement itself does not determine the status of the judged object. Nevertheless, we get the same correlation between the judgement and the status of the object.

On Shapiro’s and Soames’s views, the speakers’ judgements do determine the status of the objects, and thus we can take them to endorse genuine judgement dependence. However, when it comes to Raffman, there is some reason to think that it would be more appropriate to characterise her view as involving co-determination rather than judgement dependence, despite her own explicit endorsement of the latter. As we will see in chapter three, she takes the V-factors to be psychological states of the relevant speaker, and it certainly seems more natural to interpret her as taking the psychological states of the speaker to determine the judgements than the other way around.35 Of course, this does not mean that she must abandon principles like (B); co-determination is sufficient to guarantee the correlation between judgements and category memberships.

2.3 Weak tolerance

The possibility of generating sorites paradoxes is closely connected to the fact that vague predicates appear to be tolerant. The term ‘tolerance’ was introduced by Wright (1975), and in order to bring out this apparent characteristic of vague predicates, he uses familiar examples of sorites arguments involving vague expressions like ‘heap’, ‘infant’, and ‘red’:

In these cases we encounter the feature of a certain tolerance in the concepts respectively involved, a notion of a degree of change too small to make any difference, as it were. There are degrees of change in point of size, maturity and colour which are insufficient to alter the justice with which some specific predicate of size, maturity or colour is applied. This is quite palpably an incoherent feature since, granted that any case to which such a predicate applies may be linked by a series of ‘sufficiently small’ changes with a case where it does not, it is inconsistent with the exclusivity of the predicate. (Wright 1975: 333-334)

Assuming that the lack of difference in the justice with which the predicates are applied is grounded in lack of difference in semantic status, Wright can

35 Indeed, she takes psychological states to be what grounds dispositions to judge.
be taken to suggest that the examples support something like the semantic tolerance principle which we encountered in section 1.1 above:

(PT) If $F$ is a vague predicate, and $a$ and $b$ are sufficiently similar with respect to $F$, then $Fa$ if and only if $Fb$.

But as Wright points out, and as we have already seen, in conjunction with the possibility of sorites series linking positive cases to negative cases, tolerance principles like (PT) generate sorites paradoxes, and thus lead to contradiction. This is part of what makes vagueness puzzling. On the one hand, (PT) strikes us as appealing, but on the other hand, it leads to paradox. An important part of the contextualist strategy for solving this puzzle is the distinction between strong tolerance principles like (PT), and weak tolerance principles, examples of which will be given below.

Contextualists often appeal to a certain version of the sorites paradox, in which a subject is taken through a sorites series, and is asked to make a judgement on each item. Soames refers to this as the dynamic sorites, while Shapiro refers to it as a conversational version of Terence Horgan’s forced march sorites.36 Raffman’s scenario is clearly also a version of the forced march. Here is how it goes:

Consider a normal competent subject faced with the task of judging, of each patch in the series, whether it looks red or looks orange. (...) To keep things simple, let us suppose that the subject begins at #1, which he judges to look red, and then proceeds by consecutive patches toward #50. Now one thing we know is that at some point on each (complete) run of judgements along the series, a category shift just does occur: the subject’s slide down the slippery slope is broken by his eventual landing at a patch that activates a new category (...).37 (Raffman 1994: 45-46)

In this kind of scenario, the subject will at some point shift category – or “jump” as Shapiro puts it – and thus she will put some adjacent items in the sorites series in different categories and thereby apparently violate a strong principle of tolerance like (PT) according to which marginally different items cannot be category different. On the contextualist view, this does not mean that the subject made some sort of mistake or violated some crucial semantic principle. In general, contextualists reject strong tolerance princi-
ples in favour of weak tolerance principles, and claim that the latter rather than the former constrain the extensions of vague predicates. Let us look at some examples.

According to Raffman, the crucial thing in order to understand what is going on in the forced march sorites is to distinguish between different ways of presenting the items. In particular, it matters whether the subject considers the items singly (one at a time) or pairwise (two at a time). Stressing the importance of the fact that in the scenario just presented, the patches are considered singly rather than pairwise, Raffman (1994: 47) distinguishes between two different tolerance principles:

(IP) For any \( n \), if patch \( \#n \) looks red then patch \( \#(n+1) \) looks red.

(IP*) For any \( n \), if patch \( \#n \) looks red then patch \( \#(n+1) \) looks red, insofar as \( \#n \) and \( \#(n+1) \) are judged pairwise.

The strong tolerance principle, (IP), is rejected, while the weak tolerance principle (IP*) is accepted by Raffman. (IP*) constrains the extension determination in that the V-factors cannot determine a sharp boundary between two items that are presently being judged pairwise. However, unlike strong tolerance principles like (IP) and (PT), (IP*) does not exclude the possibility that they determine a sharp boundary elsewhere in the series.

What is it about pairwise judgements that make them special in this respect? This will become clearer in chapter three where the relevant features of Raffman’s theory will be discussed in more detail, but one way to get at least some grasp of the idea already at this stage is to say that when we consider adjacent items pairwise, their similarity becomes salient. This leads us to the next version of weak tolerance, expressed by Fara’s Salient Similarity Constraint:

(SSC) If two things are saliently similar in the relevant respect, then either both are in the extension or none of them is.

Fara (2000: 62-63) emphasises the similarities between Raffman’s (IP*) and her own weak tolerance principle and points out that the notion of perceptual salience plays a crucial role in Raffman’s account of the scenario above. It seems fairly reasonable to suppose that the relevant difference between presenting the patches singly and presenting them pairwise is that in the latter case, the similarity of the patches with respect to colour becomes salient to the subject. Just like (IP*), (SSC) allows for sharp boundaries between items whose similarity is not salient. Indeed, Fara is a firm believer in bivalence,
and explicitly claims that vague predicates have sharp, but movable boundaries.38

But what does salient similarity and pairwise judgements have to do with contexts? As we will see in chapter three, both Raffman and Fara identify the V-factors with certain psychological factors, which may vary as different objects are actively considered. Substituting weak tolerance principles like (IP*) and (SSC) for strong tolerance principles amounts to qualifying tolerance so that it only holds for objects whose similarity is salient because they are actively considered as a pair. Given the nature of Raffman’s and Fara’s V-factors, this means that they put a contextual restriction on tolerance, according to which tolerance holds only with respect to items actively considered in one and the same context. Adjacent items that are judged in different contexts may well differ in status, and as we change our focus of attention and consider different pairs, adjacent items that were subject to (weak) tolerance at the moment we actively considered them could now differ in status.

Just like Raffman, Soames explicitly states a strong and a weak tolerance principle, and stresses the importance of distinguishing between them:

(P2) For any two patches of colour x and y that are perceptually indistinguishable in colour to competent observers in good light under normal conditions, x and y look to be the same colour and so one looks red if the other looks red.

(P2*) For any two patches of colour x and y that are perceptually indistinguishable in colour to competent observers in good light under normal conditions, if someone who is presented with x characterises the predicate looks red as applying to it, then that person is thereby committed to a standard that counts the predicate as applying to y as well.39

Since the strong tolerance principle (P2) can be used as the inductive premise in a generalised version of the sorites, it must be rejected. However, the weak tolerance principle (P2*) is a true metalinguistic principle, and should not, according to Soames, be rejected.

It should be noted that (P2*), as it stands, yields some problematic results when it comes to the forced march sorites, since it does not allow for the kind of shift in standard that is required in order to account for the “jump”.40

---

38 However, Fara (2000: 75-76) emphasises that she does not cash out the metaphor of sharpness in the usual way: “(…) the boundary between the possessors and the lackers in a sorites series is not sharp in the sense that we can never bring it into focus; any attempt to bring it into focus causes it to shift somewhere else”.

39 These formulations differ slightly from Soames’s original ones, in order to fit Raffman’s forced march scenario. For the original formulations, see Soames (1999: 215).

40 If I do not misremember, Crispin Wright raised a similar point at one of the Arché vagueness workshops (I do not remember which one).
According to (P2*), the subject will always be committed to a standard according to which the next patch in the series is already included in the extension. But if she is so committed, there is no room for judging the next item differently from its predecessor. Presumably, she is also committed to the claim that she just explicitly made. This means that in order to fulfil her commitments she must, insofar as she is forced to go through the whole series, go on and judge all the items in the series in the same way. Of course, the subject could break her commitments, but it seems paradoxical in its own right that it is not even possible for the subject to fulfil her commitments without ending up violating a clear case constraint, or even contradicting herself. So, in order to allow for an adequate treatment of the forced-march sorites, (P2*) needs to be slightly modified. For instance, it could say that a certain standard is put in force by the speaker’s judgment, but that the speaker is free to adopt a different standard, or to retract her explicit judgement at the point where she feels inclined to judge the next object differently.41 It may well be that Soames has something like this in mind, although his formulation is somewhat misleading. Anyway, the crucial thing for Soames is to distinguish (P2) from (P2*), and the required modification should not make much difference in this respect.

As Soames (1999: 215-216) points out, there is no problem with rejecting (P2) while sticking with (P2*). In fact, the latter is compatible with the former being false since the subject, if only shown two, just barely distinguishable patches of the progression, may characterise one patch $x_{i+2}$ as looking green and another patch $x_{i+2}$ as not looking green. This would commit the subject to a standard (or put a standard in force) that classifies $x_i$ as looking green and $x_{i+1}$ as not looking green, despite the fact that these latter two are perceptually indistinguishable. So sharp lines between extension and anti-extension are allowed by (P2*), as long as they are systematically moveable.42 In this sense, (P2*) is similar to (SSC) (and (IP*)), but as Fara points out, there is an important difference:

(…) while I propose that similar things cannot be divided by an extension-boundary for a vague predicate when their similarity is salient, (…) Soames proposes that similar things can’t be divided by an extension boundary for a vague predicate when it is salient that one of them is in the extension or that one of them is in the antietension of the predicate. (…) A key difference between (…) Soames’s version on the one hand, and mine on the other, occurs in a situation in which it is part of the background of a conversation (…) that $a$ falls under $F$, but the similarity of $a$ and $b$ is not salient. In such a situation, given [P2*], $b$ is in the extension of $F$, while given [SSC] it need not be. (Fara 2000: 60-61)

41 This move would bring Soames’s theory closer to Shapiro’s.
42 As Soames (2003: 132) points out, the sharp boundaries will typically be located between the extension (or anti-extension) and undefined cases, rather than between the extension and the anti-extension.
The point here is that the notion of salient similarity invoked by Fara (and Raffman) plays no significant role in Soames’s notion of weak tolerance. This means that the boundary shifts are less sensitive to the subject’s focus of attention. As Fara points out, this may lead to different boundary-drawings in situations where certain relevant similarities are not salient to the relevant subject, but it also seems to make a difference for how stable the boundaries are. Indeed, Soames’s own illustration of the compatibility of the falsity of (P2) and the truth of (P2*) indicates that his boundaries are less elusive than is (probably) intended. Soames says that we will not be able to display the sharp boundary, since when we try to do so, our explicit characterisation of either of the objects between which the boundary lies will cause the boundary to move. If ‘display the boundary’ is understood in this way, then it seems right that we cannot display it. But as Soames’s example shows, by explicitly characterising $x_{i+1}$ as green and $x_{i+2}$ as not green, we can “trap” the boundary between $x_i$ and $x_{i+1}$. Then we can truly claim that the boundary is between $x_i$ and $x_{i+1}$, and thus, in this sense, the boundary can be displayed. Indeed, we even seem able to come to know where the boundary is. At this point, we may ask why the boundary needs to be elusive in Soames’s sense, when it is possible to display it in this fairly straightforward way. Why not just say that speakers have a discretion to decide where the boundary is in a given context?\footnote{As in Montminy (forthcoming).}

Finally, then, here is Shapiro’s preferred version of weak tolerance:

\[(WPT)\text{ Suppose a predicate } P \text{ is vague, and two objects } a, a' \text{ in the field of } P \text{ differ only marginally in the relevant respect. Then if one competently judges } a \text{ to satisfy } P \text{ (in context } C), \text{ then she cannot competently judge } a' \text{ in any other manner (in } C).\] \footnote{See Shapiro (2003: 42) and (2006: 8) for his original formulations.}

Given Shapiro’s claim that vague predicates are (genuinely) judgement-dependent in the sense that competent judgements determine the V-factors, (WPT) guarantees that the V-factors cannot determine an extension such that there are two adjacent items in the sorites series that differ in semantic status. This means that as it stands, (WPT) does not seem to allow for sharp boundaries within context since it does not allow for a vague predicate to be totally defined over a sorites series.\footnote{Soames (1999: 222-223) argues against such restrictions.} Thus, (WPT) seems to differ from the other weak tolerance principles presented above in this respect. At the end of chapter three, we shall return to the issue of sharp boundaries, so let us put this aside for the moment and instead return to the puzzle mentioned at the beginning of this section.
How, then, can weak tolerance principles be invoked in order to explain the appeal of strong tolerance principles like (PT)? There are two main contextualist strategies, both of which will be considered in detail in chapter four. According to the first option, we tend to confuse strong tolerance principles with weak tolerance principles. For instance, Soames (1999: 215) claims that we are tempted to accept (P2), even though it is false, because we confuse it with the closely related metalinguistic principle (P2*), which is in fact true.\(^{46}\) The second option is to appeal directly to the elusiveness of the boundary. According to both (IP*) and (SSC), any pair of items in the sorites is such that when we actively consider the pair, the boundary is not located between them. Although contextualists differ with respect to which strategy they prefer, they all agree that strong tolerance principles should be rejected in favour of weak tolerance principles, and that such a distinction provides the key to explaining away the intuition that vague expressions obey strong tolerance principles. Given this, the fourth key principle for contextualism about vagueness reads as follows:

(CV4) Vague expressions obey some weak tolerance principle, which is somehow relativised to the V-factors, and this fact can be invoked to explain why we mistakenly believe that vague expressions are genuinely tolerant.\(^{47}\)

A fifth key principle can be extracted from the shared contention that there is something about forced march sorites scenarios that trigger subtle shifts in the V-factors, and thus ensures that one cannot complete the march without context shifts of the kind that makes the extensions of vague predicates shift:

(CV5) Any complete run through the sorites series triggers a change in the V-factors, and a corresponding change in the extension of the vague predicate.\(^{48}\)

For illustration, consider Fara’s claim that the similarity of all the pairs in the series cannot be brought into salience at the same time. If this were possible, it would also be possible to generate a sorites paradox using (SSC); if the similarity of all the pairs were salient, then, given (SSC), the boundary could not be anywhere in the series.\(^{49}\) Moreover, if there were no shifts in exten-

\(^{46}\) Soames even presents the intuitive line of reasoning that is supposed to connect (P2) and (P2*).

\(^{47}\) Kamp (1981: 237-238) sticks to strong tolerance, and therefore his theory does not belong to the family of theories that this essay focuses on.

\(^{48}\) This rules out a number of theories that could appropriately be called “contextualist”, for instance Pagin (forthcoming) and Montminy (forthcoming).

\(^{49}\) However, this raises a worry about the notion of salience invoked. In what sense can I not make the similarity of each pair become salient all at the same time when I am confronted with Wang’s paradox? The worry here is that there might be no plausible notion of salience that can do the required work in such cases. For more on this, see section 3.7 below.
sion due to shifts in the V-factors, weak tolerance principles would not allow the subject to (correctly) jump at different places in the forced march. The behaviour that ordinary competent speakers are assumed to exhibit in the forced march experiment is fine because (i) vague expressions are sensitive to the V-factors, (ii) the V-factors shift during the course of the forced march (even if other contextual variables are held fixed), and (iii) vague expressions obey weak (but not strong) tolerance principles. Some contextualists go further and claim that the behaviour they describe is the only one permitted if the subject is to remain competent and takes this to constitute support for the claim that these principles are correct. This line of argument will be addressed in chapter five, where the forced march sorites is discussed in more detail.

2.4 Different ways to shift the extension

What is it that the V-factors determine? What varies and what stays fixed? We already know that the underlying theory of context sensitivity must at least entail that the extension of vague expressions may vary with the V-factors. But this still leaves room for more than one alternative. In order to be able to clearly distinguish these alternatives, we need a general framework for handling context sensitivity. For this purpose, I will adopt the semantics given by David Kaplan in his seminal paper ‘Demonstratives’ (1989).

Kaplan (1989: 489) lists a number of expressions, referred to as indexicals, all of which are such that “the referent is dependent on the context of use and that the meaning of the word provides a rule which determines the referent in terms of certain aspects of the context”. The list contains the pronouns ‘I’, ‘my’, ‘you’, ‘he’, ‘she’, and ‘it’, the demonstrative pronouns ‘that’ and ‘this’, the adverbs ‘here’, ‘now’, ‘tomorrow’, and ‘yesterday’, and the adjectives ‘actual’ and ‘present’.50 Kaplan goes on to distinguish two different kinds of meaning, the first of which is called content:

What is said in using a given indexical in different contexts may be different. Thus if I say, today, ”[‘I was insulted yesterday’] and you utter the same words tomorrow, what is said is different. If what we say differs in truth-value, that is enough to show that we say different things. But even if the truth-values were the same, it is clear that there are possible circumstances in which what I said would be true but what you said would be false. Thus we say different things. Let us call this first kind of meaning – what is said – content. The content of a sentence in a given context is what has traditionally been called a proposition. (Kaplan 1989: 500)

50 Obviously, the list is not complete, but I trust that the reader can see what sort of expressions we are talking about here, and how the list could be expanded.
Content is thus what is expressed by an indexical expression relative to a given context. A context is represented by an index, i.e. an n-tuple of contextual parameters. In order to determine the truth-value of what is said, we take the content expressed and evaluate it with respect to a circumstance. Circumstances are actual or counterfactual situations, with respect to which it is appropriate to ask for the extensions of a given well-formed expression, and they minimally include a world, i.e. a possible state or history of the world, but they can also include other things, depending on what sort of things we want truth to be relative to. A circumstance is also represented by an index, but in this case, the index is an n-tuple of parameters relevant for the evaluation of contents. The second kind of meaning is called character. The character is set by linguistic conventions and determines the content in every context. It is thus, Kaplan (1989: 505) says, natural to think of character as “meaning in the sense of what is known by the competent language user”.

Summing up the picture, we can think of characters as functions from contexts to contents, and contents as functions from circumstances to extensions, as follows:

Character: Contexts ⇒ Contents

Content: Circumstances ⇒ Extensions

Kaplan (1989: 506) points out that all expressions can be associated with a character. What is special about indexicals is that their character is context-sensitive in the sense that their content varies with context. Non-indexicals, on the contrary, have a fixed character – the content is invariant across contexts.

So, in general, we will have one index representing the context, and another index representing the circumstances. The former will include such parameters as the agent of the context, her location, the time of the utterance, or whichever features of the context of utterance we need for our purposes. The latter will include at least a world, but possibly also other parameters. To illustrate, suppose that Julia utters ‘I am here now’ at 10 a.m. on the 5th of September 2008 while sitting in room D700 at Stockholm University. Let the context contain agent, time and location: <α, t, l>. Let the circumstance contain just a world: <w>. Now, the content will be determined by the meaning, i.e. the characters, of the expressions she uses, and the following context: <Julia, 10 a.m. on the 5th of September 2008, room D700 at Stockholm University>. This yields the proposition that Julia is in D700 at Stockholm University at 10 a.m. on the 5th of September 2008. This proposition will

---

51 As we shall see below, the context can be taken to play a role in determining the circumstance as well as the content.
then be evaluated with respect to the circumstance <@>, where ‘@’ stands for the actual world.\footnote{It might be thought that since contexts as they are conceived of in Kaplan’s framework do not include propositional elements, the framework will not be suitable for representing contextualists like Soames and Shapiro, who appeal to conversational contexts which arguably must contain propositional elements. However, propositional elements are not required in order to effect the desired changes in extension, and we may take the relevant propositional elements as determinants of the relevant parameter of the context, rather than as included in the contexts themselves. See Gauker (2008) for discussion.}

With this framework in hand, we can now distinguish three alternative ways in which the extension of an expression may change across contexts. Firstly, variation in the character of vague expressions may lead to variation in the content expressed, and thus to variation in the extension. If we follow Kaplan and take character to be the (conventional) meaning of the expression, this first alternative amounts to equating vagueness to a form of \textit{ambiguity}. The second alternative is to assimilate vague expressions to indexicals, and thus take them to have the same character in every context, but allow that this character is sensitive to the V-factors so that it can generate different contents in contexts which differ (only) with respect to these. Let us call this alternative \textit{indexicalism}. This term could also be given a more restrictive sense, according to which it would only apply to views that involve more extensive claims about the similarity between indexicals and vague expressions, for instance that the variation in content is traceable to elements in the syntax or that they have invariant interpretations under ellipsis.\footnote{More on this in chapter four.} However, as I will use it here, it simply refers to the view that the variation in extension is due to variation in content (with respect to a fixed meaning).\footnote{Variation in content need not be taken to entail property variation. Insofar as we allow that one property could be associated with different concepts, we could have concept variation without property variation. However, here we need the extension to vary as a result of the content variation, and we would not get this without property variation.} According to the third alternative, the extension shifts that are due to vagueness may occur even when the content stays fixed. In the terminology introduced by John MacFarlane (2009), this amounts to adopting \textit{non-indexical contextualism} about vagueness. I will follow this terminology, and refer to this alternative as \textit{non-indexicalism}.

As pointed out in section 1.1 above, there seem to be good \textit{prima facie} reasons for distinguishing vagueness from ambiguity. Here is how Keefe puts this point:

Certainly, terms can be ambiguous \textit{and} vague: ‘bank’ for example has two quite different main senses (concerning financial institutions or river edges), both of which are vague. But it is natural to suppose that ‘tadpole’ has a univocal sense, though that sense does not determine a sharp, well-defined extension. (Keefe 2000: 10)
Of course, such reasons could be challenged by someone who is convinced that the first alternative is the right one, just as the *prima facie* reasons for distinguishing vagueness from context sensitivity are challenged by the proponents of the more sophisticated contextualist theories under consideration here. However, contextualists about vagueness are quite explicit that they do not want to claim that the extensions of vague expressions change because of contextual variation in *meaning* (character), and thus they have no interest in defending the ambiguity view. Shapiro (2005: 152) emphasises that on his view “contextual factors help determine the extension of the predicate, not its meaning”. Similarly, Raffman (1994: 66) points out that she takes the sorites to be “a puzzle about the correct *application* of vague predicates, and that is all my story addresses”. She does not want to make any claims at all about what goes on at the character level of meaning. According to Fara (2000: 64) vague predicates have stable meanings (characters) across contexts, in virtue of which they express interest-relative properties, and thus the relevant variation results neither from shifts in the meaning, nor from shifts in the properties expressed. Finally, as we will see below, Soames explicitly endorses indexicalism, and thus rejects the idea that the meaning (character) of vague expressions varies across contexts. Hence, a sixth key principle of contextualism can be stated as follows:

(CV6) The extension shifts due to shifts in the V-factors do not result from shifts in the meaning (character) of the vague expression.

This leaves us with two alternatives: indexicalism and non-indexicalism. Regarding these alternatives, there is more room for disagreement among contextualists. In fact, when it comes to Raffman and Shapiro, it is not so clear which of these alternatives, if any, they have in mind. It seems that nothing in their accounts *excludes* either indexicalism or non-indexicalism, so both of these alternatives are in principle available to them. Raffman has later denied that her view should be understood to involve the claim that vague predicates are indexicals, but I have not been able to find anything in the view as it is presented in her 1994 and 1996 papers that speaks against such an interpretation. Moreover, it should be noted that indexicalism as it

55 “The sorites (…) is solved independently of any particular meaning analysis (…). [A]ll that is required to solve the puzzle is a claim about the correct application or *extension* – as opposed to the meaning analysis or *intension* (…).” (Raffman 1994: 58)

56 For the denial of indexicalism, see Raffman (2005a: 245). The alternative interpretation she suggests is not very illuminating. She seems to suggest that what shifts in the course of the forced march is something like the operative comparison class. However, this does not take us very far, since arguably, the comparison class can be held fixed all the way through the march. (See section 2.1 above.) It may well be the case that she has something more sophisticated in mind, but her brief remarks do not give any further clues to what this could be. It is worth pointing out that in the same paper, she also declares that she is no longer a contextualist about vagueness.
was characterised above does not entail that vague expressions are just like core indexicals in every respect, and Raffman only seems to deny this stronger claim.\textsuperscript{57}

Soames and Fara have clearer standpoints with respect to this issue. Soames’s endorsement of indexicalism is about as explicit as it could be, just like his rejection of the ambiguity view:

To say that vague predicates are context sensitive is to say that they are indexical. While the semantic content of an indexical varies from one context of utterance to another, its meaning does not. (…) If, as I believe, vague predicates are context sensitive, then this is the model on which they must be understood. (Soames 2002: 445)

Note that the features of core indexicals that Soames ascribes to vague predicates only concern what varies with the context and what stays fixed, i.e. the very features that define indexicalism. He does not say anything about other features, so there is nothing here that commits him to any stronger claim about the similarities between core indexicals and vague predicates. Although it might not be unreasonable to ascribe such a view to Soames on the basis of this passage, to do so would be to go beyond what he explicitly commits himself to.\textsuperscript{58} In contrast to Soames, Fara (2000: 64) claims that the same property is expressed across different contexts, even when the extension varies, and thus we can take her to promote non-indexicalism rather than indexicalism.\textsuperscript{59}

Since both indexicalism and non-indexicalism would allow for the right kind of extension shifts to occur, without any appeal to shifts in meaning (character), both of them should be considered as live options from the point of view of the generic contextualist theory. Let us therefore take a closer look at these options. In order to illustrate how they fit into the Kaplanian framework, let us use the predicates ‘is red’ and ‘is here’, and take the domain to be a sorites series \(<a_1,…,a_n>\) for the predicate ‘is red’. On the indexicalist view, we will have one index representing the context of utterance. This index will contain all the parameters that are relevant for fixing the content of ordinary indexical expressions such as ‘is here’, and vague – and hence indexical – expressions like ‘is red’. The value of the parameter \(r\) that

\textsuperscript{57} Raffman (2005a: 245) says that “[v]ague predicates share certain features with indexicals, but the differences are as significant as the similarities”. However, she says nothing further about what the similarities and differences consist in, except that she will provide a more detailed discussion of this in forthcoming work.

\textsuperscript{58} As we will see below, Stanley (2003: 271) does describe such a view to Soames on the basis of this passage.

\textsuperscript{59} Fara does not take herself to be a contextualist, and Stanley (2003: 274-276) interprets her view as distinct from contextualism. However, this is partly due to terminological preferences, and partly due to a more narrow conception of contextual factors. As we will see in chapter three, insofar as Raffman is characterised as a contextualist, there are good reasons to characterise Fara in the same way.
fixes the content of ‘is red’ will be determined by the V-factors. It may be thought that we could just take the location \( l \) of the speaker to be the relevant parameter for determining the content of ‘is here’. However, there is a complication here. Since ‘is here’ is arguably vague, we need to make room for a relativity of its content not only to the location of the speaker, but also to some other parameter. For even when the location of the speaker remains the same, ‘is here’ appears to be vague, and this indicates that its vagueness cannot be due to its content being relative to the location of the speaker. Thus, let us introduce a second parameter \( h \), whose value will be determined by the V-factors, and which fixes the content of ‘is here’ together with \( l \). We may think of \( h \) as a proximity parameter, i.e. a parameter that, via the content, determines whether or not an object belongs to the extension of ‘is here’ as used on a given occasion given that it is located a certain distance from the speaker. To illustrate, suppose the objects \(<a_1,\ldots,a_n>\) are placed on the ground in front of the speaker, and are ordered in such a way that for each \( i \), \( a_i \) and \( a_{i+1} \) are placed close enough for a tolerance principle for ‘is here’ to kick in, and such that \( a_1 \) is clearly here and \( a_n \) is clearly not here. We thus have a sorites series for the predicate ‘is here’. Again, fixing the location of the speaker, and thus eliminating that aspect of contextual variation, will obviously not be enough to eliminate all symptoms of vagueness. But this does not mean that the symptoms cannot be traced to contextual variation, since even when the location of the speaker is fixed, there might still be variation in the content of ‘is here’ as used by the speaker at different times due to variation in \( h \). The world, and all other aspects of the context may be fixed, but as long as there is room for variation in what counts as being here, the content and extension of ‘is here’ can vary with \( h \).

Apart from the index representing the context of utterance, we will have another index representing the circumstances of evaluation, which, for simplicity, can be assumed to contain nothing but the world of evaluation. According to indexicalism, all the contextual variation in truth-value is due to variation in content. The proposition expressed will vary with the context of utterance, but the proposition itself will be true or false simpliciter, in the sense that its truth-value will only be relative to possible worlds.

So, on the indexicalist picture, the relevant extension shifts are traced to those parameters of the context of utterance that determine the content. In contrast, the non-indexicalist claims that the variation occurs in the parameters of the context of utterance that determine the circumstance of evaluation, and hence the truth-value. This results in what some would call a form of relativism rather than a form of contextualism, but which label to choose is to a large extent a terminological decision. As long as the factors that shift the relevant parameters are taken to be contextual, we may call the theory contextualist. The important thing is to be clear about the terminology. Moreover, MacFarlane has recently suggested a characterisation of relativism which allows us to distinguish it from non-indexicalism. According to
MacFarlane, it is not the mere relativisation of truth that makes a semantics relativist:

One might think that being a relativist is just a matter of relativizing truth to some parameter. But it is not that simple. Many relativizations of truth are entirely orthodox. In model theory we talk of sentences being true relative to a model and an assignment of values to the variables, and in formal semantics we talk of sentences being true relative to a speaker and time, or more generally (following Kaplan 1989) a context of use. To my knowledge, no one has ever accused Tarski and Kaplan of being relativists for making use of these relativised forms of truth! (MacFarlane 2005: 322)

According to MacFarlane, a semantics will not count as relativist as long as the context of utterance rather than the context of assessment plays the role of determining the value of the relevant parameter. The context of assessment is simply a situation in which the use of a sentence is assessed, and it is completely independent of the context of utterance. To illustrate, let us look at how MacFarlane (2005: 325) conceives of the difference between aesthetic relativism and contextualism:

**Aesthetic relativism:** \( S \) is true at a context of use \( C_U \) and context of assessment \( C_A \) iff there is a proposition \( p \) such that

(a) \( S \) expresses \( p \) at \( C_U \), and

(b) \( p \) is true at the world of \( C_U \) and the aesthetic standards of the assessor at \( C_A \).

**Aesthetic contextualism:** \( S \) is true at a context of use \( C \) iff there is a proposition \( p \) such that

(a) \( S \) expresses \( p \) at \( C \), and

(b) \( p \) is true at the world of \( C \) and the aesthetic standards of the speaker at \( C \).

Again, the crucial thing is not the relativisation of truth itself, but rather how the parameter that truth is relativised to is determined. According to this way of thinking about contextualism and relativism, non-indexicalism counts as a version of contextualism and *not* as a version of relativism.

Non-indexicalism differs from indexicalism in a number of crucial respects. Firstly, there is no variation in content due to vagueness, so the relevant parameters will not play the same role as they do according to indexicalism. Secondly, the variation in truth-value is not to be effected by variation in content, so we must allow for the truth-value to vary in some other way. The idea behind non-indexicalism is to put extra parameters into the circumstances of evaluation, to which the extension of ‘is red’ and ‘is here’, and thus the truth of propositions expressed by sentences containing them, is relative. This means that the proposition expressed will *not* vary due to vagueness, but the truth-value of the proposition will be relative to some
extra parameter of the circumstances of evaluation apart from the possible world parameter.

However, as mentioned above, we still want some feature of the context of utterance to be responsible for the variation. Otherwise it will be hard to see in what sense this position is a kind of contextualism. So the non-indexicalist will also have to put in a parameter in the context of utterance that determines the value of the relevant parameter in the circumstances of evaluation. In his presentation of his generic version of non-indexical contextualism, MacFarlane identifies two different roles that the context of utterance plays:

Notice that the context \( c \) plays two distinct roles in determining sentence truth. First, it helps determine which proposition is expressed by the sentence. I’ll call this the *content-determinative* role of context. Second, it tells us at which circumstance of evaluation we should evaluate this proposition to get a truth value for the sentence in context. Since circumstances for Kaplan are world/time pairs, it tells us *which* world and time to look at: the world and time of the context of utterance. I’ll call this the *circumstance-determinative* role of context. (MacFarlane 2009: 234)

On both the indexicalist and the non-indexicalist version of contextualism about vagueness, the V-factors are included in (or determine parameters of) the context of utterance. The difference consists in the fact that the indexicalist takes the V-factors to have a content-determinative role, while the non-indexicalist takes the V-factors to have a circumstance-determinative role.

Both indexicalism and non-indexicalism can be fitted into the Kaplanian framework. We simply follow Kaplan in specifying the relation between sentence truth and propositional truth as follows:

If \( c \) is a context, then an occurrence of \( \varphi \) in \( c \) is true iff the content expressed by \( \varphi \) in this context is true when evaluated with respect to the circumstance of the context. (Kaplan 1989: 522)

This definition will hold both for indexicalism and non-indexicalism, although the indexicalist will allow the content of vague predicates to vary with the V-factors, while the non-indexicalist will not. Another difference is that the non-indexicalist will have extra parameters in the index representing the circumstances of evaluation. This means that the index representing the circumstances of evaluation will look different, depending on which view we adopt:

\[(CIRC)_{\text{IND}} \ (w) \text{ is the circumstance of the context } c \text{ iff } w \text{ is the world of } c.\]

\[(CIRC)_{\text{NON-IND}} \ (w, v_1, \ldots, v_n) \text{ is the circumstance of the context } c \text{ iff } w \text{ is the world of } c \text{ and } v_1, \ldots, v_n \text{ are the V-factors of } c.\]
To sum up, then, according to indexicalism, the truth-values of vague sentences depend on the relevant contextual parameters because they have a content-determinative role, so there is no need for any extra parameters in the circumstances of evaluation. However, according to non-indexicalism, the truth-values of vague sentences depend on the relevant contextual parameters because they have a circumstance-determinative role; hence the extra parameters in the circumstances of evaluation.

2.5 Some worries about non-indexicalism

Indexicalism assimilates vague expressions to a familiar form of context sensitivity, which has several uncontroversial instances. The kind of context sensitivity that non-indexicalism appeals to is less familiar, and although there are views on the market according to which it should be acknowledged, its alleged instances remain controversial. The most widely discussed form of non-indexical contextualism is *temporalism*, i.e. the view that there are propositions that are true at some times and false at others. Kaplan himself was a temporalist, and thus he took propositional truth to be relative to times, and included times in the circumstances of evaluation. More recently, MacFarlane (2009) has defended non-indexical contextualism about knowledge, and Recanati (2007) has given a more extensive defence of the general framework, under the name *moderate relativism*. As noted above, non-indexical contextualism is not a form of relativism in MacFarlane’s sense, but it still requires that a kind of relativist semantics is adopted, and this commits the non-indexical contextualist to relativised propositions (hence Recanati’s terminology). Thus, the non-indexical contextualist needs to abandon the idea that all propositions are classical propositions in the sense that they are true or false only relative to possible worlds. For instance, the temporalist’s relativised propositions are non-classical since they are true or false relative to different times. One basic worry about non-indexical contextualism in general is that such relativised propositions are simply not acceptable. Let us focus, for the moment, on temporalism. According to Frege, it is not possible for a genuine proposition (thought) to change its truth-value over time:

A thought is not true at one time and false at another, but it is either true or false, *tertium non datur*. The false appearance that a thought can be true at one time and false at another arises from an incomplete expression. A complete proposition or expression of a thought must also contain a time datum. (Frege 1967: 338)

The idea here is that propositions must be semantically complete, and since relativised propositions are semantically incomplete, they are not genuine
propositions. Gareth Evans follows this line of thought and argues that since assertions and beliefs must have stable truth-values, they cannot express relativised propositions:

To say that the sentence-type ‘Socrates is sitting’ (...) expresses a complete meaning seems to imply that (...) to know what assertion is being made by an utterance of a tensed sentence all you need to know is which tensed sentence was uttered; you do not need further information to tie the sentence down to a particular time. (...) It would follow that such an ‘assertion’ would not admit of a stable evaluation as correct or incorrect; if we are to speak of correctness or incorrectness at all, we must say that the assertion is correct at some times and not at others. (Evans 1985: 349)

Of course, it would be possible to bite this bullet, but a more promising strategy has been suggested by Recanati. His main idea is that we should distinguish two levels of content: (i) the explicit content, which may be a relativised proposition and hence not truth-evaluable in its own right, and (ii) the complete content, which consists of the explicit content and the relevant parameters of the circumstance of evaluation. As regards Evans’s objection, Recanati can simply agree that the evaluation must be stable since when we evaluate the assertion or belief we need the complete content.

In other cases, however, we need the explicit content rather than the complete content. Following McGinn (1982: 216), Recanati distinguishes between two separate elements in our concept of belief: the internal state that the believer is in, which corresponds to the explicit content of the belief, and the truth-conditional content of that belief. When we are interested in the believer’s internal state and its “intra-individual-causal explanatory role”, what matters is the explicit, relativised content rather than the complete, truth-conditional content. Accordingly, Recanati argues that belief reports like ‘Susan believes that Kate is pregnant’ are ambiguous in the following way:

This may ascribe to Susan either the internal state of believing Kate pregnant, a state one may be in at different times (‘relativist’ interpretation); or it may ascribe to her a belief with a certain truth-conditional content, which content depends (...) upon external factors such as when the belief is held (‘classical’ interpretation). On the classical interpretation, Susan’s belief can change from one occurrence to the next, even though the internal state itself does not change. (Recanati 2007: 82-83)

But is the relativist interpretation that Recanati appeals to really available in English? One of the most famous arguments against temporalism, given by Mark Richard (1981), can be taken as an attempt to show that they are not. More specifically, Richard’s argument concerns the question of whether or not temporally relativised propositions can be understood as the object of
**propositional attitudes** like belief. He asks us to consider the following argument:

(1) Mary believed that Nixon was president.
(2) Mary still believes everything she once believed.
(3) Hence, Mary believes that Nixon is president.

If (1) and (3) are interpreted as a claim about Mary’s belief in the temporally neutral proposition that Nixon is president, and (2) is interpreted as saying that Mary still believes all the temporally neutral propositions she once believed, as the temporalist would have it, the argument comes out as valid. But as Richard points out, the argument certainly does not seem valid in English.

Recanati tries to reply to Richard’s objection by appealing to the ambiguity between the classical and the relativist reading. On the classical interpretation, (2) means that Mary still believes all the classical propositions that she once believed, and the argument is surely invalid. Just because Mary believes the classical proposition that Nixon is president at time $t$ – the time of the belief referred to in (1) – it need not be the case that Mary believes the classical proposition that Nixon is president at time $t'$ – the time of the belief referred to in (3). Her internal doxastic state may well have changed in this respect between $t$ and $t'$, or in Recanati’s terminology: the explicit content of her belief at $t$ and $t'$ may well be different. But if (1) and (2) are given the relativistic reading, it will follow that Mary believes the same relativised (temporally neuter) proposition at $t$ and $t'$, and thus the argument comes out as valid.

However, if we take the apparent invalidity of the argument as a strong indication that the relativistic reading is not available in English, the mere fact that the temporalist can accommodate such a reading in his framework does not mean that the objection falls. Whether or not the temporalist can rebut Richard’s objection depends on whether or not he can show the relativistic reading is available in English. As Recanati points out, Richard himself has provided examples that seem to support the availability of relativistic readings in some cases. Consider, for instance, the following belief ascription: *Bob went to the monkey house, and now he thinks that he has been infected with the ebola virus. Every time he goes there he thinks that; he is convinced one of the monkeys is a carrier.* Here is what Recanati says about this example:

The word ‘that’ in ‘Every time he goes there he thinks that’ must refer to a temporal proposition, it seems; for it cannot refer to a classical (eternal) proposition. Why? Because what Bob believes is said to remain constant across episodes (he thinks that every time), while the eternal proposition believed by Bob after visiting the monkey house changes from one visit to the
next. (After each visit, he thinks he has been infected during that visit.) (Recanati 2007: 80)

However, Richard has an alternative explanation according to which ‘that’ (as it occurs in this example) should be construed as a device of ellipsis rather than reference. On this view, the phrase ‘Every time he goes there he thinks that’ is be taken to be elliptical for the sentence ‘Every time he goes there he thinks that he has been infected with the ebola virus’, which in turn should be read as saying that for every $t$ such that Bob visits the monkey house at $t$, he comes to believe (after $t$) that he has been infected with the ebola virus at $t$. So there is scope for treating examples like this without going temporalist.

As regards the intuitive validity of Richard’s argument, Recanati argues that our intuitions will be different if we consider the argument in a specific contextual setting. Suppose that Mary, unbeknownst to her, has been put to sleep for three years between 1972 and 1975. Then we can put the argument as follows:

(1') (Before falling asleep) Mary believed that Nixon was president.
(2') (After waking up) she still believes everything she believed before.
(3') (After waking up) she still believes that Nixon is president.

The idea is that in this version of the argument we will be inclined to give (2') a relativistic reading. If this is right, the argument should strike us as intuitively valid, and according to Recanati, this is exactly the result that we get. I will not go on to discuss this empirical claim. Whether or not the relativistic readings that different forms of non-indexical contextualism are committed to really are available in English remains, at best, an open question. But given that such worries arise with respect to temporalism, we might expect that they will arise in other applications of non-indexical contextualism as well. In chapter six below, we will see that the non-indexicalist version of contextualism about vagueness is no exception.

Another worry is that the non-indexical contextualist cannot accept the following plausible connection between utterance truth and propositional truth:

(UT) An utterance of $S$ at $C$ is true iff the proposition expressed by $S$ at $C$ is true.

The reason is that according to non-indexical contextualism, the same sentence might be uttered truly by Mary at $C_1$ and falsely by Julia at $C_2$, while

---

60 For some reason, Recanati (2007: 84-85) chooses to illustrate this point with another example, but the idea presented here is the same.
still expressing the same proposition \( p \) at both \( C_1 \) and \( C_2 \). This is inconsistent with (UT): The utterance made by Mary at \( C_1 \) is true, so by (UT), the proposition \( p \) expressed by Mary at \( C_1 \) is true. The utterance made by Julia at \( C_2 \) is false, so by (UT), the proposition \( p \) expressed by Julia at \( C_2 \) is false. Hence \( p \) is both true and false. The reason that we get this paradoxical result is that (UT) is not geared to handle relativised propositions. The non-indexical contextualist must thus modify (UT) in order to make it fit her framework. MacFarlane suggests that we should adopt the following principle for connecting utterance truth and propositional truth:

(UT*) An utterance of \( S \) at \( C \) is true iff the proposition expressed by \( S \) at \( C \) is true at the circumstance of \( C \).\(^{61}\)

According to MacFarlane, adopting (UT*) would not amount to any radical deviation from the Kaplanian tradition:

\[
\text{(UT*)} \text{ follows directly from the Kaplanian definition of truth for an occurrence of a sentence in a context, (...) together with the bridge principle: (...) An utterance of } S \text{ at } C \text{ is true iff an occurrence of } S \text{ in } C \text{ is true. (MacFarlane 2009: 247)}
\]

Indeed, it is not very surprising that the adoption of the non-indexicalist framework mandates some modifications of familiar and plausible principles. When we add parameters to the circumstances of evaluation, and thereby relativise the truth predicate, we will need to modify the principles governing the truth predicate accordingly.

One of Kaplan’s reasons for being a temporalist was that in order for temporal operators to have any function in the language, they must have something to operate on. Since they cannot operate non-vacuously on eternal propositions, we must acknowledge temporal propositions, and thus allow for relativisation to times as well as worlds.\(^2\) Here we seem to have a way of arguing for relativised propositions: Find operators of the language that operates on the parameters to which you want truth to be relative. If the contextualist about vagueness were to invoke this kind of argument, she would have to establish, or at least provide some positive reason to think that there are operators in natural languages that operate on the kind of parameters of the circumstances of evaluation which are supposed to be responsible for the shifts in truth value during the course of the sorites argument (i.e. the \( V-\)

\(^{61}\) The idea is the same as the one underlying the notion of complete content presented above: the truth-conditions of an utterance (or belief) are determined by both the explicit content (the relativised proposition expressed) and the relevant parameters of the circumstance of evaluation.

\(^{62}\) It is worth pointing that this argument for temporalism has been disputed lately, on the grounds that it is not clear that tenses in English are best seen as operators. For more on these ideas, see Partee (1973) and King (2003).
factors). It is far from clear that this could be done. And what is worse, one may, following Jason Stanley, argue that when there are no operators of the right kind, there cannot be any relativity to extra parameters either. Here is how MacFarlane (2009: 244) construes Stanley’s argument as applied to non-indexical contextualism concerning knowledge:

(a) We should only countenance a parameter of circumstances if there is an operator that shifts it.
(b) There is no operator that shifts epistemic standards.
(c) Therefore, we should not countenance an epistemic standards parameter.\(^{63}\)

If Stanley is right, and there are no operators in natural languages that shift the V-factors, it seems that the operator strategy will backfire. However, there is scope for questioning Stanley’s argument. In his response to Stanley, MacFarlane questions premise (a):

Certainly we should not posit a parameter of circumstances of evaluation without a good reason, but why suppose that the only thing that could be such a reason is an operator that shifts the parameter? Why aren’t the advantages of non-indexical contextualism over standard contextualism, recounted above, themselves a good semantic reason to posit an epistemic standards parameter? (MacFarlane 2009: 245)

I propose that we adopt the same attitude with respect to non-indexical contextualism about vagueness. In other words, we should not rule out non-indexicalism on the grounds that there are no operators in natural languages that shift the V-factors parameter in the circumstances of evaluation. Rather, we should wait and see how successful indexicalism and non-indexicalism concerning vagueness are on an overall assessment. As we will see below, it is not so clear that the existence of such operators would be a good thing for contextualists about vagueness.

---

\(^{63}\) For the original formulation of the argument, see (Stanley 2005: 147-152).
3. Varieties of Context

3.1 Partiality and context sensitivity

According to Soames, vague predicates are partially defined. This means that for any vague predicate $F$, there are objects to which $F$ applies, objects to which $F$ does not apply, and objects for which the linguistic rules governing the predicate and giving it meaning have nothing to say about whether or not $F$ applies to them; $F$ is undefined for these objects. If $o$ is an object for which $F$ is undefined, then to say that $o$ is $F$ or that $o$ is not $F$ is to go beyond what the linguistic rules can justify. Hence, both of these propositions should be rejected. In order to extend these points to more complex sentences, in particular the major premise of the generalised sorites, Soames adopts a truth-functional logic based on the strong Kleene tables. This means that as long as there are some items in the sorites series for which $F$ is undefined, some instances of the generalised sorites premise will be undefined. As Soames (1999: 207) points out, this allows us to block the sorites by rejecting some of its premises without having to accept their negations.

Soames’s treatment of the paradox is very similar to that of Tye’s three-valued theory, which was briefly considered in section 1.2 above. Both adopt the three-valued truth-functional semantics given by the strong Kleene tables. As we saw above, this semantics yields counterintuitive results as regards truth-value assignments to certain obviously false or obviously true complex sentences with indeterminate constituents. For instance, contradictions do not come out false if the conjuncts are undefined, and penumbral connections like the converse of the inductive premise do not come out true, as one would desire. These are serious problems indeed, but we shall not dwell on them here.

The three-valued semantics forms only one part of Soames’s account, and he considers the second part – that vague predicates are context sensitive – to be necessary in order to capture important features of vagueness. He observes that although we can never accept all the premises of the particularised sorites (or all instances of the major premise in the generalised sorites) each of them can be accepted in the right sort of situation. If they always lacked a truth-value, it would not be possible for us to speak truly (rather than making claims that lack truth-value) when we count borderline cases as
belonging to the extension or anti-extension of the vague predicate. Of course, we could get around this by simply distinguishing between truth and acceptability, and say that some claims that are not strictly true might nevertheless be acceptable in the right sort of situation. However, acceptability in a given conversational setting is apparently not enough for Soames, as shown by his felt need to add to his theory that speakers have the discretion of adjusting the extension and anti-extension of a vague predicate by including initially undefined cases in the predicate’s contextually determined extension or anti-extension. The extensions of vague predicates are thus subject to variations across different contexts, and these shifts are in turn governed by both general conversational rules and weak tolerance principles:

This discretion typically is exercised by explicitly characterizing an object for which the predicate is initially undefined as being F or as being not F. When such an object o is explicitly characterized by a speaker as being F and other conversational participants accept this, the (determinate-) extension of the predicate is conversationally adjusted so as to include o plus all objects that bear a certain similarity relation Re to o. (Soames 1999: 209)

The same thing holds, mutatis mutandis, for the anti-extension and the corresponding relation Ra. Although the relations Re and Ra are to some extent constrained by the meaning of the predicate, they can also vary across contexts due to variation in the intentions and dispositions of the conversational participants.64

On this picture, the extension or anti-extension may vary with the context for two different reasons. Firstly, some conversational participant may explicitly include some new object in the extension or anti-extension, and this may also lead to inclusion of other objects in accordance with the relevant weak tolerance principle. Secondly, the intentions and dispositions of the speakers may shift so that the relations Re and Ra changes in a way that raises or lowers the tolerance level, i.e. the degree of similarity at which the relevant tolerance principle kicks in. As a result some new object may be included in the extension or anti-extension (via the weak tolerance principle) or some object may fall out of the extension or anti-extension since it no longer stands in the relation Re or Ra to any object explicitly included in the extension or anti-extension. Since variation in the tolerance level is not taken to be the key to solving the sorites paradox, the former kind of variation is the one that is relevant for the extension shifts occurring in the sorites.65

---

64 For more on weak tolerance, see section 2.3 above. For more on the relations Re and Ra, see Soames (1999: 211).

65 However, as we will see in section 3.3 below, variation in the tolerance level is relevant in other respects.
So, what are the V-factors on Soames’s view? Well, a difference in the extension of a vague predicate on two different occasions is taken to entail a corresponding difference in *conversational standards*:

[*W*hen *x*₁ is initially characterized as looking green, this is done with respect to a certain set of standards, S. Later, when it is characterized as not looking green, this is done with respect to a new set of standards S*. (Soames 1999: 213)]

If *o* is an object for which *F* is undefined, then if a speaker characterises *o* differently on two different occasions, this means that the judgements are made with respect to two different standards.⁶⁶ These judgments serve to alter the standards for application of *F*, so we may think of the speaker’s discretion to include objects in the extension or anti-extension as a discretion to alter the conversational standards by making certain judgements. Thus, we may identify the V-factors with conversational standards. In general, the variation in conversational standards is effected through the explicit judgements that the relevant subjects make about the relevant objects. But as we have already seen, the effect on the conversational standard of a judgement about a certain object need not be confined to the mere inclusion or exclusion of that very object in the extension or anti-extension. For example, if *o* is judged to be in the extension of *F*, then the standard is adjusted so that not only *o* counts as being in the extension of *F*, but also all objects which bears the relation *R*ₑ to *o*. Exactly what the effects of a certain judgement will be depends on which rules are in force. In the example just considered the effect was due to a weak tolerance principle, like the ones we considered in section 2.3 above. The more general idea behind these principles is that there are certain rules that, given what has already been said, determine what is true or acceptable at that stage in a conversation.

### 3.2 Conversational score

In his paper ‘Scorekeeping in a language game’ (1979), David Lewis introduces a framework for modelling certain kinds of changes in the acceptability or truth-value of different utterances. The contextual components to which such changes can be traced are compared to the components of a baseball score:

> With any stage in a well-run conversation, or other process of linguistic interaction, there are associated many things analogous to the components of a

---

⁶⁶ Given, of course, that *o* itself has not changed in any way that is relevant for the application of *F*. 

---
baseball score. I shall therefore speak of them collectively as the score of that conversation at that stage. (Lewis 1979: 344-345)

The points of analogy will be easier to see if we focus on one of Lewis’s examples: presuppositions. At different points in a well-run conversation, there will be different presuppositions in play, and what is presupposed changes in the course of the conversation, in a more or less rule-governed way. One way in which a presupposition can come into play is that a speaker says something that requires a certain presupposition to be present. For instance, ‘All Fred’s children are asleep’ requires the presupposition that Fred has children. If this sentence is uttered, and no one objects, the required presupposition “springs into existence”, and makes the utterance acceptable, despite the fact that the required presupposition was missing just before the utterance. This explains why an utterance like ‘All Fred’s children are asleep, and Fred has children’ sounds peculiar. The first part makes the required presupposition spring into existence, and thus the second part becomes pointless.

The principle governing this mechanism is what Lewis calls the rule of accommodation for presupposition:

\[(\text{ACC}_{\text{PRESUPPOSITION}}) \text{ If at time } t \text{ something is said that requires presupposition } p \text{ to be acceptable, and if } p \text{ is not presupposed just before } t, \text{ then – ceteris paribus and within certain limits – presupposition } p \text{ comes into existence at } t.\]

The idea here is that things like presuppositions are registered on the conversational score, just like the number of runs, strikes, etc. are registered on the baseball score. Just like in a baseball score, where the components are numbers, the components of the conversational score are abstract entities, like sets of presupposed propositions. And just like in the baseball game, what play is correct in the language game depends on the score: aspects of acceptability, or semantic properties that play a role in determining aspects of acceptability, e.g. the extension or intension of subsentential expressions, may depend on the score. As we have seen, the conversational score evolves in accordance with certain rules, just like the baseball score. Finally, in the course of the conversation, the conversationalists may try to steer components of the score in different directions. This may be a cooperative effort, or there may be conflicts.

As Lewis points out, there are no rules of accommodation in baseball. In contrast, rules of accommodation figure prominently among the rules governing the kinematics of conversational score. We have already seen an example of such a rule for presuppositions, and here is a more general scheme:
(ACC): If at time \( t \) something is said that requires component \( s \) of conversational score to have a value in the range \( r \) if what is said is to be true, or otherwise acceptable; and if \( s \) does not have a value in the range \( r \) just before \( t \); and if such-and-such further conditions hold; then at \( t \) the score-component \( s \) takes some value in the range \( r \).

Lewis gives a number of examples that exhibit a common pattern in that instances of (ACC) are at work in them. The most interesting one for present purposes is, of course, vagueness. Although Lewis defends a supervaluationist theory of vagueness, and thus takes the (determinate) truth of a vague sentence like ‘Fred is bald’ to require that it be true on all reasonable (or admissible) ways of drawing a precise boundary, he also notes that sometimes we are willing to assert (without qualification) a sentence that is less than determinately true, given that it is true enough.\(^67\) Whether or not a sentence is true enough depends on the standards of precision, and these vary with the context. For instance, ‘France is hexagonal’ will be acceptable in contexts where the standards of precision are low, but if we raise the standards of precision to a certain level, it will not longer be acceptable.

It is notable that Lewis thinks that certain propositions can be accepted in certain contexts even though they are not true, but merely true enough. If one follows Lewis in this respect, Soames’s motivation for adding context sensitivity to his three-valued model is undermined. From the fact that some propositions can be accepted in certain situations, it does not follow that they are true in these situations, and thus there is no need to invoke extension shifts in order to accommodate this phenomenon. As we will see below, similar points apply to Shapiro’s theory, but for now, let us instead return to Lewis’s account.

When it comes to the acceptability of less than determinately true vague sentences, the relevant component of the conversational score is the standards of precision. This means that the accommodation rule will look something like this:

\[(\text{ACC}_{\text{VAGUE}}): \text{If at time } t \text{ something is said that requires the standards of precision } s \text{ to have a value in the range } R \text{ if what is said is to be acceptable; and if } s \text{ does not have a value in the range } R \text{ just before } t; \text{ and if such-and-such further conditions hold; then at } t, s \text{ takes some value in the range } R.\]

For instance, suppose that ‘Italy is boot-shaped’ can be acceptable only if \( s < n \), so that for all \( i \), if \( i \in R \), then \( i < n \). Then, if someone says at \( t \) that Italy is boot-shaped, and if \( s \notin R \) just before \( t \), \((\text{ACC}_{\text{VAGUE}})\) will – under certain

\(^{67}\) Note that this is basically the same observation that prompted Soames to go contextualist. From Lewis’s point of view one might say that this mistake results from a conflation of the two distinct notions of being true and being true enough.
conditions – entail that \( s \in R \) at \( t \). Moreover, since this act lowers the standards, then, given that the relevant conditions hold and that France is at least as hexagonal as Italy is boot-shaped, ‘France is hexagonal’ will be acceptable as well. However, if someone objects, and starts to point out the differences between the shape of (typical) boots and the shape of Italy, the standards will not be lowered in this way. That the rest of the conversationalists (tacitly) acquiesce is a condition that must be fulfilled in order for the rule of accommodation to have this effect.

The most obvious way for the contextualist about vagueness to make use of this idea would be to invoke (ACC\textsubscript{VAGUE}) as it is, and identify acceptability with truth. This will allow for variation in the extension of (at least some) vague predicates as a result of variations in the context, which in turn are triggered by certain acts on the side of the speakers. However, a problem with (ACC\textsubscript{VAGUE}) is that it works at most in cases where standards of precision matters for application, and for many vague expressions it does not make sense to talk about precision in this way. Indeed, the correct application of paradigm examples of vague predicates like ‘is bald’, ‘is a heap’, or ‘is red’ do not depend on standards of precision. Since none of the contextualists considered here relies on any such assumptions, we need not dwell on this alternative.

A move that would bring us closer to Soames’s account would be to substitute standards of application for standards of precision. The idea would be that in some contexts a higher amount of the relevant property is required for an object to fall in the extension. For instance, in some contexts a yellowish-orange surface might count as yellow, but in other contexts where the standards of application are higher, it might not count as yellow. Of course, we could not have a general standard for all predicates, since raising the standards for one predicate may entail that we lower it for another predicate, if those predicates are contraries like ‘is red’ and ‘is yellow’. If I go through a sorites series of patches ranging from yellow to red, and keep judging increasingly more reddish patches as yellow, I will simultaneously lower the standards of application for yellow, and raise the standards of application for red. So, if we were to appeal to standards of application, we would need a separate standard for each predicate. The collection of all the relevant standards of application in a given situation could then be identified with the conversational standards of that situation. This would give us something very similar to Soames’s view.

We can now clearly see how Soames’s idea that speakers have a discretion to expand the extension and anti-extension can be assimilated to Lewis’s accommodation principles. By explicitly characterising a previously undefined object as falling in the extension of \( F \), the speaker changes the conversational standards so that the utterance will be true relative to the conversational standards, even if it was not true according to the standards that were
in play before the utterance. Thus, something like the following principle will hold on Soames’s account:

\[(\text{ACC}_\text{SOAMES}): \text{If at time } t \text{ something is said that requires the conversational standards } s \text{ to have a value in the range } R \text{ if what is said is to be true; and if } s \text{ does not have a value in the range } R \text{ just before } t; \text{ and if such-and-such further conditions hold; then at } t, s \text{ takes some value in the range } R.\]

But again, the data that both Soames and Lewis invoke in order to motivate their accommodation principles does not really support Soames’s principle if we follow Lewis and distinguish between acceptability and truth.

Both Lewis and Soames relativise acceptability and truth, respectively, to different kinds of contextually determined standards. However, we need not invoke the notion of a standard in order to be able to make use of the notion of a conversational score. If we prefer, we can talk more generally about different components of the score, and how they affect the extensions of vague predicates. This would bring us closer to Shapiro’s account. On Shapiro’s view, the extension of a vague predicate in a given context depends on what is on the conversational score. Simply put, if a borderline proposition is registered on the score, it is true in that context, if its negation is registered on the score, it is false in that context, and if neither of these is registered on the score, it is neither true nor false. We can thus think of the elements of the score as the V-factors, and we can take the relevant parameter(s) in the index representing the context of utterance to somehow be determined by what is on the score. A proposition is put on the score (only) if it is competently asserted. Now, recall Shapiro’s weak tolerance principle:

\[(\text{WPT}) \text{ Suppose a predicate } P \text{ is vague, and two objects } a, a’ \text{ in the field of } P \text{ differ only marginally in the relevant respect. Then if one competently judges } a \text{ to satisfy } P \text{ (in context } C), \text{ then she cannot competently judge } a’ \text{ in any other manner (in } C).\]

This principle is supposed to work in a similar way to the principles of accommodation above: as long as (WPT) is in force, two marginally different objects cannot competently be judged to differ in status within the same context, so if the relevant competent subject judges } a \text{ and } a’ \text{ differently with respect to } P, \text{ the first of these judgements will be removed from the score. Since the V-factors vary with what is registered on the score, such a removal may affect the extension of predicates which exhibit the context sensitivity that is characteristic of vague expressions.}

---

68 Since competent speakers might judge borderline cases differently, another competent speaker may challenge the assertion. Insofar as these speakers share a context in the relevant respect, such a challenge will prevent the proposition from being registered on the score.
In order to illustrate how this is supposed to work, Shapiro presents a conversational version of a forced-march sorites situation: 2000 men are lined up, the first one is clearly bald, the last one is clearly not bald, and each man in the series differs only marginally from the men standing next to him. A group of people, participating in a conversation, are asked to give a collective judgement about the baldness of each man in the series, starting from the first, bald man. As a simplifying assumption, only two answers are allowed, ‘He is bald’ and ‘He is not bald’. Assuming that tolerance is in force, ‘is bald’ being a tolerant predicate, the conversationalists will keep judging the men to be bald for quite a while, even after they have entered the borderline region, even though here the non-linguistic facts have not determined that the truth conditions for any of the admissible answers have been met. But since the participants of the conversation are assumed to be competent speakers of English, they cannot, and will not, keep judging the men to be bald through the whole series. At some point they will “jump”, and since jumping means making different judgements about adjacent members of the series with respect to baldness, (WPT) will kick in and ensure that the context changes in order to accommodate their judgements.

Weak tolerance ensures that once one of two adjacent objects has been judged to have a certain status, the other one cannot competently be judged to have a different status unless the first judgement is removed. Hence, when two adjacent objects are judged to have a different status, the violation of weak tolerance is merely apparent, since given that weak tolerance is in force, one of the judgements (the first one) will automatically be removed as the context shifts. So, in a situation in which the subject is asked to judge two adjacent members a and a’ and has already judged a to have P, she can satisfy weak tolerance in two ways: either she can judge a’ to have P, or she can judge a’ not to have P and take back her previous judgement that a has P. The idea here (borrowed from Raffman) is that when the context shift occurs, tolerance applies “in reverse”:

In declaring man 975 to be not bald, they implicitly deny that man 974 is bald, and so ‘Man 974 is bald’ is removed from the conversational record. It is similar to what happens when any presupposition is challenged (or contradicted) in the course of a conversation. (Shapiro 2003: 51-52)

Here we can clearly see the parallel to Lewis’s principles of accommodation, and his account of how presuppositions gets added and removed from the score during the course of a conversation. Just as a presupposition that is required for an assertion to be acceptable can (under certain circumstances) spring into existence because that assertion is made, or be removed when it is challenged, certain propositions can be added or removed from the score,
because some other judgements are made. The former process is governed to
the relevant rule of accommodation, while the latter process is governed
by (WPT). Since the context changes at the jumps, the jumps do not pose a
threat to the speakers’ competence.

3.3 The significance of social factors

Could we give a general account of what is going on in forced march scenar-
ios without appealing to any factors that are not publicly available? The very
idea of invoking only publicly available factors – or social factors for short – in
accounting for what is going on in the forced march could be questioned
on the grounds that there are cases where we would want the account to ap-
ply, but where no social acts are performed by the relevant subject. For in-
stance, consider a single subject who is run through the forced march who
does not convey his judgements to any audience whatsoever, but makes an
“inner” judgement of each object in the series. Given the possibility of such
sorites marches where the judgements are only made “in thought”, it seems
that any account that fails to acknowledge the significance of the inner states
of the speaker is thereby restricted in an undesirable way. This point may
seem fairly obvious, and I will not bother providing any further argument for
it. Instead, I shall argue for the following stronger claim: Even if we restrict
our attention to versions of the forced march in which the relevant public
acts are performed by the relevant subject(s), social factors like the subject’s
explicit judgements will not be enough to determine what goes on the score.

Shapiro himself claims that tolerance need not always be in force. And he
also seems to admit that there are cases in which the speakers themselves
have a discretion to put tolerance out of force. Consider the following exa-
ple inspired by Mark Sainsbury (1990: 259-260). The proprietor of a paint
shop gives his assistant the following instruction: ‘Here are a couple of ca-
ns, numbered according to how much red paint they contain in propor-
tion to yellow paint. Sort them into red and orange, and put them on the correspon-
ding shelf.’ The cans range from red to orange, and the transition is as smooth
as can be, so that they form a sorites series. Call the task that the assistant is
asked to fulfil the paint shop challenge. In order to fulfil this task, the assis-
tant needs to put each of the cans on one of the shelves, and thus if the assis-
tant tried to obey a weak tolerance principle by removing one or more cans
from the shelves, he would not be able to meet the challenge. So, the thought
goes, in order to meet the paint shop challenge and remain competent, he
must put tolerance out of force. Given the nature of the challenge it would be

69 Implicit denial is apparently enough to remove items from the score. Whether or not they
should add the corresponding negative judgements to the score remains an open question.
More on this in section 3.7.
unreasonable to deny the assistant the discretion to put tolerance out of force. Similarly, it would be unreasonable to deny the conversationalists in the forced march such discretion. Indeed, Shapiro is well aware of the similarities between these cases, and he happily admits that the competent subjects in the forced march might choose to violate (WPT), and thereby put tolerance out of force:

In some situations, however, the conversationalists may simply violate tolerance. After one or two runs up and down, or perhaps at the first jump, they may call a fellow not bald and stick to their previous judgment that his neighbor is bald. […] I noted above that there are situations in which tolerance is not in force […]. Our forced march may turn into such a situation either eventually or even right from the start. It is a highly artificial scenario, even more so than Sainsbury’s paint shop. (Shapiro 2006: 22)

As we saw above, (WPT) ensures that the score cannot contain both the proposition that \( a \) is bald and the proposition that \( a' \) is not bald, but once (WPT) is put out of force, there is nothing to stop the subjects from putting different judgements about adjacent items on the score. In other words, what goes on the score in the forced march depends on whether or not (WPT) is in force. Moreover, Shapiro himself admits that (WPT) can be put out of force if the subjects violate it. Clearly, not all apparent violations of (WPT) should be taken to put it out of force, since that would make the principle completely inert. Presumably, what Shapiro has in mind are deliberate violations. But whether or not a violation is deliberate in the required sense will not always be publicly available, and in particular, it need not be reflected in the subjects’ public judgements. This means that there can be cases where the social factors underdetermine whether or not (WPT) is in force, and since what goes on the score depends on whether or not (WPT) is in force, social factors also underdetermine what goes on the score. For illustration, consider the simple case where a single subject is taken through the forced march, and makes her judgements publicly available by simply stating them. At some point, this subject will judge two adjacent objects differently. If (WPT) remains in force, one of these judgements will have to be removed from the score, but if these judgements constitute a deliberate violation of (WPT), both of them can remain on the score since (WPT) will be put out of force by such a violation.

So far, we have followed Shapiro in taking for granted that what happens in cases like the paint shop challenge is that tolerance is put out of force. This, however, can be disputed. Instead, it could be claimed that tolerance remains in force, but that the tolerance level decreases enough to make it admissible to draw a boundary between the two adjacent items in the series.\(^{70}\) This point is important and should be kept in mind in what follows, but it

\(^{70}\) I owe this point to Peter Pagin.
does not matter for the cogency of the argument against the possibility of letting only social factors determine the score. We could run the same argument with ‘decreasing tolerance to the required level’ substituted for ‘putting tolerance out of force’ – the former is just as likely to be determined by non-social factors as the latter. Even if one focuses on publicly available factors in the account of the contextual variation in extension, one may, like Soames, acknowledge the relevance of the speakers’ intentions and dispositions when it comes to determine the tolerance level in context. Given that the tolerance level may vary, and is set by some kind of internal factors rather than social factors, it is possible to draw an even stronger conclusion from the observations made above: Even in cases where tolerance remains in force, social factors underdetermine the score.

Neither Shapiro nor Soames would disagree with the claim that social factors alone cannot explain everything that goes on in the forced march. We have already seen that Soames allows for intentions and dispositions to affect the tolerance level, and thus have an indirect effect on the extension in context. And despite his insistence on the importance of the more communal relativity that his work focuses on, Shapiro seems happy to admit that his account cannot provide the whole story. After all, a conversation consists of individuals with different mental states, and Raffman’s account, which we will consider in more detail below, is intended to explain what happens in the mind of each of those individuals. Where the conversationalists choose to jump will depend on when sufficiently many of them have made the “mental” jump, which Raffman (1996: 178) describes in terms of a gestalt shift. Very roughly, the idea is that when an individual makes the mental jump she comes to see the men she previously saw as bald as non-bald. As Shapiro points out, the mental activity of each participant is highly relevant for the behaviour of the group as a whole:

A consensus breaks down only if enough of the individual participants demur from the communal judgment, and if Raffman is correct this happens when enough of them have made the relevant gestalt-shift (and refuse to switch back even for the sake of conversational harmony). So if Raffman’s account can be sustained, it is more basic than mine. (Shapiro 2006: 26-27)

In fact, Shapiro takes Raffman’s account to complement his own. So, following this line of thought, perhaps we could take both conversational score and what might be called “mental score” to determine extensions? One immediate difficulty here is that conversational score and mental score might conflict. As Shapiro notes, the conversationalists will not make the gestalt-shift at the same time, but this in itself does not mean that the consensus breaks down, since the individuals that have made the shift may publicly

---

71 The tolerance level depends on the relations $R_e$ and $R_a$, which, as we saw in section 3.1, are partly determined by the speaker’s intentions and dispositions. See Soames (1999: 209).
keep agreeing with the majority of the group for the sake of “conversational harmony”. In such cases, the mental scores of the subjects that have made the shift will be in conflict with the conversational score, and thus we cannot take both of them to determine the extension.

As we saw in the quote above, Shapiro takes Raffman’s account to be more basic than his own. By this, he presumably only means that mental score is needed to explain the underlying factors behind the conversationalists’ public judgements. We might think of the interaction between the different scores as follows: Each participant has her own mental score, which determines the extensions of vague predicates “for her”, as it were. As long as she is not interacting with other speakers, her mental score determines the extensions on its own, but as soon as she starts participating in a conversation with a cooperative purpose like the forced march, the communal relativity kicks in. In this social setting, her own mental score loses its supremacy and gives way to the consensus of the group.

Another alternative would be to take mental score to be what determines extensions, even in social settings like the conversational forced march. On this view, the speakers will not in general share the kind of context that is taken to determine extensions, but that does not mean that there is no role for the conversational score to play. Recall that Lewis took the extensions of vague predicates to be settled (albeit only partially) independently of the conversational score. What the score reflects is rather what counts as true enough, or what counts as acceptable at a given stage in a conversation. What counts as acceptable depends on what has already been accepted rather than what is actually true in a given context. If some false claims have been accepted, other claims might thereby become acceptable that would not have been acceptable otherwise. So, we might take mental score to determine extensions and truth in context, and take conversational score to reflect what has been accepted so far in the conversation.

I will not try to argue for either of these alternatives, but as regards the role they assign to the conversational score, it does seem that the second one is somewhat closer to Lewis’s original view, and better supported by his (and Soames’s) observations. Again, once we draw a distinction between truth and acceptability, the acceptability of a claim in a given context is compatible with its being untrue, and our willingness to assert it in that context need not be taken to show anything more than that it is acceptable. Thus, we could deny that the conversational score has an extension determinative role, and reserve this role for the mental score. However, this alternative is not available for Shapiro, since it would amount to dropping the very feature

---

72 Perhaps they could also make an effort to shift back, as Shapiro suggests, but it cannot be taken for granted that the subjects can shift back and forth between the psychological states at will.

73 Or we could follow Lewis and adopt a supervaluationist account.
of his theory that distinguishes it from Raffman’s. If the elements on the conversational score are not taken to determine the extensions of vague expressions, they cannot be identified with the V-factors. So, for Shapiro, the second alternative is not a real option. Nevertheless, the second alternative provides us with a way to recognise the significance of the features reflected on the conversational score without identifying them with the V-factors. This means that we could admit that the conversational score has an important role to play while denying that it determines extensions. Note that this point holds even if we do not identify the V-factors with the elements of the mental score or with any other contextual factors at all. Indeed, Lewis himself is an example of someone who acknowledges the significance of the conversational score without taking it to have an extension determinative role.

3.4 Score and logic

One of the thoughts underlying Shapiro’s project is that reflections about what goes on the score in certain situations can teach us something about the logic and semantics of vague expressions. However, it is not so clear that this assumption is warranted. On a natural understanding, a conversational score should reflect what beliefs and attitudes the participants in a conversation have made manifest so far in the conversation, regardless of whether these are actually true. Suppose that someone asserts that Sebastian has just quit smoking. Then, given that no one objects, both the presupposition that Sebastian used to smoke, and the claim that he has recently given it up should go on the score. This is so even if it is in fact the case that Sebastian has just taken up smoking, so that both the presupposition that he used to smoke and the claim that he has quit are false. If this is right, then, we should not take the score to reflect what is true in a given context.

We should also be careful about using observations about what goes on the score as a basis for drawing conclusions about what kind of logic we should adopt, since otherwise such observations could lead us pretty badly astray. An example of this is Shapiro’s claim that a more general account of reasoning with conversational score would require a logic which is not “explosive” in the sense that anything follows from a contradiction. In other words, Shapiro claims that we need a paraconsistent logic. The reasoning that leads him to this conclusion can be reconstructed as follows:

---

74 Analogously, one could accept that publicly available factors have an important role to play in communication with indexicals without accepting that these factors determine their reference. See Åkerman (2009) and (forthcoming) for details.

75 For more on paraconsistent logic, see Priest (1987).
(i) If $p$ follows from what is on the score, according to the right logic for reasoning with conversational score, then the participants are committed to $p$.

(ii) There can be contradicting items on the score.

(iii) The participants should not be committed to every proposition just because there are contradicting items on the score.

(iv) Hence, the correct logic for reasoning with conversational score must be paraconsistent.\textsuperscript{76}

Let us consider the premises of the argument in turn, starting with (i). The idea that what the participants should be committed to depends on what the correct logic is seems fine, although we should distinguish between two notions of commitment: Let us say that you are externally committed to $q$ if you accept $p$ and $q$ follows from $p$ according to the correct logic (whichever logic this turns out to be), and that you are internally committed to $q$ if you accept $p$, and $q$ follows from $p$ according to the logic that you accept. Given that the correct logic is truth preserving, you are externally committed to all the propositions that are true given what you accept. Internal commitment is more closely tied to internal rationality, since you are internally committed to all the propositions that you ought to accept given the propositions and the logic that you do accept. If we are looking for the logic that we should use when we reason with vague expressions, we should be interested in external commitment rather than internal commitment. So, the argument should be understood as being concerned with external rather than internal commitment.

Let us turn to (ii), the second premise. According to Shapiro, in the forced march, a judgement that $a’$ is not $P$ counts as an implicit denial of the claim that $a$ is $P$, and the latter is thus automatically removed from the score in accordance with (WPT). So, one might expect that something similar would happen when contradictory items enter the score, which would make it impossible for the score to register a contradiction. If this is correct, then (ii) is simply false: there cannot be contradictions on the score. But in fact, Shapiro allows for violations of both (WPT) and non-contradiction to go on the score in cases where the participants do not notice this.\textsuperscript{77} Indeed, he even seems

\textsuperscript{76} The passage from which this argument is extracted (Shapiro 2006: 17) is only a brief comment and the point he tries to make is arguably not very central for Shapiro’s overall view. Nevertheless, I find it instructive as an example of how one can easily get confused about these issues if one is not careful.

\textsuperscript{77} Given that (WPT) remains in force in such cases, this seems inconsistent with the idea that only competent judgements go on the score. Moreover, this implies that there can be (strong) counterexamples to tolerance on the score, contrary to what Shapiro (2006: 23n) claims.
inclined to allow deliberate violations of these principles to be registered on the score:

The participants may not realize they have contradicted themselves. Even if they do realize the contradiction, they may not want to retract the statements, since they remain attracted to each of them individually, and do not yet know which one(s) to give up. Such is paradox. (Shapiro 2006: 17)

When tolerance is deliberately violated, it may be taken to be put out of force, but since non-contradiction is a logical principle, it cannot be put out of force. As Shapiro (2006: 27-28n) puts it: “Logic is always in force, and tolerance usually is”. This may in itself be taken to show that a paraconsistent logic is the correct one for reasoning with conversational score. Since logical principles cannot be put out of force, and it is possible to have a contradiction on the score, the law of non-contradiction cannot be a logical principle in the first place.

However, it is not clear that what can go on the score should depend on what logical principles are the correct ones for reasoning with conversational score. On the view suggested in the beginning of this section, the score registers what commitments have been made manifest in the conversation, and there is no reason why the conversationalists should not be able to commit themselves to sets of propositions that violate logical, semantic, or pragmatic principles. The score provides the basis for the reasoning, the premises upon which the logic operates. The logic should, in accordance with (i), determine what the conversationalists are committed to given their manifest commitments. But the logic should not govern what goes on the score in the first place, given that we want the score to give a good picture of the state of the conversation. If we take this view of conversational score, we can accept (ii) without committing ourselves to any conclusions about what the correct logic for reasoning with conversational score should be.

Premise (iii) does not seem correct at all. There is no reason why the conversationalists should not be committed to every proposition whatsoever when they have committed themselves to a contradiction. Of course, every proposition whatsoever should not go on the score, but as pointed out above, the logic should not govern what goes on the score. Every proposition whatsoever is not such that the conversationalists have made manifest that they accept it, but that does not mean that they are not (externally) committed to all of them. Whether or not the conversationalists know it, they will be (externally) committed to whatever the score entails according to the right logic. They may be mistaken about either what items are on the score or what these items commit them to, but that does not mean that they are not so committed. Faced with the undesirable consequences, they can choose which of the contradictory propositions they want to drop, but until they have retracted at
least one of them, they will be committed to whatever the right logic says that they are committed to.

So, it seems that the logic for reasoning with conversational score can indeed be explosive. What semantic and logical principles are in force need not matter directly for what goes on the score, so even if there can be contradictory items on the score and the correct logic is explosive, every proposition whatsoever should not go on the score. As already pointed out, the score should not simply register truth in context. That there can be counterexamples to certain logical or semantic principles on the score does not show us anything about what the correct logic or semantics is, only that normal speakers may sometimes unwittingly violate such principles.

The upshot of all this is that we are unlikely to learn much about the semantics and logic of vague language by focusing on conversational score. We have seen that observations about what goes on the score in certain situations are not immediately relevant for what semantic framework we should adopt, and thus it seems that there is some reason to be sceptical about the strategy of supporting a logical and semantic framework by appeal to conversational score. In chapter five, we will take a closer look at different possibilities for supporting contextualist frameworks by appeal to observations about speakers’ behaviour in the forced march, and similar sceptical conclusions will be drawn.

3.5 Interests and gradability

Although Fara, just like Soames, emphasises that vague adjectives can be used with different standards in different contexts, her account does not focus on social factors. Instead, her proposal turns on the claim that vague adjectives are interest-relative. This means that the properties they express are relational rather than intrinsic, and that the possession of these properties does not only depend on, e.g. in the case of ‘tall’, the difference between the object’s height and some norm, but also whether that difference is a significant one. And the significance of the difference in turn depends both on heights and interests. The term ‘interests’ may be understood in various ways, but in Fara’s terminology, it is simply a shorthand for ‘purposes and desires’. Now, given that vague adjectives are indeed interest-relative, how can appeal to this fact help us solve the problems of vagueness?

Fara points out that interest-relative predicates are context sensitive in a number of ways. They express interest-relative properties, and which interest-relative property is expressed varies with the context. Moreover, the in-

---

78 Shapiro (2006: 23n) certainly seems to endorse this strategy in a footnote, where he says that the fact that the score will never contain a “strong counterexample” to the inductive premise of the sorites suggests a non-bivalent semantics.
terests may vary with the context, so that the extension of the predicate shifts, due to the interest-relativity of the property expressed. However, neither of these forms of context sensitivity is taken to be the key to solving the problems of vagueness. The idea is rather that changes in what best satisfies the interests can effect changes in the extension. But what is it that makes these satisfaction conditions shift? One obvious way in which what best satisfies a certain interest may change is that the relevant objects themselves change. For instance, a tree might grow, and thus better satisfy my interest in having a tall tree. Such changes are not going to help with the sorites, since the objects in the sorites series are assumed to remain as they are. So what sort of changes in the satisfaction conditions can help us with the sorites? The central claim of Fara’s account is that the extensions can also change as a function of where we focus our attention. Given the standing interest in balancing costs and benefits, my interests will sometimes be better satisfied if two things are counted as the same for present purposes. In particular, this will be the case when I focus on two live options so that their similarity becomes very salient to me. Since their similarity is more salient than the similarity between other, equally similar objects, the cost of discriminating between them will be higher.

Fara’s interest-relative analysis is taken to imply her preferred form of weak tolerance, which we encountered in section 2.3 above:

(SSC) If two things are saliently similar in the relevant respect, then either both are in the extension or none of them is.

The argument for this entailment is based on the idea that two things that are qualitatively different in some respect, and known to be so, can still be the same for present purposes. And if this is the case, then one can have, e.g. significantly more height than is typical if and only if the other does. Given the interest-relative analysis, this means that when two things are the same for present purposes in respect of height, one is in the extension of ‘tall’ if and only if the other is. As Fara (2000: 67) points out, order for (SSC) to follow from this it must be shown that “two things come to be the same for present purposes when they are not only very similar, but when also their similarity is in some sense salient – in particular, when it is being actively considered”. Let us see how the argument for this runs.

Two things are held to be the same for present purposes when it would not be beneficial to discriminate between them, i.e. when the cost of discriminating between them would outweigh the benefits (relative to the purposes at hand). In such cases, the difference between the things (if there is one) can rightly be ignored. Fara (2000: 68) adds that this can only apply if the two things at hand are in some sense “live options” and then she goes on to claim that two things are similar enough to be subject to (SSC) just in case were they live options, the cost of discriminating between them would out-
weigh the benefits. Since two things can be said to be saliently similar only if they are indeed live options, *being saliently similar* coincides with *being the same for present purposes*, and this completes the argument that shows that (SSC) follows from the analysis above. To sum up the argument: objects $a$ and $b$ that are the same for present purposes are such that $a$ has significantly more height than typical iff $b$ has significantly more height than typical; since salient similarity coincides with being the same for present purposes, this means that objects $a$ and $b$ that are saliently similar are such that $a$ has significantly more height than typical iff $b$ has significantly more height than typical; according to Fara’s analysis, this means that objects $a$ and $b$ that are saliently similar are such that $a$ is in the extension of ‘is tall’ iff $b$ is, and this is just to say that the similarity constraint holds with respect to ‘is tall’.

According to Fara, vagueness does not threaten the principle of bivalence, and the existence of sharp boundaries is guaranteed by the existence of brute facts like the following: there is a least amount of coffee grains that will satisfy the vague desire for a good cup of coffee.\(^79\) The reason that we are inclined to deny this is that we could never find out what this amount is in a given case:

\[\text{[It is not merely that I have inexact knowledge of the satisfaction conditions of my desire for coffee on a given occasion; it is also that the satisfaction conditions of my desire may subtly shift, so as to be satisfied by different amounts of coffee as different options become available to me and the costs of discriminating between different pairs of amounts change. That, I claim, is the essence of a vague desire, and it explains why we are inclined to accept sorites sentences (...). (Fara 2000: 70-71)}\]

So, vagueness in language can be traced to the vagueness of our interests (i.e. our purposes and desires), and brute facts like the ones mentioned in the passage just quoted determine sharp boundaries. Thus the sorites paradox is blocked, since the strong tolerance principle is simply false on this view; both the generalised and the particularised sorites argument come out unsound, and their appeal is explained in terms of the shiftiness of the boundary. This explanation of the appeal of sorites arguments will be considered in detail in the next chapter, and sharp boundaries will be discussed in section 3.7 below.

To sum up then, Fara claims that vague adjectives are interest-relative, and the extension of an interest-relative adjective may vary with what best satisfies the interest-relative property it expresses, even when that property remains the same.\(^80\) In considering a pair of adjacent objects in the sorites

\(^79\)Provided, of course, that we use them to make a cup of coffee according to a given method etc.

\(^80\)This is what makes Fara’s theory count as a version of non-indexicalism. See section 2.4 above.
series, their similarity is raised to salience, and this means that the cost of discriminating between them will outweigh the benefits. Thus, which discrimination between members of pairs of adjacent object in the sorites would best satisfy my interests depends on which pair I focus on. My focus of attention will shift as I consider different pairs, and it will always be costlier to discriminate between the members of the pair presently under consideration than between some other pair. Hence, my standing interests determine that the boundary can never be between the members of the pair I am presently considering. But the boundary has to be somewhere, and since I can focus on each pair, but not all of them at the same time, the boundary must shift around. Indeed, it is of crucial importance to Fara that one cannot raise the similarity of all of the pairs to salience all at once, since that would make it possible to construct a sorites paradox based on (SSC).

Even if we concede for the moment that this is sufficient for explaining the elusiveness of the boundary, we have not been told much about how the extensions shift with the relevant factors. All we know is that the boundary cannot be where we are looking, but we might well ask where it establishes itself when it moves from our point of focus. And the account does not seem to have much to say about this. Fara (2000: 70) says that “[t]he boundary […] will try to locate itself, so to speak, at a place where there is little or no resistance”, but this is not very informative. Just about any pair that is not presently under consideration seems equally good in this respect as far as our standing interests go. Perhaps demanding a reply to this question would be asking for too much from Fara’s account. Instead, we might see Fara’s account as an incomplete sketch of how certain assumptions about the central notions could guarantee the relevant instances of (SSC), and explain the elusiveness of the boundary. In order to fill out the gaps, we might turn to some more elaborate account of the relevant factors. Indeed, on a natural understanding of Fara’s account, the V-factors may be identified with features of the psychological state of the relevant subject, which in turn are affected by the subject’s focus of attention. As we will see in the next section, this comes pretty close to what Raffman says about these issues. For the moment, however, let us focus on Fara’s actual proposal.

In addition to her interest-relative account, Fara also provides an explanation of how her favourite semantic account of adjectives – the one developed by Christopher Kennedy (1999) – can be adapted to accommodate her own proposal about vague adjectives. The central feature of this semantics is that adjectives are taken to denote functions from individuals to degrees on a scale. It is important to note that this does not mean that Fara endorses a degree theory of vagueness. As we saw in section 1.2, such theories depart from the classical notion of two truth-values and replace this with a notion of degrees of truth. Thus, Fara’s approach is not to be taken as a degree theory in the ordinary sense, since bivalence is to be preserved. Rather, vague adjectives like ‘tall’ and ‘short’ are taken to denote so called measure functions
from individuals to positive and negative degrees, respectively, on the height scale: the taller the person, the greater is the degree assigned to it by the function. In comparative constructions, the degree morpheme ‘-er’ can be represented as follows (using ordinary lambda abstraction):

\[-er = \lambda G \lambda y \lambda x (G(x) > G(y))\]

The variables ‘x’ and ‘y’ range over individuals, and ‘G’ is a variable ranging over measure functions, so that for ‘taller’ we get the following (using lambda conversion):

\[taller = -er(tall) = \lambda y \lambda x (tall(x) > tall(y))\]

If we then take ‘than’ to be semantically vacuous we get the following for ‘taller than Mary’:

\[taller than Mary = taller(Mary) = \lambda x (tall(x) > tall(Mary))\]

Finally, for ‘John is taller than Mary’ we get the following:

\[John is taller than Mary = (tall(John) > tall(Mary))\]

Thus, ‘John is taller than Mary’ is true just in case the measure function denoted by ‘tall’ assigns a greater degree of height to John than it does to Mary; this is clearly the desired reading.

Next, Fara considers the case where we have a predicative occurrence of an adjective with an explicit comparison class, e.g. ‘John is tall for a basketball player’, and here it is proposed that there is a phonologically null degree morpheme. Kennedy calls this the absolute morpheme and it is represented here by ‘ABS’. In Fara’s version of Kennedy’s account, the meaning of the absolute morpheme is modified to mean roughly significantly greater than rather than strictly greater than. Accordingly, her definition of ‘ABS’ runs as follows:

\[ABS = \lambda G \lambda P \lambda x (G(x)! > (NORM(G))(P))\]

Here ‘P’ is a variable that ranges over properties (or kinds), ‘! >’ stands for the significantly greater than relation, and \((NORM(G))(P))\) is, intuitively, the typical amount of \(G\)-ness for things with property \(P\).\(^{81}\) Thus, ‘\(ABS(tall)\)’ denotes the following relation between individuals and properties:

---

\(^{81}\) As Fara (2000: 74) notes, NORM thus “combines with a measure function to yield a function from properties to degrees on the scale associated with the measure function”.

---
\[ \lambda P x(tall(x)! > (NORM(tall))(P)) \]

Finally, the analysis of ‘Tall for a basketball player’ goes as follows:

\[
(\bigcirc_{ABS(tall)})(\text{the property of being a basketball player}) = \\
\lambda x(tall(x)! > (NORM(tall))(\text{the property of being a basketball player}))
\]

Hence, ‘Tall for a basketball player’ is interpreted as a function that assigns the value true to an individual \( x \) just in case \( x \)’s height is significantly greater than is typical for a basketball player. As for cases where there is no explicit comparison class, Fara (2000: 75) assumes that there is a comparison class variable at logical form that gets assigned a value (i.e. a property) by the context.

The account given by Fara faces a number of problems, both when it comes to the interest-relative analysis, and when it comes to the formal semantics suggested. As Fara (2000: 55-56) herself points out, the different standards with which vague expressions can be used cannot always be traced to an implicit (or explicit) comparison class. The reason, according to Fara, that not every variation can be so traced is that relativisation to comparison classes is not an extensional phenomenon. It is not enough that they just contribute some arbitrary set; they must also form a kind, so that we can have a notion of what the typical degree of presence of the relevant property for the members of the class is:

That is why it sounds strange to say that my computer is tall for a thing on my desk, even though it is in fact the tallest thing on my desk. Because the things on my desk don’t form a kind, we have no notion of what a typical height is for a thing on my desk. (Fara 2000: 56)

Nevertheless, standards may be provided extensionally and arbitrarily, e.g. by reference to the immediate surroundings, and since the things in the immediate surroundings clearly do not need to form a kind (for which we have a notion of typical degree of the relevant property) the standards may not be traceable to any implicit comparison class. Thus it seems that Fara’s analysis would only fit those cases in which the standard is traceable to a comparison class, since NORM is defined in terms of typical amount of presence of the relevant property relative to the kind formed by the elements in a certain comparison class. Of course, it may be claimed that comparison classes are purely extensional and thus need not form a kind, but that is not a viable option for Fara. Firstly, she explicitly denies this. Secondly, even if she would be prepared to revise her view in this respect, such a move would undermine the semantics suggested, since it would no longer be possible for her to maintain that there is a typical degree of the relevant property in cases
where the comparison class is just an arbitrary collection of things in the immediate surroundings.

Moreover, Fara’s analysis of vague predicates requires for its generality that there is always some norm determining what is typical, and that a predication is true if and only if the relevant object has significantly more of the property associated with the predicate than is typical. This does not seem to hold in all cases. For instance, how does this apply to a sentence such as ‘My car is red’? Let us suppose that there is a norm for redness of cars. Would my car really have to be significantly more red than what is typical according to this norm in order for an utterance of this sentence to come out as true? Clearly not. We can truly utter sentences like these about cars that are no redder than what is typical.

Another problem for the semantics is that since it explicitly relies on a certain theory of gradable adjectives, it will not be general enough to be applicable to all vague expressions. Fara (2000: 71) acknowledges that a case by case analysis would be needed in order to generalise her proposal, and that the account cannot be straightforwardly extended to vague nouns like ‘heap’ since nouns are not semantically associated with the kind of dimension of variation invoked in the semantics above. Even if these difficulties could be overcome, there are further generality problems, since there are also adjectives which are vague but not gradable like ‘huge’ or ‘enormous’. Other problematic examples include constructions involving vague modifiers like ‘almost full’, ‘very old’ or ‘roughly two meters long’.

Even if we put the semantics aside for a moment and focus on the interest relativity, the account does not seem to be applicable in general. What if I do not care about the cost of discriminating between two saliently similar objects? That would seem to be a relevant factor in determining what my standing interests are. Regardless of the cost of discriminating, if I simply do not care about it, why should the boundary’s being located somewhere else satisfy my interests better than its being located right where I am looking?

Indeed, in such a case it might be more correct to say that there is no real cost of discriminating, and thus my standing interests should be just as well satisfied by the boundary’s being between the objects whose similarity I am actively considering as they would be by its being located between some other pair of equally similar objects.

One may also have worries about the notion of salience, and in particular about the crucial claim that all the similarities in the sorites series cannot be salient all at once. It is not clear that there is any plausible notion of salience

\[82\text{ Thanks to Elia Zardini for very helpful suggestions on these issues. See also Stanley (2003: 275n).}\]

\[83\text{ And if I can look right at the boundary, will I be able to see that the boundary is there? If not, what explains that it is hidden? Perhaps the salience of the similarity can do some work on the psychological level here, but then it is not clear why we need the extension shifting. More on this in chapter four.}\]
for which this is correct with respect to all versions of the sorites. Consider, for instance, Wang’s paradox, where the sorites series consists of the natural numbers, and the premises are ‘1 is small’ and ‘If \( n \) is small, then \( n+1 \) is also small’.\(^{84}\) I know exactly what the difference is between the members of each pair of adjacent numbers in the series, so it really does not make much sense to start investigating each pair in order to try to find out where the boundary is; it is just so obvious that there is no relevant difference between the similarities of the different pairs. Now, the question is why I cannot raise the similarity of each of these pairs to salience all at once. There is an exact numerical measure of the difference between each adjacent member of the series, I know what this difference is, and I know that it is exactly the same for each pair. Suppose that I focus on the similarity in terms of this numerical measure. Why would this not count as raising the similarity of all the pairs to salience? After all, the similarity between all the pairs is exactly the same, and it is this similarity that I am focusing on, so it would seem appropriate to say that I am actively considering the similarity of each pair. Since Fara (2000: 67) takes active consideration of the similarity to be enough to raise it to salience, this seems to undermine the claim that the similarity of all the adjacent items in a sorites series cannot be raised to salience at the same time. At the very least, more is needed to establish that there is a viable notion of salience that can do the required work.

The upshot is that Fara’s account is at best applicable to a limited range of cases, and thus cannot be seen as a successful general account of vagueness.\(^{85}\) However, as noted above, what really seems to do the work in Fara’s account is that the extension of vague adjectives can change as the relevant subject’s focus of attention shifts. If we take the V-factors to be features of the subject’s psychological state which are affected by such attention shifts, we might be able to preserve the crucial elements of Fara’s account while incorporating it into a more general account of how such states determine extensions.

### 3.6 Internal contexts

The most elaborate extant account of how psychological factors determine extensions in context is the one provided by Raffman in her 1994 and 1996 papers. Recall the forced march scenario from section 2.3 above, in which

---

\(^{84}\) One might argue that it does not make sense to talk about smallness tout court, but we could easily get around this by relativising ‘small’ to some suitable comparison class, e.g. ‘small for being the number of people watching the Champions League final’. Thanks to Crispin Wright for suggesting that this version of the sorites might constitute a counterexample to Fara’s claim.

\(^{85}\) Stanley (2003: 275-279) raises some further problems for Fara’s view, which will not be considered here. See Fara (2008) for a reply.
the subject is given the task to judge the objects in a sorites series ranging from red to orange. Raffman focuses on what happens in the mind of the subject as she is marched through the series. Firstly, she claims that the very perception of the looking red or orange of each patch activates a psychological category, looks red or looks orange respectively. Secondly, she describes two different mechanisms in the mind of the judging subject: one categorising and one discriminating. The categorising mechanism categorises objects, together or one by one, according the conditions for falling in a specific category. The discriminating mechanism is mainly in work when objects are judged pairwise (or in larger groups), and rather than assigning them to some specific category, it merely constrains the work of the categorising mechanism with the aim to ensure that sufficiently similar objects end up in the same category. In the beginning of the forced march, the categoriser will happily assign the obvious status (red) to the objects, but as the subject goes further into the borderline area, the categoriser will be more inclined to shift categories. The discriminator will, as long as possible, prevent the category shift from occurring, since adjacent objects are too similar to allow for a painless shift. However, as we have already seen above, Raffman (1994: 46) notes that this cannot go on through the whole series. At some point on each (complete) run through the series, a category shift will occur, and when the new category is activated, we get a change in the internal context – i.e. the psychological state which grounds the speaker’s dispositions:

(...) the speaker undergoes a kind of Gestalt shift that embraces #26 (and probably some of its predecessors) as well as #27. At the moment of shift to ‘orange’ the speaker is disposed to judge both #26 and #27 (plus some other patches on both sides) as being orange, thereby allowing for a change in kind while preserving the effective continuity of the series. Intuitively speaking, a string of patches shift their color simultaneously, so that #26 and #27 never differ in color at the same time. (Raffman 1996: 178)

To put it differently: the change of category “spills over”, as it were, to the neighbouring patches, so that in the new internal context in which the subject finds herself after the Gestalt shift, they too will belong to the category looks orange. This is the analogue to Shapiro’s claim that tolerance applies in reverse. 86

The purpose of the story about the categoriser and the discriminator is to illustrate the kinematics of the relevant kind of contextual changes. As indicated in the quote above, the extensions of vague predicates are relativised to what she calls internal contexts, and thus the V-factors are identified with the psychological states of competent language users that constitute internal

86 See section 3.2 above. Note that Shapiro borrows this idea from Raffman rather than the other way around.
contexts. But more needs to be said about the V-factors so conceived. Raffman (1996: 182) explicitly characterises an internal context as “a psychological state of a competent speaker that grounds his dispositions to apply certain predicates in certain ways”, but as she is well aware, this is not enough to nail down this notion, since we can distinguish between different levels of dispositions. A simple disposition to judge that \( p \) may be called a first-order disposition to judge that \( p \), a disposition to form a disposition to judge that \( p \) may be called a second-order disposition to judge that \( p \), and so on. To illustrate, consider the case in which the relevant competent speaker \( S \) does not yet have a (first-order) disposition to judge that an object \( a \) is red, but would become disposed to judge that \( a \) is red if she were confronted with \( a \). In such a case, \( S \) has no first-order disposition to judge that \( a \) is red, but she has a second-order disposition to judge that \( a \) is red.

A complication here is that one and the same psychological state may be taken to ground dispositions of different levels, so we cannot distinguish between different psychological states in terms of which levels of dispositions they ground. Nevertheless, we can distinguish between different notions of internal context in terms of this hierarchy of dispositions, since we can distinguish between different individuation principles for internal contexts in terms of levels of dispositions. For instance, we can say that two psychological states counts as one and the same internal context just in case they are identical when it comes to the first-level dispositions they ground, or we can say that identity of internal context requires that they ground the same higher-order dispositions as well. In order to avoid too cumbersome formulations in what follows, we can make two simplifications. Firstly, we can talk more metaphorically of internal contexts as containing dispositions, and thus we can distinguish the alternatives above by saying that according to the first, internal contexts contain only first-order dispositions, while according to the second, they contain higher-order dispositions as well. Secondly, we can talk of the dispositions contained in an internal context as being what determines the status of the relevant objects, although strictly speaking, it is the psychological state that grounds them that has this determinative role. To return to the example above, we can now see that if internal contexts are taken to contain dispositions of levels higher than one, then \( a \) will count as red in virtue of \( S \)’s second-order disposition, but if internal contexts are taken to contain only first-order dispositions, \( S \)’s internal context will not determine that \( a \) is red.

A closer look at Raffman’s account reveals that she takes internal contexts to contain only first-order dispositions. She distinguishes between the context of consideration and the context of judgement. Items such that consideration of them triggers a shift in first-order dispositions cannot be judged in the internal context in which they are (initially) considered, and consequently, the subject cannot have any first-order disposition to judge them in
the initial psychological state. In order to bring out this distinction, she focuses on a particular internal context $IC_1$:

$IC_1$ is that state in which the speaker is disposed to judge #1-$#26$ red in $IC_1$, to judge #28-$#50$ orange in $IC_1$, and to judge #27 orange in some new context or other. Once in this new context (call it ‘$IC_2$’), he will enjoy a new set of dispositions; the new context will constitute a new context of consideration for the patches in the series. For instance, he might now be disposed to judge #1-$#18$ red and #30-$#50$ orange, and to judge #19-$#29$ orange in yet another new context. (Raffman 1996: 186)

In other words, $IC_1$ contains the speaker’s first-order dispositions to judge #1-$#26$ red and #28-$#50$ orange. Even though her psychological state is such that she will be disposed to judge #27 orange once she has formed a new set of disposition, she does not have a first-order disposition to judge #27 orange. However, she is disposed to form this new set of dispositions on considering #27. If she were to consider #27, she would judge it to be orange, but before she would make that judgement, her psychological state would shift in a way that would alter her first-order dispositions. This is just to say that she has a second-order disposition to judge #27 orange.

One reason why one might want to restrict internal contexts to first-order dispositions is that, in cases like the one just considered, there will be conflicts between first-order dispositions and second-order dispositions. For instance, the speaker in Raffman’s example has a first-order disposition to judge #30 red, and a second-order disposition to judge #30 orange. So if we were to allow both first-order and second-order disposition to figure in the internal context, we would, it seems, end up with inconsistent assignments. But this difficulty could easily be avoided by giving priority to dispositions of lower order. If the internal context contains a first-order disposition to judge #30 red, then #30 will be red, even if there is some second-order disposition to judge #30 orange. However, when there is no first-order disposition, as in the case of #27, the second-order disposition kicks in and determines that #27 is orange. This would capture the simple idea that each patch has whatever status the subject would judge it to have if she were to consider it.

But as we have already seen, Raffman has something more complex in mind. According to her view, a patch has its colour(s) relative to contexts in which it can be judged, rather than relative to contexts in which it can only be considered. This means that relative to a total context – consisting of the internal context taken together with the external context (which includes standard contextual factors, lighting conditions, how the items are presented etc.) – only those items that the subject has a first-order disposition to judge in some way or other will have a status at all. Dependence upon total context thus goes hand in hand with a form of judgement dependence, which Raffman (1996: 186) expresses in the following principle:
For any object O, vague predicate ‘P’, and total context TC: ‘P’ applies to O, relative to TC, just in case a competent speaker could judge O in TC and, were he to judge it in TC, he would apply ‘P’ to it.

As mentioned in section 2.2 above, genuine judgement dependence requires that it is the judgement itself that determines the truth-value, and since there is some reason to think that this is not the case on Raffman’s view, it would be more appropriate to take (V) to reflect that the internal context co-determines the truth-value and the speaker’s judgement. We will return to this issue in section 3.7 below. Anyway, on Raffman’s view, items like #27 in the example above will not have a status relative to the operative total context, so it will not have any colour at all relative to the total context TC1 consisting of IC1 and the external context (which may be assumed to be fixed).

So, one consequence of Raffman’s view is that there are no-status items, for instance, patches in the sorites series ranging from red to orange that do not have a colour. The introduction of this notion raises a number of questions. Firstly, how is this compatible with bivalence? If some patch in the series lacks a status, will that not lead to a truth-value gap? Not necessarily. Instead of taking no-status items to constitute truth-value gaps, Raffman simply counts them as falling outside the extension of both ‘is red’ and ‘is orange’.

It does not follow from #27’s lack of a color relative to TC1 that the sentence ‘#27 is red’ has no truth-value or an “indeterminate” truth-value relative to TC1. Rather, that sentence is false: an object that has no color is not red. (Raffman 1996: 192)

Thus, it will be false in TC1 to say of #27 in the example above that it has a colour, it will be false to say that it is red, and it will be false to say that it is orange.

What role do no-status items play in Raffman’s theory? Firstly, she invokes this notion in her solution of the sorites paradox. As illustrated by the forced-march scenario above, there will always be some item in the series that would trigger a shift into a new internal context, like #27 in the example above. Relative to any total context there will be some patch #n in the series such that #n is red and #n+1 is a no-status item with respect to colour. Since this implies that #n+1 is not red, we get a counterexample to the strong tolerance principle, and thus the sorites paradox cannot be generated. Exactly which one(s) of the objects in the series that lack colour will vary with the total context, and it will do so even if the external context is completely fixed through the whole series. A crucial point for Raffman is that there is always at least one item in the series that cannot be judged in the context in
which it is considered, namely the item that would trigger a context shift.\textsuperscript{87} That is why the series will always contain some no-status item(s). However, the appeal to no-status items is not required in order to generate the counterexample to strong tolerance. In fact, we could just as well include higher-order dispositions in the internal context and allow the second-order disposition to judge #27 orange to determine that #27 is orange. Given that being orange is incompatible with being red, we get exactly the same counterexample to strong tolerance.

Secondly, Raffman can invoke the notion of a no-status item in order to avoid the consequence that a competent speaker could be disposed to assign incompatible predicates to adjacent items in the sorites series relative to the same internal context:

\begin{quote}
No single internal context can dispose a competent speaker to ascribe incompatible predicates to marginally different items; therefore one and the same internal context cannot dispose a speaker to judge #26 red and to judge #27 orange. (Raffman 1996: 184)
\end{quote}

If we include second-order dispositions in the internal context, then there will be one internal context in which the speaker has a first-order disposition to judge #26 and a second-order disposition to judge #27 orange. If this means that the speaker is disposed to judge #26 red and #27 orange, and one thinks that a competent speaker cannot have such a disposition, one may feel tempted to exclude second-order dispositions from internal contexts, and accept no-status items. Indeed, such a disposition may even be thought to threaten Raffman’s weak tolerance principle (IP\textsuperscript{*}), at least given that a pairwise presentation of #26 and #27 would not automatically erase the disposition.\textsuperscript{88} Note, however, that even if we reject no-status items and let second-order dispositions be part of internal contexts, we will not be committed to saying that the speaker is disposed to judge #26 red and #27 orange. Recall that when the speaker considers #27, she will shift internal context so that she no longer is disposed to judge #26 red. Thus, even if we include second-order dispositions in internal contexts, there is no internal context in which she is disposed to make both of these judgements. So, neither the counterexample to strong tolerance nor the proposed constraint on competent speakers’ dispositions requires that we restrict ourselves to first-order dispositions and accept no-status items.

From an intuitive point of view, the notion of no-status items seems quite bizarre, and Raffman’s attempt to argue that it is in fact innocuous is not very convincing. She starts by claiming that the reason that it seems so bizarre is that we do not realise how little is being claimed:

\textsuperscript{87} As we will see below, there are reasons for thinking that there will be more than one such item.
\textsuperscript{88} See section 2.3 above.
In particular, there is no time at which any patch or other visible object lacks a color: for every visible object, there is at any time some total context(s) relative to which it is colored. Simply put: every visible object is colored at all times. (Raffman 1996: 188)

At first sight, this passage is quite puzzling. What it seems to say is that since for each object there is some total context relative to which it has a status, each object has a status at all times. However, given that the status of the relevant objects varies with total context, what matters is whether or not an object has a status relative to the operative total context. If the operative context fails to determine a status, then that object lacks a status relative to that context. It does not make sense to say that it has a status anyway just because it has a status relative to some other total context. In fact, given that its status is contextually determined, it does not make sense to ask whether it has a status or not unless we relativise to the appropriate kind of context. That would be like asking whether or not the expression ‘the guy sitting on my left’ has a reference without specifying the relevant contextual parameters. Moreover, if we insisted on the claim that an object has a status just because it has a status relative to some (possible) total context, there would not be any genuine no-status items left. Instead of sometimes lacking a status, most (borderline) objects would have several incompatible statuses at all times. Of course, this need not be problematic in itself given that we take them to have these statuses relative to different total contexts, but then we should refrain from saying anything about the status of an object other than relative to a given total context. In particular, we should not say that an object has a status at all times just because there are possible total contexts relative to which it has a status.

However, once we consider the quote above in the context in which it occurs, we soon realise that it probably should not be given this puzzling interpretation. Here is the passage which immediately follows it:

Thus we competent speakers never encounter a no-status item. “No-status” is not an assignment ever made by a competent speaker, because the very act of considering a patch or other object with respect to color always occurs in some internal context or other. Internal contexts travel with us in our heads, as it were, and so we are always, automatically, in the requisite context. (Raffman 1996: 188)

This suggests that ‘visible’ as it occurs in the first quote should be understood as ‘being considered’, and that the point is that whenever we consider an object which lacks a status relative to the context we are in, we will enter a new context relative to which that object lacks a status. This makes more sense as an interpretation of Raffman’s text, but it also highlights one of the things that seem problematic with no-status items. On this view, certain patches which are, by any intuitive standards, coloured all the time, might
suddenly lose their colour if we do not watch them carefully enough, even when their status is assessed with respect to the right kind of context, just because of some subtle shift in the relevant subject’s dispositions. Consider the sorites series of patches ranging from red to orange. Surely we would like to say that all patches in that series are coloured at all times, even if some of them may sometimes count as red and sometimes count as orange. Indeed, since the transition between red and orange may be assumed to be completely smooth, we would even expect the sentence ‘All patches are either red or orange’ to be true at all times, at least when it is assessed with respect to the right kind of context. Also, the very notion of lacking a status is somewhat obscure. In the example we have been considering above, lacking a status could be cashed out as lacking a colour. But in other cases it is harder to see what it would mean to lack a status. For instance, what is the analogue of lacking a colour when it comes to ‘bald’, ‘rich’ or ‘tall’? If there were significant theoretical benefits to be had by invoking no-status items, we might be able to live with these counterintuitive consequences. However, as we shall see in the remainder of this section, no-status items are problematic from a theoretical perspective as well.

One may be prepared to swallow the consequence that one or a few items in the series lack a status, but it would be harder to accept that virtually all items in the series could lack a status. But given that the relevant dispositions are sufficiently unstable, there may occur slight changes in them all the time, so that no matter which patch one focuses one’s attention on, there will be a shift in total context. Presumably, it is not even possible to decide whether or not such slight changes occur, but apart from just stipulating that the answer to this question will be negative, it is not clear how such instability could be ruled out. For all we know, the relevant kind of dispositions may well be in constant flux. Once we acknowledge the possibility of this instability, we also acknowledge, in effect, that just about any patch in the series might be a no-status item. Of course, we might stipulate that the clear cases will always have a status, but if we want clear case constraints to follow from our account of the V-factors, nothing so far guarantees that the clear cases cannot lack a status. The characterisation of IC1 in the example above, according to which there is only one no-status item, rests on the simplifying assumption that only #27 is such that the context in which it is considered and the context in which it is judged will differ. Indeed, Raffman herself seems willing to accept that even consideration of clear cases might trigger changes in the relevant dispositions:

Just for example, given certain familiar “order effects”, consideration of a clearly orange patch like #50 might tend to “strengthen” the ORANGE homunculus, thereby enabling her to push her RED opponent backward toward #1 and establish a new internal context. Any number of scenarios are possible. But I want to keep things simple. So let’s assume, perhaps implausibly,
that #27 is the only patch in the series that would trigger a shift to a new internal context, and that each of #28-#50 would be judged orange in IC1.

(Raffman 1996: 185-186)

As mentioned above, we can salvage the clear cases by stipulating that they always have a status. However, it seems bad enough that all borderline cases might actually lack a status. How so? Well, as we have seen, an item that lacks a status falls outside the extension of ‘is red’, so if all borderline cases lack a status, the extension of ‘red’ could only contain clear cases. But then it seems that the whole story about contextual extension shifts falls out of the picture.

Perhaps we could claim that there is still room for extension shifts, since some borderline cases – those that are presently considered – do have a status. So for instance, when the subject judges patch #24 to be red, patch #24 is included in the extension, even though patch #20 lacks a status, and is thus not included in the extension. However, this is not enough to dispel the worries about no-status items. Firstly, it is not obvious that the patch presently considered will always have a status. The total context might very well change before a judgement is made, and even when a judgement has been made, it might be the case that the very patch just judged cannot be considered without a change in the total context. Secondly, even if we could make room for extensions shifts in this way, it seems that Raffman would face the following dilemma. One the one hand, the extensions determined in this way would violate the penumbral connection that if $x$ is red, then anything redder than $x$ is also red. On the other hand, we could avoid this by stipulating that such penumbral connections hold so that whenever patch #24 is included in the extension, patches #1-#23 are automatically included in the extension as well. The problem with this alternative is that it seems inconsistent with Raffman’s claim that the series would always contain some no-status item. Suppose that patch #46 is the last borderline case and that it is judged to be red. Then patches #1-#46 would have a status (red), the clear orange cases #47-50 would have a status (orange), and there would be no room for no-status items.

So, why not drop the restriction to first-order dispositions and take internal contexts to be individuated in terms of what judgement the competent subject would make about the items in the series, possibly in a slightly different psychological state? That would allow us to take total contexts to determine a status for all items in the series, and we would not have to adopt the idea of no-status items. For instance, TC1 would determine that #1-#26 are red, and #27-#50 are orange, simply because if the subject were to consider an arbitrary patch in the range #1-#26, she would judge it to be red, and if the subject were to consider an arbitrary patch in the range #27-#50, she

---

89 As required by the principle (CV3) stated in chapter two.
would judge it to be orange. Of course, when she considers #27, the context would shift from TC1 to some other total context. Still, in TC1, she is (indirectly) disposed to judge #27 to be orange, even though she will, so to speak, take a detour over the (second-order) disposition to change her (first-order) dispositions. On this view, the V-factors are identified with the psychological states that ground the relevant first- and higher-order dispositions, and relative to any total context, all items in the series can be taken to have a status at all times.\footnote{Note that in her 1994 paper, Raffman does not make any use of no-status items.}

### 3.7 Sharp boundaries

Are there sharp boundaries in context? As we have already seen, the accounts considered above do not agree on how to answer this question. Moreover, it is not entirely clear what this question means. On one understanding, what we are asking is whether or not there is a sharp cut-off with respect to a given sorites series. A positive answer to the question understood in this way does not amount to claiming that bivalence holds. There might well be objects that are not part of the present series, and that fall in between the objects between which the line is drawn by the relevant contextual factors with respect to the present series. Utterances about these objects may thus come out as neither true nor false, so in order to guarantee that bivalence holds in general, we need sharp boundaries \textit{tout court}. So, what do contextualists say about this issue, and what should they say?

Soames allows for sharp cut-offs with respect to a given sorites series, but he also allows for gaps. The cut-offs will typically be between the undefined cases and the defined cases, but in certain circumstances the whole series will be defined, and there will be a sharp line between the extension and the anti-extension with respect to the series. However, even in such special circumstances, it is possible that there are objects which are not part of the series such that they would fall between the extension and the anti-extension. The explicit judgements made by the speakers together with the relevant weak tolerance principle might suffice for drawing a boundary with respect to one specific series without drawing a boundary with respect to any arbitrary series. Since Soames has no interest in claiming that bivalence holds, this does not create any immediate problem for his account.

Shapiro does not allow for sharp cut-offs even with respect to a given sorites series as long as tolerance remains in force. On his view, there will always be a gap in the series, since on each complete run at least one judgement will be removed from the score in order to satisfy weak tolerance. One might protest that the “implicit denial” of the previous judgements that occurs at the jump should not only lead to a removal of the relevant judge-
ments from the score, but they should also be replaced by their negations. One might back this up by saying that the relevant subjects are now disposed to make the opposite judgement, and since Shapiro himself accounts for judgement dependence in terms of the biconditional (B), this should be enough to put them on the score:

(B) An item lies in a given category if and only if the relevant competent subject(s) would judge it to lie in that category.

This shows the importance of distinguishing between two different notions of judgement dependence. As Shapiro develops his account, it becomes rather clear that when it comes to the communal relativity that he focuses on, it is the actual explicit judgements made by the relevant subjects that matter for what goes on the score rather than their dispositions. Let us thus distinguish between dispositional judgement dependence, which may be spelled out in terms of (B), and occurrent judgement dependence, which may be accounted for in terms of the following principle:

(B*) An item lies in a certain category iff the relevant competent subjects judge it to lie in that category.

Although Shapiro explicitly refers to (B) rather than (B*), it is clear that the form of judgement dependence he actually invokes is better captured by (B*).91 In contrast, Raffman explicitly defines internal contexts in terms of dispositions, so insofar as her account involves genuine judgement dependence at all, it should be dispositional rather than occurrent. However, note that the V-factors are identified with certain psychological states which ground the subject’s dispositions. Thus, it seems that Raffman’s theory does not involve any genuine judgement dependence at all, but rather a form of co-determination according to which the V-factors determine the extensions and the dispositions of the relevant subjects, in a way that makes the extensions coincide with how the subjects would judge.92

If dispositional judgement dependence holds, or if the V-factors co-determine the dispositions and the extensions in the way just suggested, there will be a sharp boundary with respect to a given sorites series, at least given that the relevant subjects have dispositions of the relevant kind with respect to the objects in the series; in order to guarantee that bivalence holds, this has to hold with respect to all possible cases. Is it plausible to assume that the relevant subjects do have determinate dispositions about all the rele-

91 Provided, of course, that the direction of determination is the right one. See section 2.2 above.
92 For more on the distinction between judgement dependence and co-determination, see section 2.2 above.
vant cases? If we take the relevant dispositions to be captured by counterfactuals, we may ask whether or not each of these counterfactuals have determinate truth-values. Shapiro registers “sceptical agnosticism” about the assumption that they do have determinate truth-values, but he does not challenge it further. But it seems that this is a rather central question for a contextualist who wants to preserve bivalence, and we might expect at least some argument for the claim that the V-factors determine sharp boundaries in context. Quarrels about where the burden of proof lies are seldom very constructive, but since there are rather strong intuitions against the existence of sharp boundaries, proponents of this claim should at least say something in way of support for it. And in fact, Fara, who is a firm believer in bivalence, has tried to anticipate worries of this kind as follows:

I take it, returning to the example we began with, that when I desire some coffee it is just a brute fact that there is a least amount of coffee of which it is true to say that it will satisfy my desire. Anything less will not do. I know that many philosophers will protest; they will say, “But how could it be that your desire for coffee is like that?” I say, given that a teaspoon of coffee is not enough to satisfy my desire, how could it not be like that! (Fara 2000: 70)

Fara’s reply, as I understand it, has two parts. Firstly, she says that there are brute facts that determine a boundary between the extension and anti-extension. If this is true, then there will be no room for truth-value gaps and bivalence will hold. But as a reply to the worry above, this is clearly unsatisfactory. The worry was that there might be no such facts, and that the lack of them entails exactly the kind of indeterminacy that is incompatible with bivalence. We cannot meet this worry simply by pointing out that there are amounts that are definitely too small.

At this point, the second part of the reply becomes relevant. Suppose that there are amounts for which it is indeterminate whether or not they satisfy my desire. Since it is indeterminate whether or not they satisfy my desire, it is not true to say of them that they satisfy my desire. If it is not true to say of them that they satisfy my desire, they do not satisfy my desire. And if it is not true to say of them that they would satisfy my desire, we can just as well say that it would be false to say of them that they would satisfy my desire. Similarly, the proponent of dispositional judgement dependence could say that all the objects which the relevant subject has determinate dispositions to judge as belonging to a certain category belong to that category, and the rest do not belong to that category. If they belong to a given category, it is true to say of them that they belong to that category, but if they do not belong to

93 Instead he argues that even if bivalence holds and classical logic can be saved, it is not clear that we can apply it. See Shapiro (2006: 34-35) and chapter six below.

94 Unless their belonging to the category is guaranteed by penumbral connections – see the discussion of no-status items above.
that category, it is false to say of them that they belong to that category. The idea here is that the proponent of bivalence can adopt a kind of parasitic strategy, according to which all cases that are indeterminate according to the objector are counted as false. Such a strategy has been suggested by Williamson in order to meet the corresponding worry regarding epistemism. The idea is that in cases where our use fails to determine that an utterance is true, because, as Williamson (1994: 208) puts it “everything is symmetrical at the level of use”, the utterance is false in virtue of this failure, and thus the symmetry does not remain at the level of truth and falsity. In the same way, the contextualist proponent of bivalence could claim that if there are cases in which the V-factors fail to determine that an utterance is true, then that utterance should thereby count as false.

If the parasitic strategy is to work there must be a sharp boundary between the indeterminate cases and the rest, and the objector might well dispute that there is such a boundary. The objector might claim that it is indeterminate which the indeterminate cases are, and that it is indeterminate for which cases it is determinate whether or not they are indeterminate, and so on indefinitely. The indeterminacy will remain at each stage. Hence, the argument goes, at no point do we end up with a sharply bounded category. But even if one can iterate this point into the transfinite, it may be argued that it is still possible to get rid of the indeterminacy. Consider the operator $D^*$, such that for any proposition $p$, $D^*p$ is defined as the infinite conjunction: $p$ and determinately $p$ and determinately determinately $p$... It seems that, for any $p$, $D^*D^*p$ and $D^*p$ will be equivalent, and thus it seems that it could not be indeterminate whether $D^*p$. If this is right, then, the parasitic strategy could be applied using $D^*$: For all $p$, $p$ is true iff $D^*p$, and false otherwise. Since $D^*$ is not vague, this guarantees that each proposition is either true or false.

The operator $D^*$ was introduced by Williamson (1994: 160) in order to argue that the supervaluationist account cannot give a proper account of higher-order vagueness. However, he also suggested a possible reply, which was later taken up by Keefe (2000: 210). The idea is that one might insist that $D^*$ is vague, but that its vagueness is disguised by the fact that we cannot express it by using $D^*$ itself. More generally, the idea is that for any indeterminacy operator $D$, we need another notion to capture the vagueness of $D$. Williamson (1994: 160) himself suggests that to use $D$ in order to measure its own vagueness and then claim that $D$ is non-vague by this measure, would be like claiming that a cloud has an exact length because it is exactly as long as itself. This fits well with Keefe’s suggestion that higher-order vagueness should be assimilated to vagueness in the metalanguage. In order to express the vagueness of the object language operator $D$ we need to use the metalinguistic operator $D'$, and in order to express the vagueness of

---

93 See Burgess (2001) and Weatherson (2003) for some general worries about this strategy.
we need to ascend to the meta-meta-language, and so on. On this picture, the vague cannot be reduced to the non-vague, and thus a non-vague operator cannot be defined in the manner suggested above.

If, as Keefe puts it, “the vague is not reducible to the non-vague” in the sense that there is no way to eliminate the indeterminacy by introducing notions of “superdeterminacy” like the one expressed by \( D^* \), the parasitic strategy will not be of much help to the proponent of bivalence. With respect to a given finite sorites series, we might eventually run out of objects to asign to each category, and in that way, the ascent to higher levels of determinacy might lead to a cut-off between the objects in the series which belong to the “superdeterminate” category and the rest, but this does not show that there are sharp boundaries with respect to any arbitrary series. In particular, this will not help at all when the sorites series is infinite.

One might think that “local” contextual factors are more likely to be able to determine sharp boundaries than “global” facts about the overall pattern of use. But even if it were to be granted that contextual facts provide a better basis for determining boundaries, one could still object that there is no reason to think that there is any unique function from such facts to sharp extensions. This objection, raised by Keefe against the epistemic view, may seem to apply regardless of what kind of factors we appeal to. However, the contextualist might respond that there is in fact an important difference. Williamson does not say anything more about the function from use to extensions than that the extensions supervene on use in some way or other. He happily admits that the supervenience relation may be “unsurveyably chaotic”, and that it may not be possible to give a proper account of it. In contrast, the contextualist might claim that she can offer a story about how the V-factors determine extensions in context. The details of such a story would have to differ depending on the details of the theory, and some of them might turn out as more plausible than others, but just to get an idea of how the story could go, let us briefly consider an example. Suppose that the V-factors are identified with something like Raffman’s internal contexts. Then it might be claimed that if a subject has determinate dispositions to judge all and only the (possible) objects in the set \( E \) as being red, then \( E \) will be the extension of ‘is red’. In this simple case where we have a single individual who does not share the relevant kind of context with anyone else, there is no problem about picking out a unique function. Of course, once one takes all possible objects into account, it becomes more doubtful whether the disposi-

\[ 94 \]

\[ 96 \] Raffman (2005b: 29n) claims that “[a] sorites series is by definition finitely membered (…)” However, we can define a series via the function \( f(n)=(1-0.99^n) \) and then formulate a sorites argument using the premises ‘\( f(0) \) is a low probability measure’ and ‘If \( f(n) \) is a low probability measure, then \( f(n+1) \) is a low probability measure’. As the infinite series converges towards 1, the premises will yield an absurd conclusion, so here we have an example of an infinite sorites series.
tions of a normal subject could really be determinate enough to pick out such a set, and this takes us back to the worries discussed above.

So, although the contextualist proponent of bivalence face problems similar to those facing the epistemicist, there is some hope that she could do somewhat better at least with respect to some of them. However, in order to substantiate the claim that the V-factors draw sharp boundaries in context, a lot more is required. Moreover, as we will see in chapter six, it is far from clear that success in this respect would be as rewarding as one might have expected, since given instability of the boundaries, there are further doubts about the application of classical logic to vague language, even if it is in fact valid.
4. The Psychological Question

4.1 The question

As we have seen in previous chapters, contextualists about vagueness reject strong tolerance in favour of weak tolerance. This means that they need to provide an answer to what Fara calls the psychological question:

If the universally generalized sorites sentence is not true, why were we so inclined to accept it in the first place? In other words, what is it about vague predicates that make them seem tolerant and hence boundaryless to us? (Fara 2000: 50)

This question does not only arise for contextualism. Anyone who denies the strict truth of strong tolerance, and employs a solution to the sorites which turns on a denial of the full truth of the major premise, owes us some kind of explanation of why soritical reasoning is so seductive despite its unsoundness.

Different kinds of accounts can offer different kinds of explanations. For instance, a degree theorist who equates the degree of truth of a universally quantified sentence with the product of its instances can take the generalised sorites premise to be almost completely false even though its instances are almost completely true. The appeal of the generalised sorites premise can then be explained in terms of the high degree of truth of its instances. To take another example, Keefe argues that the supervaluationist can answer the psychological question by appeal to a confusion between a sentence being true (false) and having a true (false) instance. Recall that a sentence of the form $\exists a_ia_{i+1}(Fa_i \& \neg Fa_{i+1})$ is true on the supervaluationist account, although it has no true instance, and likewise, a sentence of the form $\forall a_ia_{i+1}(Fa_i \supset Fa_{i+1})$ can be false although it has no false instance. Keefe’s proposal is that we tend to think that sentences of these forms must be true or false, respectively, because they lack a truth- or false-making instance. A possible epistemicist strategy would be to argue that our tendency to accept strong tolerance is due to a tendency to think that we would be able to find the boundaries if there were any.

97 For a critique of this explanation, see Fara (forthcoming).
98 This assumption might also make one inclined to reject epistemicism. See Williamson (1994: 234) for discussion.
Our focus in this chapter is contextualist strategies for dealing with the psychological question. As we have already seen, they typically appeal to weak tolerance principles, examples of which were given in section 2.3. However, there is more than one way to invoke weak tolerance for this purpose, and there is no consensus about which strategy is the best one. In what follows, we shall see that both of the main strategies face significant problems.

4.2 Confusion strategies

Both Raffman and Soames try to explain why we tend to accept strong tolerance principles by claiming that we are inclined to confuse them with weak tolerance principles. Recall that Raffman distinguishes between the following principles:

(IP) For any n, if patch #n looks red then patch #(n+1) looks red.

(IP*) For any n, if patch #n looks red then patch #(n+1) looks red, insofar as #n and #(n+1) are judged pairwise.

Raffman takes the strong tolerance principle (IP) to be false, while the weak tolerance principle (IP*) is taken to be true. The confusion that leads us to believe (IP) is described as follows:

In “intuiting” that every #n and #(n+1) are category-identical, we rightly envision ourselves as judging each two pairwise, simultaneously, one aside the other. So what (reexamined) intuition tells us, and what is true, is that [(IP*) is true]. […] What I am contending is that as it stands, [(IP)] is false. However, it is easily mistaken for [(IP*)]. (Raffman 1994: 47)

This explanation relies on a number of different claims, each of which must be true if the explanation is to be successful. The first main claim is that when we are trying to decide whether or not tolerance holds, we think of ourselves as applying a certain method, namely the method of inspecting each pair of adjacent objects in the series. Raffman also says that we rightly envision ourselves as applying this method. What she means by ‘rightly’ here is perhaps not obvious, but a plausible interpretation is that she is simply saying that the mistake that leads us to believe the strong tolerance principle is not that we start off with the wrong method. Rather, and this is the second main claim, when we apply this (adequate) method, we should come to believe (IP*), but since it is so easy to confuse (IP) with (IP*), we tend to come to believe (IP) instead.
The first claim is empirical, and it is far from clear that it is correct. Clearly, there are other methods that could be applied, and which, when correctly applied, will not lead us to believe (IP*). In such cases the tendency to confuse (IP) and (IP*) will have no relevance. For instance, as Keefe (2003: 80) suggests, the strong tolerance principle could just be considered in the abstract, and be found to be compelling. Many ordinary speakers might just be inclined to think that it holds in general that pulling a hair from a man’s head cannot make him bald, that adding a grain of sand cannot turn something into a heap, or that objects that are indistinguishable with respect to colour cannot look different with respect to colour. This could be compared to our inclination to believe in certain penumbral connections, for instance that anyone who has less hair than a bald man (arranged in a sufficiently similar way) must also be bald, or that any object which is redder than some red object must also be red. It does not seem plausible that one needs to envision oneself as judging the relevant objects pairwise in order to come to believe in such penumbral connections. Arguably, the same holds for the general formulations of strong tolerance. One could be convinced that such general principles hold, and thus be inclined to believe in strong tolerance without envisioning oneself as judging the relevant kind of objects pairwise. Since Raffman’s preferred method is not applied at all in such cases, her explanation does not apply. It could not be claimed that these cases should be ruled out just because the “right” method is not applied. It may well be quite common to come to believe the strong tolerance principle in this alternative way, and if that is the case, Raffman’s explanation will simply not apply in these cases.

What about Raffman’s second claim? Is it easy to confuse (IP) and (IP*)? Well, once you have read Raffman’s paper, you are not likely to confuse them, at least not if you apply the method suggested, so this must be taken as a claim about more theoretically innocent subjects. Do we have any reason to think that theoretically innocent ordinary speakers tend to confuse principles like (IP) and (IP*)? One reason for thinking so is that ordinary speakers are simply not aware of the (alleged) facts that the extensions of vague expressions are relative to the V-factors, and that considering objects singly might result in that they are judged in different contexts. In other words, the idea here is that the confusion is likely to occur because ordinary speakers are ignorant of certain features of vague expressions. Thus, insofar as contextualism about vagueness entails that speakers suffer from such ignorance, it may also provide the resources to explain why ordinary speakers tend to make the relevant kind of confusion. However, positing such ignorance may in turn lead to undesirable consequences, which will be discussed in section 4.7 below.

Even if this is right, it is not enough. In order to make sense of the claim that our belief in (IP) is due to a confusion with (IP*), both of these principles must be available to the subject in some way. If you have never even
thought of the way the objects are presented, as will arguably be the case if you just consider the strong tolerance principle in the abstract, (IP*) may not even be available to you in the way required for a confusion to take place. It might be argued that if you proceed by the method suggested in the quote from Raffman, the pairwise presentation envisioned will somehow make the principle available in the required way. At least, it could be claimed that the “evidence” upon which you build your belief in (IP) only supports (IP*), and this may perhaps count as a confusion of sorts. However, since there is reason to doubt that this is the only, or even the typical way to come to believe in strong tolerance, the explanation as a whole does not look very promising.

Soames also appeals to a confusion between weak and strong tolerance in order to answer the psychological question. As we saw in chapter two, he distinguishes between the following principles:

(P2) For any two patches of colour x and y that are perceptually indistinguishable in colour to competent observers in good light under normal conditions, x and y look to be the same colour and so one looks red if the other looks red.

(P2*) For any two patches of colour x and y that are perceptually indistinguishable in colour to competent observers in good light under normal conditions, if someone who is presented with x characterises the predicate looks red as applying to it, then that person is thereby committed to a standard that counts the predicate as applying to y as well.

The strong tolerance principle (P2) is rejected, while the weak tolerance principle (P2*) is taken to be a true metalinguistic claim. Soames presents the following intuitive line of reasoning connecting (P2) and (P2*):

i. If (P2) were false, then some patch of color x would look [red] even though a perceptually indistinguishable patch x_i+1 did not look [red].

ii. Therefore if, upon being presented with those patches, one said of x, it looks [red] while saying of x_i+1 it does not look [red], one would have spoken the truth and only the truth.

iii. But (P2*) tells us that this cannot be, for any characterization of x_i as looking [red] will carry with it a characterization of x_i+1 as also looking [red].

iv. Thus (P2) cannot be false and so must be true. (Soames 1999: 215)

---

99 As we will see below, this resembles Fara’s strategy.
The most significant flaw in the reasoning is that step (ii) does not follow from step (i). Even if indistinguishable patches can fall into different semantic categories, they can never be so judged, since an explicit characterisation of one of them as falling into a category will put a standard in force according to which the other falls in that category too. As we noted in section 2.3 above, this means that the truth of (P2*) does not rule out the possibility that (P2) is false:

To see this, imagine a situation in which a subject is presented with two items $x_{i-1}$ and $x_{i+2}$, drawn from a Sorites progression, the colors of which are just barely distinguishable perceptually. Imagine further that the subject is not shown any other items in the progression. (P2*) allows for the possibility that the subject might legitimately characterise $x_{i-1}$ as looking [red] and $x_{i+2}$ as not looking [red], thereby committing to a standard that classifies $x_i$ as looking [red] and $x_{i+1}$ as not looking [red] even though these two are perceptually indistinguishable. In such a context, the standards governing the predicate looks [red] implicitly classify members of a perceptually indistinguishable pair in opposite ways, thereby falsifying (P2) even though any attempt to present the falsifying pair for explicit characterization will result in a change of standards that classifies them in the same way. Failure to notice this extremely subtle and unusual possibility encourages us to confuse (P2) with (P2*) and helps generate an air of paradox. (Soames 1999: 215-216)

It seems plausible that a normal speaker who is presented with the reasoning connecting (P2) and (P2*) will indeed overlook this possibility and buy into the reasoning. If this is right, it shows that speakers who already believe (P2*) can be tricked into believing (P2). But in order to answer the psychological question, we need more.

Firstly, ordinary speakers must believe (P2*). If they do not, the reasoning connecting (P2*) with (P2) would not lead them to believe (P2). Secondly, if this is supposed to be a general explanation of why we tend to believe strong tolerance principles, it must be the case that the usual way of coming to believe in strong tolerance is to reason from (P2*) to (P2) in something like the way suggested by Soames.

Neither of these claims seems plausible. As regards the second claim, we have already seen that there are other ways to come to believe in strong tolerance. As regards the first claim, it seems clear that ordinary speakers do not believe (P2*), at least not in any explicit or conscious way. But perhaps it could be claimed that they have some sort of implicit knowledge of (P2*) in virtue of their linguistic competence, and that (P2*) is true in virtue of the meaning of the vague predicate ‘looks red’. However, one may, like Fara, contest that (P2*) is a feature of the meaning of the predicate:

Soames’s explanation requires for its force that the truth of these metalinguistic principles is something widely known. I gather that Soames is thinking of [P2*] as being a feature of the meaning of a vague predicate.
that therefore we would know, at least implicitly, that [weak tolerance principles] are true in virtue of our being competent speakers. Whether [weak tolerance principles] have this sort of semantic status is something which should be open to question, however. (Fara 2000: 63)

This raises the following question: How do we find out which principles really govern the meaning of vague predicates? After all, it may well be the case that ordinary speakers’ behaviour in everyday situations is equally consistent with weak and strong tolerance. One option would be to invoke the forced march sorites as a test for which tolerance principle it is that ordinary speakers really (implicitly) believe. If they tend to make judgements in accordance with the weak one rather than the strong one, this may count as evidence that they actually have some sort of implicit belief in the weak principle. In fact, some contextualists have tried to appeal to “data” about how competent speakers would behave in order to support the semantic principles they advocate. This kind of strategy will be discussed in the next chapter, so let us put this question aside for the moment and turn to Fara’s preferred strategy for explaining our inclination to believe in strong tolerance.

4.3 Fara’s alternative

As noted above, Fara disagrees with Soames about what makes the relevant weak tolerance principles true. And as we saw in section 3.5 above, Fara gives an analysis of (a subclass of) vague expressions according to which they are interest-relative. Recall that Fara’s preferred version of weak tolerance is formulated in terms of a certain notion of salience, which is to be understood in the context of her interest-relative analysis:

(SSC) If two things are saliently similar in the relevant respect, then either both are in the extension or none of them is.

According to Fara, (SSC) is not true in virtue of the meanings of vague predicates. On this score, she agrees with Shapiro, who is reluctant to say that weak tolerance flows from the meaning of vague expressions since he thinks that tolerance can be put out of force in certain situations. But unlike Shapiro, Fara (2000: 62) is explicit about what makes (SSC) true: “[S]imilarity constraints are empirical truths, made true, at least in part, because we have the kinds of interests that we do.” However, (SSC) is not supposed to follow from the interest-relative analysis by itself. Rather, it is supposed to follow from that analysis in conjunction with certain empirical facts

100 See section 3.3 above.
about us speakers and our interests. In accordance with this, Fara does not want to rely on the claim that speakers have even implicit knowledge of (SSC), and this means that she can avoid some of the problems discussed above.

So what is Fara’s answer to the psychological question? The following passage nicely summarises her view on this matter:

We cannot find the boundary of the extension of a vague predicate in a sorites series for that predicate, because the boundary can never be where we are looking. It shifts around. In answer to the Psychological Question, we may say that it is no wonder that we were so inclined in the first place to regard the universal generalization as true, given that any instance of it we consider is in fact true at the time we consider it. (Fara 2000: 59)

How well does this strategy fare? First of all it should be noted that just like Raffman’s confusion strategy, Fara’s solution depends on the assumption that we proceed via the method of inspecting pairs of adjacent objects in the sorites series. This means that even if the strategy could work, it will be restricted to cases in which this assumption holds. So, how well does Fara’s strategy work with respect to these cases? Well, it seems that the kind of extension shifts that Fara appeals to does guarantee that the instance under consideration will always be true. Her story also explains how this is compatible with the falsity of strong tolerance principles which quantify over all the instances: even though the instance we consider is always true, there is always a boundary somewhere else in the series, so there is always a falsifying instance.

But since there are many things that are true that we do not believe, this is not in itself enough to answer the psychological question. The story about the extension shifts does not by itself provide an explanation of why we come to believe that each instance is true when we consider it, and thus it cannot by itself explain why we tend to believe in strong tolerance. In order for the extension shifts to play the role that Fara wants them to, she needs the further claim that our beliefs are somehow reliably coordinated with truth in these cases. Since on Fara’s view, the extension shifts are taken to be determined by psychological factors, such a claim would seem rather plausible given that we already accept her theory. The idea here is that the V-factors determine both our belief and the extension of the vague predicate. In other words, some psychological factors are responsible both for the shifts, and for the fact that we form certain beliefs. In Fara’s case, this would amount to the claim that the salience of the similarity of the members of a certain pair in the series makes it the case (via the V-factors) both that the instance of strong tolerance that concerns this pair is true, and that we tend to believe that instance. Which similarities are salient are in turn determined by the

---

101 See section 3.5 above for more details.
focus of the subject’s attention.\textsuperscript{102} Given this, we get the desired connection between which instances are true and which instances we believe. So what is the problem?

First of all, note that we can divide the explanation into two parts. The first part is purely psychological, and says that we tend to believe the instances since consideration of the relevant pairs raise the similarity between their members to salience. This seems enough in order to give the kind of explanation that Fara wants to give, so why should we add the semantic part about the extension shifts and their being coordinated with our beliefs? It seems clear that all the real work is done by the psychological part. Moreover, the psychological part could be used in order to argue that even if some instance were false at the moment of consideration, we would tend to think that it was true. The idea here is that even if the boundary happened to be located between the members of the pair that we considered, the act of consideration would raise their similarity to salience, and this would make us inclined to believe that the relevant instance was true. In other words, the psychological part can explain why the boundaries would be hidden from us even if they were stable. Now, if there can be hidden boundaries that are sufficiently stable to allow for us to consider a false instance of a strong tolerance principle, then there is no reason why we could not take some instance of a strong tolerance principle to be true, even if it is false.

What this shows is that we can invoke the psychological part of the explanation while denying the semantic part. In other words, we can give an answer to the psychological question which is just as good as the contextualist answer suggested by Fara, but which does not carry the same semantic commitments. What connects psychology and semantics on the contextualist view is the claim that the V-factors determine both extensions and beliefs. Clearly, we need not accept this claim in order to appeal to the purely psychological account in answering the psychological question. For instance, we might accept that the salience of certain similarities are relevant for determining certain beliefs, without accepting that the extensions of vague predicates shift as a function of what similarities are salient. Again, it is the psychological part rather than the semantic part that provides the explanation.

The upshot of this is that we can invoke the psychological story given by contextualists like Raffman and Fara in order to answer the psychological question without committing ourselves to the kind of extension shifts that they posit. According to Fara (2000: 54), contextualist theories of vagueness are “specifically designed” to address the psychological question, and their alleged ability to give a nice explanation of why vague predicates seem tolerant is supposed to be one of their main selling points. However, if the real explanation of this symptom of vagueness is provided by a purely psychological account along the lines suggested above, the appeal to extension shifts...

\textsuperscript{102} Again, see section 3.5 above for more details.
shifts is superfluous and this means that the contextualist semantics cannot be motivated in the way suggested by Fara.

More generally, if the psychological question really is a *psychological* question, there is no reason why we should suppose without further argument that our semantics of vague expressions must provide the resources to answer it. Rather, as suggested by the discussion above, we could have a separate psychological account, which provides an answer independently of the semantics. We should not find it problematic that there is a gap between what is true and what is believed when it comes to the sorites paradox. Given that strong tolerance is false, *something* must be hidden from subjects who fail to realise this. It could perhaps be argued that we should prefer theories that make our belief-forming mechanisms come out as reliable to theories that render them unreliable. The idea would be that there is a general and independently plausible constraint to the effect that we should as far as possible construe our theories so that they give explanations compatible with the assumption that we tend to form true beliefs when we employ our ordinary belief-forming mechanisms. In other words, one might try to save Fara’s strategy by appeal to a general principle of charity, according to which the fact that we do form such beliefs should, when possible, be explained in terms of their correctness. However, as long as we can give a psychological account of *why* speakers who are actively considering false instances of strong tolerance principles tend to believe that they are true, there is no reason why we could not have a semantics according to which such mistakes are possible.

What this suggests is that it is possible, and perhaps even desirable, to divide the labour between a semantics of vague expressions and a psychological account of the relevant belief forming mechanisms. We can let the semantics deal with the sorites puzzles concerning the extensions of vague expressions, and we can let the psychological account deal with the psychological issues that arise from the semantic treatment of the paradox. In the light of this possibility, it seems that the psychological question need not put any severe constraint on the semantics of vague expressions. Of course, this is not to deny that an adequate theory of vagueness needs to explain why vague predicates seem tolerant. On the contrary, we can agree that it is mandatory to provide such an explanation, but still deny that the psychological question must constrain our choice of semantics for vague expressions. We should at least acknowledge the possibility of treating this question within a psychological account that is independent from the semantics. This point, if taken, is likely to have some consequences for theorising about vagueness in general, since philosophers have tended to assume that the psychological question should be addressed directly by their own theories, rather than by an independent psychological account. However, it seems to cause more trouble for contextualist theories, insofar as they are specifically designed to address the psychological question.
At this point, a contextualist like Raffman or Fara might object as follows: All else equal, we should prefer an account on which semantics and psychology are coordinated, since language is an artefact of the human mind-brain. If we accept the claim that the psychological factors that determine the relevant beliefs also determine the extension of ‘is tall’, we get a coordination of the desired kind. Given this coordination, the psychological part and the extension shifting part become inseparable, and thus the psychological part becomes available only to the contextualist. If we reject this coordination claim, the psychological part becomes available to anyone, but then the crucial link between semantics and psychology is severed. Either way, the contextualist will enjoy an advantage over her opponents. Or so the argument goes.

The main problem with this argument is that the general idea that semantics and psychology should be coordinated is compatible with various ways to specify both the relevant range of factors that goes into the determination of extensions and the function from these factors to the extensions. In particular, even if we were to agree that the relevant kind of psychological states ultimately determine the extensions of vague predicates, it is far from clear that we should prefer an account that coordinates extensions and beliefs in the way suggested by the contextualist. In fact, we might well complain that the contextualist picture is too individualistic. Just because language is an artefact of the human mind-brain, it need not be the case that the psychological states of each individual speaker alone determine the extensions of vague expressions as used by that speaker. Extensions may well be determined by the whole body of psychological states and dispositions of the relevant speaker community in a manner which allows for individual speakers to be wrong about certain classifications of objects close to the borderline. Thus, even if we were to agree that we should prefer an account on which extensions and ordinary speakers’ psychological states are coordinated over an account on which they are not, this would not give us any good reason to accept the contextualist’s coordination claim.

4.4 Fixing the context

Another way to attack the idea that the appeal of soritical reasoning can be explained in terms of contextually triggered extension shifts is to argue that such reasoning remains appealing even when the context is held fixed. The idea here is that even when there is no contextual variation of the relevant kind, predicates like ‘is a heap’ still appear to be strongly tolerant. This may then be taken to show that the extension shifts cannot be the underlying source of the phenomena of vagueness, as the contextualist would have it. Richard Heck expresses the basic idea behind this line of argument as follows:
Contextualism is the view that what we experience as vagueness is a form of context-dependence. And the first-blush response that almost everyone seems to have to it is: OK, fix the context; the extension of 'red' in that context is still vague. (Heck 2003: 120)

If we take the context here to contain only standard factors like location or comparison class, there is not much for the contextualist to worry about. As observed by Keefe and Williamson, and as the contextualists considered in previous chapters acknowledge, vagueness should not be identified with relativity to such standard contextual factors. One reason why this is so is that the symptoms of vagueness would not go away just because we held such contextual factors fixed, so we cannot identify them with the underlying cause of these symptoms. If this were all there was to the kind of objection exemplified in the quote by Heck, it would not really constitute an objection to contextualism about vagueness, since as we have seen, the factors appealed to by contextualists are quite different from the standard ones. However, the point can easily be generalised in order to make trouble for the more sophisticated accounts as well. The general worry is that no matter what contextual factors we appeal to, we can simply assume that they may be held fixed, and that if we were to do so, the symptoms of vagueness would remain.

At this point, the contextualist might protest that the objection requires for its force that the V-factors can indeed be held fixed in the relevant kind of situation, and point out that this is something that is not compatible with her theory. For instance, Raffman could claim that the shifts in the relevant psychological states will inevitably occur when the subject is taken through the forced march, and Shapiro could claim that (WPT) simply guarantees that the conversational score will not remain the same all the way. Indeed, this more or less follows from their accounts of the dynamics of the context shifts, so the objector cannot simply assume that the V-factors can be held fixed in the way that the objection presupposes.

However, we have already seen that it does not seem necessary to go through the relevant context shifts in order to find the ordinary generalised sorites appealing. We should not allow ourselves to be misled by the fact that contextualists themselves have had such a strong focus on special cases of particularised versions of the sorites, like the forced march, where the appeal to context shifts seems more natural. A satisfactory theory of vagueness must be able to treat the paradox in all its various forms, so even if the contextualist account turned out to work when it comes to the forced march, this would not be enough. We will return to these worries at the end of this chapter.

The kind of objections to be considered below are directed at the contextualist explanations of the appeal of particularised versions of the sorites which could be fitted into a forced march scenario. Even if we concede that
the context cannot be held fixed in the required way, there are still a number of ways to use the basic intuition behind the simple version of the objection as a basis for constructing more sophisticated versions. In particular, there are linguistic devices which can be used to formulate stabilised sorites, which do not seem susceptible to a contextualist treatment, simply because these devices block the extension shifts. Whether or not the context actually changes is not relevant with respect to these more refined objections, since the point they attempt to establish is that vagueness remains even when the extensions are held fixed.

4.5 Verb phrase ellipsis

Jason Stanley’s version of stabilisation appeals to certain (alleged) facts about the behaviour of indexicals under verb phrase ellipsis. His argument also turns on a certain understanding of contextualism about vagueness, according to which it typically involves the following claims:

(S1) Vague predicates are indexicals.

(S2) The sorites paradox can be solved by appeal to changes in the extension of the vague predicate during the course of the sorites argument.

Stanley (2003: 270-271) takes Soames to be a typical representative of contextualism, and appeals to Soames explicit endorsement of indexicalism in order to justify (S1). However, as we saw in chapter two, not all versions of contextualism are committed to (S1). Once we distinguish between indexicalism and non-indexicalism, we see that insofar as Stanley’s argument relies on (S1), it will at most be effective against indexicalism, since the non-indexicalist will simply deny (S1). In fact, as indexicalism was defined above, not even the indexicalist will be committed to the strong reading of (S1) which is required for Stanley’s argument. We will return to this point shortly. The argument also depends on the following invariant interpretation principle:

(IIP) Indexicals have invariant interpretation under verb phrase ellipsis.

He provides a number of examples in support of (IIP), for instance the following:

(1) John likes me, and Bill does too.

The term ‘stabilised sorites’ is borrowed from Sorensen (2008: 481) who emphasises this general problem.
(2) Hannah lives here, and Bill does too.

(3) Hannah is supposed to be in Syracuse now, and Mary is too.

Here is what Stanley says about these examples:

There is no available interpretation of (1) in which John and Bill are said to like different people. This is so, even if the person who uttered the second conjunct of (1) is different from the person who uttered the first conjunct. Similarly, there is no available interpretation of (2) according to which Hannah and Bill are said to live in different places, and no interpretation of (3) according to which Hannah and Mary are supposed to be in Syracuse at different times. (Stanley 2003: 271)

Both (IIP) and the evidence Stanley provides for it will be further discussed below. For now, let us just observe that if (IIP) is correct, it seems that the contextualist (as characterised by Stanley) will not be in a position to invoke extension shifts in explaining the appeal of soritical reasoning involving certain uses of verb phrase ellipsis. Here is the example suggested by Stanley:

(VPE) If that₁ is a heap, then that₂ is too, and if that₂ is, then that₃ is, and if that₃ is, then that₄ is, … and then thatₙ is.

The objects demonstrated constitute a typical sorites series such that each pair of adjacent objects are only marginally different with respect to their heapness, and ‘that’ is used to refer to the /th item in the series. Intuitively, (VPE) is just as compelling as the standard sorites sentence:

(SOR) If that₁ is a heap, then that₂ is a heap, and if that₂ is a heap, then that₃ is a heap, and if that₃ is a heap, then that₄ is a heap, … and then thatₙ is a heap.

If ‘heap’ is an indexical, and (IIP) is correct, then the interpretation of ‘heap’ cannot shift between the conjuncts. Given Stanley’s understanding of contextualism about vagueness, this means that the contextualist strategy of invoking extension shifts in order to explain the appeal of sorites arguments will not be applicable to arguments involving (VPE). Hence, if Stanley’s argument is sound, the contextualist cannot provide a general solution to the sorites paradox.

However, it seems that Stanley’s understanding of contextualism puts a significant restriction on the applicability of his argument. Recall that in chapter two, indexicalism was defined only in terms of what varies with the V-factors, and thus it does not involve the strong claim that vague expressions are just like standard indexicals in every respect. In particular, it is not
the case that indexicalism entails that vague expressions have invariant interpretations under verb phrase ellipsis in virtue of their indexicality. Of course, one may argue that there are good reasons to assume that the general behaviour of standard indexicals will be shared by less obvious instances of indexicality. If we take this approach to the matter, we might think that if we are to accept indexicalism, we should also accept that vague predicates have invariant interpretations under verb phrase ellipsis. Call the view which combines indexicalism as defined above with the claim that vague expressions have invariant interpretations under verb phrase ellipsis indexicalism*.

Strictly speaking, then, Stanley’s objection only seems to apply to indexicalism*. However, if (IIP) holds, and vague predicates are indexicals, then indexicalism* will be the only viable view. In order to prevent indexicalism from collapsing into indexicalism*, (IIP) must be rejected. Attempts to motivate such a rejection have been made by Jonathan Ellis (2004), who gives an apparent counterexample to (IIP), and Joshua Gert (2007), who argues that vagueness can be assimilated to a form of indexicality which is different from the paradigmatic form in that it does not support (IIP). Let us start by looking at Ellis’s proposed counterexample to (IIP):

Thirty friends are standing in the middle of a very large field. One of them has the following idea: ‘Why don’t we each go and stand in the place we choose, and see where everyone goes. Jill, you go first.’ Jill walks a good distance away from the group and shouts, ‘I’m going to stand here!’ It’s Tom’s turn next, and being the tagalong Tom is, he goes straight for Jill and stands right next to her. Jill exclaims humorously, ‘And I guess Tom is too!’ Sally then goes and stands on the other side of Jill, who now says ‘And apparently, so is Sally!’ (Ellis 2004: 363)

The rest of the friends behave in a similar way, so that in the end, they occupy a rather large area, and Jill continues to comment on their behaviour in the same way, using verb phrase ellipsis all along. In this case, it seems that the interpretation of ‘here’ does indeed vary, despite the use of verb phrase ellipsis. Jill would hardly have uttered ‘And I guess Tom is too’ if Tom had taken the position in which the 30th friend ended up; rather, she would have been inclined to deny such an assertion. Since ‘here’ is a paradigm indexical, we seem to have a counterexample to (IIP).

However, Ellis’s example is not as straightforward as it may seem. Stanley (2005: 165-166) objects that what the example illustrates is a particularised sorites argument involving the predicate ‘is here’. So, what the example uncontroversially shows is that ‘is here’ is a vague predicate. Obviously, Stanley can happily concede that indexicals in general can be vague:

My point was of course not to argue that vagueness does not affect indexical expressions. My point was rather that one cannot dissolve the sorites series
by appeal to features of indexical expressions; vagueness remains even when
indexicality goes away. (Stanley 2005: 166)

Stanley concludes that the result Ellis’s example establishes – that indexicals
(like many other natural language expressions) may be vague – is fully com-
patible with the claims involved in his original argument.

Now, I think the problem Stanley sees with Ellis’s example is the follow-
ing. We cannot tell whether our inclination to accept Ellis’s conclusion is
due to our tolerance intuitions regarding ‘is here’ or due to intuitions that the
extension of ‘is here’ does in fact change. What would be needed in order to
give a counterexample to (IIP) is an example in which there is no noise from
tolerance intuitions. Otherwise we have no idea whether our intuitions about
the examples track vagueness or extension shifting (or both). If this is indeed
what Stanley has in mind, then his reply to Ellis is perfectly in order. Any
example that is meant to show anything about our intuitions regarding cer-
tain linguistic expressions must be such that the results it generates cannot
naturally (and plausibly) be traced to alternative sources. So, Ellis has not
succeeded in giving a clear counterexample to (IIP). However, this does not
mean that we must take Stanley’s objection to refute indexicalism. Let me
explain.

The most obvious way to defend indexicalism would be to give an in-
dexicalist account of what is going on in Ellis’s example. In order to see how
this would work, let us return to (IIP) and the evidence Stanley gives for it.
Though the examples (1), (2), and (3) are indeed convincing, it is important
to note that they do not concern the kind of variance that the contextualist is
proposing. Rather, they concern the difference in speaker in the case of (1),
the difference in position in the case of (2), and the difference in time in the
case of (3). Since the contextualist need not appeal to these kinds of changes
in her account of what is going on in sorites paradoxes (including Ellis’s
example), she can happily grant the (plausible) claim that interpretations of
indexicals are invariant under verb phrase ellipsis with respect to such dif-
fferences. There is still room for claiming that changes in other factors may
change the extension of indexicals, even under verb phrase ellipsis. Indeed,
we saw in chapter two that a proper indexicalist account of vague indexicals
like ‘here’ require that we have more than just a location parameter in the
index representing the context. In fact, Gert’s (2008) reply to Stanley con-
sists in an attempt to show that we can appeal to a kind of double indexical-
ity in order to give a plausible indexicalist account of what is going on in
Ellis’s example. The basic idea is quite obvious, and essentially the same as
the one that we made use of in the presentation of indexicalism in chapter
two: just add the relevant factors to the index representing the context of
utterance, and let them have a content-determinative role. Since Stanley’s
evidence for (IIP) only directly supports invariance with respect to certain
obvious variables, there is some room for claiming that the content of vague predicates may vary with other, more subtle variables.

4.6 Stabilisation

As pointed out above, Stanley’s objection only works against indexicalism*. Of course, one may insist that the only plausible version of indexicalism is indexicalism*, and one may even insist that the only plausible version of contextualism is indexicalism*. But given that we acknowledge that there are several viable alternatives, the above considerations may be taken to show that neither the indexicalist nor the non-indexicalist needs to worry about Stanley’s objection. If this is right, then, insofar as Stanley’s objection works, it will merely provide the contextualist with a good reason for not going indexicalist*. However, matters are not so simple. As it turns out, we can modify (VPE) slightly in order to make the objection apply to the other forms of contextualism as well. Consider the following version of the sorites sentence:

(VPE*) If that₁ is a heap relative to the current standings of the V-factors, then that₂ is too, and if that₂ is, then that₃ is, and if that₃ is, then that₄ is, … and then thatᵣ is.¹⁰⁴

Here the stabilising device is the indexical expression ‘the current standings of the V-factors’, so given (IIP) we get the same result as in the case of (VPE), regardless of whether or not we take vague expressions to be indexical. The present version of the objection thus applies equally well to indexicalism and non-indexicalism. It may seem that we could just invoke the same strategy here as we did above, namely questioning (IIP). However, it is not so clear that this will do the trick, since in order for the (VPE*)-version of the objection to work, we only need to assume that the indexical expression ‘the current standings of the V-factors’ has invariant interpretation under verb phrase ellipsis. There is no need to assume that the behaviour of indexical expressions is constrained in this way in general. It is enough that the behaviour of ‘the current standings of the V-factors’ is so constrained. And this seems like a rather plausible assumption, as a slight modification of one of Stanley’s examples shows:

(3’) Hannah is currently supposed to be in Syracuse, and Mary is too.

The reading according to which Hannah and Mary are supposed to be in Syracuse at different times seems just as unavailable in (3’) as in (3). And

¹⁰⁴ This version is due to Elia Zardini. The demonstrated objects are as in (VPE).
since the indexical component in ‘the current standings of the V-factors’ is basically the same as in (3’), we should expect the whole expression to have invariant interpretation under verb phrase ellipsis. The following example makes the point even clearer:

(4) Hannah is worried about the current state of the economy, and Mary is too.

Arguably, there is no reading of (4) in which Hannah and Mary are worried about different states of the economy, and ‘the current state of the economy’ seems perfectly analogous to ‘the current standings of the V-factors’ in all relevant respects. Hence, if the former has invariant interpretation under verb phrase ellipsis, then the latter should too, and if this is right, then this objection should work against any version of contextualism.

Of course, we might go on to question the data about the relevant expressions, as well as the analogies between the different expressions. However, even if it were to turn out that they were flawed, this would not be enough to save the contextualist account. The reason is that the verb phrase ellipsis mechanism appealed to in Stanley’s objection is only one possible way of stabilising the sorites. The appeal to this mechanism makes the argument neat and elegant, but it is by no means necessary in order to get this kind of objection going. The crucial thing is to show that we can cancel the alleged context sensitivity of the vague expression without eliminating its sorites susceptibility. Consider the following version of the sorites sentence:

(SOR*) If that₁ is a heap relative to the V-factors of context C, then that₂ is a heap relative to the V-factors of context C, and if that₂ is a heap relative to the V-factors of context C, then that₃ is a heap relative to the V-factors of context C, and if that₃ is a heap relative to the V-factors of context C, then that₄ is a heap relative to the V-factors of context C, … and then thatₙ is a heap relative to the V-factors of context C.¹⁰⁵

By including an explicit reference to the V-factors of a specific context C, we achieve the desired stabilising effect without any appeal to (alleged) facts about the behaviour of certain indexicals. So, contesting these alleged facts is not going to help either the indexicalist or the non-indexicalist. What is needed is a more general strategy for handling stabilised sorites arguments of this kind.

Since all versions of the stabilising objection turn on the claim that the stabilised version of the sorites is intuitively just as compelling as the non-stabilised version, one option would be to reject this assumption. After all, it is far from clear that all competent speakers of English have tolerance intui-

¹⁰⁵ Again, the demonstrated objects are supposed to be the same as in (VPE).
tions about the stabilised sorites premises. Even so, something needs to be said about why at least some of us have them, and why those intuitions should not count against the contextualist view.¹⁰⁶

Suppose that it would turn out that some, or even most ordinary speakers have the relevant tolerance intuitions. How could the contextualist handle such data? Well, it could be argued that ordinary speakers who have these intuitions have them because they do not have a proper grasp of the terms involved. The predicates in (VPE*) and (SOR*) are quite complicated and contain the technical (place-holder) term ‘the V-factors’, so we should not expect that these predicates would be easy to understand for a normal speaker of English, and, the contextualist could claim, if they do not have a proper grasp of the involved terms, then their intuitions should not be trusted. The idea here is that in order for your intuitions about (VPE*) and (SOR*) to be of any significance, you must have a proper understanding of the terms involved, and this in turn would require that you are quite familiar with the details of the relevant contextualist theories.

But what will happen when the ordinary speakers have acquired a proper grasp of the relevant terms? Will they retain their tolerance intuitions or not? This is of course an empirical question, but let us nevertheless take brief look at what the contextualist might say about the different possible outcomes. One possibility is that someone who becomes sufficiently familiar with contextualist theories in order to grasp the relevant terms also becomes sufficiently sympathetic to the contextualist approach in order for her tolerance intuitions to go away. Once she sees the relevance of the stabilisation, she might revise her pre-theoretic intuition and deny that ‘is a heap relative to the V-factors of context C’ is vague. She may realise that the V-factors may well determine sharp boundaries, or gappy extensions such that one of the conjuncts in (SOR*) comes out as untrue. As a result, she will no longer find (SOR*) intuitively compelling. Such an outcome would, of course, be welcomed by the contextualist. But what about someone who acquires a proper grasp of the involved terms, but still has the intuition that (SOR*) and (SOR) are on a par with respect to their soriticality? Well, here the contextualist might claim that if one retains one’s tolerance intuitions even if one fully understands the relevant terms, then this may just be a reflection of one’s unsympathetic attitude towards contextualism. The reason why one sticks to one’s first-blush reaction to (SOR*) might just be that one does not believe that the contextualist picture is correct. If one learns what the contextualists say about the V-factors but remains unconvinced, this knowledge will not make one inclined to revise one’s initial verdict on (SOR*).

¹⁰⁶ In Åkerman & Greenough (forthcoming) it is suggested that the contextualist could also claim that the stabilising terms in (SOR*) are themselves vague and thus cannot be used to eliminate vagueness in the way suggested. This strategy will not be considered here.
This is, of course, sheer empirical speculation, so we should not try to draw any substantial conclusions from this about whether or not ordinary speakers would tend to accept contextualism if they knew enough about it. However, we can still say something more general about the kind of intuitions that are supposed to support (SOR*). If the knowledge that ordinary speakers must have about the relevant theories in order for their intuitions to be significant also makes them lose their theoretical innocence, as it were, then we cannot expect that there will be any pre-theoretical intuitions that could settle the matter. If this is right, then, no matter what ordinary speakers would say about (SOR*) after they have learned enough about contextualism, neither the contextualist nor her opponent could take such data to show that ordinary speakers’ pre-theoretical intuitions support their view.

4.7 Blindness

In the discussion above, it was taken for granted that ordinary speakers are ignorant of certain features of the expressions of their own language. In particular, we assumed that if contextualists are right that vague predicates are sensitive to shifts in the $V$-factors, ordinary speakers do not readily recognise this. Such ignorance of the special context relativity that contextualist argue for may be called relativity blindness. But this is not the only form of ignorance that contextualists might need to commit themselves to. Recall that Raffman identifies the $V$-factors with certain psychological states, referred to as internal contexts. Here is what she says about our epistemic relation to them:

> Internal contexts travel with us in our heads, as it were, and so we are always, automatically, in the requisite context. As with the automatic transmissions in our cars, we are for all intents and purposes unaware of those contexts and the shifts between them. Indeed, we don’t make the shifts; some of our sub-personal parts do. (Raffman 1996: 188)

Similarly, Soames (1999: 213) emphasises that the changes in the conversational standards that he claims occur in the dynamic version of the sorites are hidden from us. It seems to us as if the standards remain the same, but according to Soames, this is an illusion.

We may describe this phenomenon as a form of context blindness. We ordinary speakers are, in a certain sense, blind to the relevant shifts in the $V$-factors, even though they occur within our own psychological states or as a part of the conversational setting we are in. Together with the idea that the $V$-factors determine extensions and the assumption that we have no independent way to detect the extension shifts, context blindness also entails a
form of extension blindness, according to which we do not notice the shifts in the extension which are due to the shifts in the V-factors.

It seems that context blindness and extension blindness could be invoked in order to meet some of the difficulties considered in the previous section. In particular, the contextualist could appeal to blindness in order to explain why an ordinary speaker who has acquired the appropriate grasp of the relevant terms, and thus no longer suffers from relativity blindness, may still treat ‘is a heap’ and ‘is a heap relative to the V-factors of context C’ on a par in a given situation. The idea would be that if the speaker does not notice the context shifts, she might well come to believe that she remains in the context C, and thus that there is no relevant difference between the predicates in this situation. In the situation envisaged, the context and the extension of ‘is a heap’ both vary, while the extension of ‘is a heap relative to the V-factors of C’ remains the same. However, since the speaker does not notice either the context shifts or the changes in the extension of ‘is a heap’, she takes the predicates to be co-extensional throughout, and this explains why she is inclined to treat them on a par. So it seems that the commitment to a certain degree of ignorance on the part of ordinary speakers is something that the contextualist can actually make good use of. But there are also several potential problems with this commitment. Before we take a closer look at these problems, we need to distinguish between some further varieties of ignorance, since different versions of contextualism will entail different forms of ignorance.

Insofar as contextualism is committed to extension blindness, indexicalism will also be committed to what may be called content blindness, according to which speakers are blind with respect to what content is expressed by an utterance of a vague sentence. Since a difference in extension entails a difference in content, and extensions shift without our noticing, the contents are at least as elusive as the extensions. Non-indexicalism, however, will only be committed to what may be called truth-value blindness, according to which speakers are blind with respect to the truth-value of the proposition expressed by an utterance of a vague sentence. The relativised content may stay fixed even when the extension varies, so although extensions and complete contents are elusive, relativised contents need not be. Moreover, if we take it as given that normal speakers do not believe (and hence do not know) that vague expressions are relative to the V-factors in the way that contextualists claim, both indexicalists and non-indexicalists will be committed to what we above called relativity blindness.

A view that ascribes these forms of ignorance to ordinary speakers may seem problematic if we think that such ignorance is incompatible with the relevant kind of linguistic competence. A comparison with a more familiar class of context sensitive expressions might be useful here. What would we say if we were confronted with a speaker who was ignorant of the context sensitivity of an overt indexical? For instance, consider a speaker who does
not readily recognise that the content of ‘here’ depends on features of the context. Would such a speaker count as fully understanding ‘here’? It seems not. Such ignorance would lead us to think that the speaker does not have an adequate grasp of ‘here’. Indeed, if you are not aware that the truth-value or content of sentences containing this expression depends on the context of utterance in a certain way, you are unlikely to be very successful in communicating with it. Now, speakers of vague languages arguably have an adequate grasp of vague predicates in this sense, but they do not readily recognise them to be context dependent in the way that contextualists claim they are. So, if the point just made about ‘here’ were to hold in the case of vague expressions, there would be at least prima facie evidence against contextualism. However, it is far from clear that we can generalise from the case of ‘here’ and other overtly context sensitive expressions. After all, vague expressions as conceived by contextualists differ from overt indexicals in that their context sensitivity is less obvious, so it seems more likely that ordinary competent speakers might be ignorant of it. Moreover, everyday communication with vague predicates does not require that speakers recognise this special kind of context sensitivity in the same way as in the case of overt indexicals. So, it is not at all clear that relativity blindness poses any significant problem in this respect.\footnote{Montminy (2009: 649-652) makes a similar point regarding the kind of semantic blindness entailed by contextualism about knowledge.}

Let us turn to truth-value blindness and content blindness. Truth-value blindness is more local than content blindness in two respects. Firstly, truth-value blindness holds only for the borderline area, since when it comes to the clear cases, there is no shiftiness or ignorance of truth-value.\footnote{See section 2.1 above.} No matter what the extension of the vague predicate used is, the boundary will always be inside the borderline area. However, content blindness holds outside the borderline area as well. If the property ascribed to the clear cases depends upon unknown contextual factors, which can shift at any moment and thus effect a change in the property expressed by the vague predicate, the speaker will not know \textit{which property} she ascribes to the clear cases, even if she can know that her ascriptions are \textit{correct}.

Secondly, as we saw in section 2.2, most contextualists claim that the judgements that competent speakers make in the borderline area are bound to be correct, either because the judgement itself determines that the judgement is true, or because the same facts that determine the judgements also determine that the judgement is true. On either of these alternatives, the speaker reliably makes correct judgments within her own context. Thus, there is scope for claiming that speakers (at least implicitly) know the truth-values of her own (present) uses of vague sentences, and that truth-value blindness is restricted to judgements made outside one’s own context.
In what respects, if any, are these forms of ignorance problematic? When it comes to overt indexicals, corresponding forms of blindness are not problematic in general. For instance, we can be ignorant of the content expressed by a sentence like ‘It is quiet here’, because we are ignorant of the values of the relevant contextual factors, viz. the place of the utterance. Charles might be locked up in the trunk of a car, and have no idea of where he is. He could still utter the sentence, and refer to the place where he happens to be, but he will be ignorant of what proposition he expresses by this utterance.\textsuperscript{109} Instances of content blindness that result from such ignorance of what the context is should not lead us to question the speaker’s linguistic competence. What about ignorance of truth-value? Such ignorance is equally harmless, at least when the reason that we are ignorant of the truth-value of what we say is that we are ignorant of the (non-linguistic) facts that determine the truth-value.

So, blindness due to ignorance of the (non-linguistic) factors that determine content or truth-value need not compromise a speaker’s grasp of the expression in question. Does that mean that truth-value blindness and content blindness are equally unproblematic in this respect? That depends. The reason that Charles can be ignorant of the content of ‘It is quiet here’ and still count as having an adequate grasp of ‘here’ is that he would have known what the content was had he had the required access to the relevant contextual factors. In other words, Charles knows the character of ‘here’, and that is what constitutes his grasp of this expression. Indeed, Kaplan took knowledge of the character to be constitutive of being a competent user of an indexical expression:

\begin{quote}
The character of an expression is set by linguistic conventions and, in turn, determines the content of the expression in every context. Because character is what is set by linguistic conventions, it is natural to think of it as meaning in the sense of what is known by the competent language user. (Kaplan 1989: 505)
\end{quote}

On this view, Charles’s ignorance of the content expressed need not compromise his knowledge of the meaning of the terms he uses, and thus such ignorance is not problematic in general. Similarly, the reason that ignorance of truth-value is not problematic in general is that we often have a grasp of the proposition expressed, so that if we had access to the relevant (non-linguistic) truth-determining factors, we would know the truth-value.

So, ignorance of content need not compromise the speaker’s grasp of an indexical given that she knows the character, and ignorance of truth-value need not compromise a speaker’s grasp of a sentence in general given that she knows the proposition expressed. Can contextualists appeal to these strategies in order to save the competence of ordinary speakers in the face of

\textsuperscript{109} This example is borrowed from Kaplan (1989: 536).
the kind of blindness they ascribe to them? It seems that there is nothing in
their views that excludes the possibility that speakers do have at least some
kind of implicit knowledge of characters and propositions. However, if they
never display this knowledge, we may question the justification with which
we ascribe such knowledge to them. The question then is: Can contextualists
justify the ascription of this kind of knowledge to ordinary speakers?

Well, given that truth-value blindness is restricted to judgements outside
one’s own context (for the reasons given above), it could perhaps be argued
that speakers actually display knowledge of the non-indexicalist’s relativised
proposition (conceived of as a function from circumstances to truth values),
since when the speaker is in a given context, she will make judgements that
are true at the circumstance determined by that context. However, this is not
enough to show that speakers possess knowledge of relativised propositions.
After all, the speaker does not display any knowledge of what the truth value
would be in different circumstances, and a full grasp of the relativised
proposition conceived of as a function from circumstances to truth-values
seems to require such knowledge. What is really doing the work here is the
(alleged) fact that the speaker’s judgement is guaranteed to be true either
because the same facts determine the judgement and the truth-value, or be-
cause the judgement itself determines the truth-value. But this is clearly
compatible with the speaker being ignorant of the relativised proposition.
The indexicalist does not seem any better off with respect to this problem.
Since content blindness is not restricted to judgements outside one’s own
context, the indexicalist could not even claim that speakers display partial
knowledge of the character when it comes to their own (present) utterances
of vague sentences. If this is right, then, the indexicalist and the non-
indexicalist lack a justification for ascribing knowledge of characters and
relativised propositions, respectively, to ordinary speakers.

Contextualism is not the only view for which problems like these arises.
Recall that one of the charges against Williamson’s view was that it seems to
taint that ordinary speakers cannot know what their utterances say. The
non-indexicalist’s strategy considered in the previous paragraph is reminis-
cent of Williamson’s strategy for handling this objection. Williamson claims
that speakers can have safe beliefs about the contents of their utterances be-
cause (the content of) the thought that TW is thin supervenes on the same
facts as (the content of) the utterance of ‘TW is thin’. This, the argument
goes, guarantees that the thought that ‘TW is thin’ says that TW is thin will
be true in any (close) world, and thus such beliefs about the contents of our
utterances will be safe enough to count as knowledge. It seems that here too
we could complain that this does not show much about the speaker’s know-
ledge of some (complete) propositional content of the utterance, since the
reliability of the speaker’s thought seems independent of such knowledge.

---

110 See also section 1.4 above.
The speaker does not have to know under what circumstances the proposition expressed by her utterance would be true in order for her thought to be safe. All the work is done by the fact that the content of the thought and the content of the utterance share the same supervenience base.

Williamson would probably not be much bothered by the above complaint, since he has independent reasons for thinking that the epistemicist should not account for knowledge of content in terms of knowledge of truth-conditions. On Williamson’s view, knowing the exact truth-conditions for an utterance of ‘TW is thin’ would involve knowledge of facts about where the sharp boundary for ‘thin’ runs, and such knowledge is impossible. Rather, Williamson takes understanding of vague terms to be a matter of being *induced in a practice*.

On such a view, ignorance about truth-conditional contents would not have to undermine an ordinary speaker’s competence.

There is no obvious reason why contextualists could not claim that although speakers do not have a full grasp of the truth-conditional properties of the propositions expressed by their utterances, they still qualify as understanding their own language as long as they are induced in the relevant linguistic practice. On this view, any speaker will count as a competent speaker of English given that they are induced in the linguistic practice of the English speaking community. This may require that one respect certain constraints, like penumbral connections and clear case constraints, but it need not require that one has a grasp of the truth-conditions of the contents of one’s utterances. Following Williamson (1994: 211), the contextualist can claim that the collectively determined meaning is available to, and known by all the members of the linguistic practice, since this practice is what determines the V-factor invariant levels of meaning. This still leaves room for a full truth-conditional content to be determined in context, and context blindness can be invoked in order to explain how knowledge of meaning is compatible with ignorance of truth-conditional content.

As we have seen, one component of Williamson’s defence of the possibility of knowing what our utterances say even if epistemicism is true is the claim that speakers can identify the contents of their utterances via the safe belief that ‘TW is thin’ says that TW is thin. Can the contextualist borrow this part of Williamson’s strategy as well? If a speaker utters ‘TW is thin’ in a given context, and in the same context forms the belief that this utterance

---

111 See Williamson (1994: 211), and section 1.4 above.
112 The idea that linguistic competence only requires induction into a practice is also compatible with co-determination or judgement dependence, but since these only kick in when the speaker in question counts as competent, it is only when the speaker is properly induced into the relevant practice that her judgements will be guaranteed to be correct. This kind of reliability can thus be taken to at least indicate that the speaker is linguistically competent. However, since our access to the truth-value of other speakers’ utterances is restricted, we might not always be in a very good position to judge whether or not someone is reliable in this sense. Moreover, as will be further argued in chapter five, there is no reason to take such reliability in situations like the forced march to be necessary for competence.
says that TW is thin, it seems that the contextualist has just as good reasons as Williamson to say that this expresses a safe belief. Had the context been slightly different, the utterance would have expressed a different content, but as long as the contents of the thought that TW is thin and the utterance of ‘TW is thin’ are determined in the same way by the same factors, the belief about what the utterance says will be just as safe on the contextualist theory as on the epistemic view. At this point, one may object that if the V-factors are sufficiently unstable, there is always the risk that they might change in the course of thinking this thought or expressing it publicly, and thus there is the risk that the contents of ‘TW is thin’ and the thought that TW is thin will not match. The risk increases when we are trying to report the contents of earlier utterances, since in such cases it is even more likely that the V-factors will have shifted so that the thought that TW is thin no longer expressed the same content as the relevant utterance of ‘TW is thin’. However, if this is a problem for the contextualist, it is also a problem for the epistemist, at least insofar as the meanings of vague expressions are sufficiently unstable. There is nothing in Williamson’s account that precludes the possibility of very rapid shifts in the use pattern that determines the meanings of vague expressions, even as we think, talk, or reason. This does not, of course, mean that the instability of the V-factors is unproblematic, only that it need not make the contextualist worse off than the epistemist when it comes to ascribing knowledge of content to ordinary speakers. In fact, it may even be argued that the non-indexicalist is in a slightly better position than the epistemist, since the non-indexicalist framework could be used to disarm one of Keefe’s objections against Williamson’s strategy. Let me explain.

According to Keefe, the strategy described above commits Williamson to the view that a belief that TW is thin can have different truth-conditional contents in different situations and still count as the same belief. This excludes the possibility of individuating beliefs in terms of their truth-conditional contents. But, Keefe asks (rhetorically), how could beliefs be individuated in terms of anything except their truth-conditional content? At this point, the distinction between different levels of content that were discussed in chapter two might help in at least giving us an idea of how such a view could be spelled out. The idea would be to individuate beliefs in terms of their relativised content rather than their truth-conditional content. With such an individuation principle in place, it is quite easy to see how one and the same belief could express different truth-conditional contents in different situations. So, insofar as the worry only concerns the possibility of individuation of beliefs in terms of something else than the truth-conditional content, this seems to meet the worry. Whether or not this really gives the non-indexicalist an advantage over the epistemist depends on the viability

---

113 We will discuss the problems that arise from such instability in chapter six below.
114 See section 2.5-2.6 above.
of this response as well as the availability of alternative responses to Keefe’s worry. Moreover, even if the contextualist is no worse off than the epistemicist when it comes to ascribing the appropriate kind of knowledge to ordinary speakers, and even if Williamson’s strategies are viable, the contextualist’s commitment to various forms of blindness appears problematic for other reasons, which connect back to the contextualist strategies for answering the psychological question.

4.8 The psychological question revisited

We have seen that there are various ways to stabilise the particularised versions of the sorites that contextualists focus on in their explanations of the appeal of soritical reasoning. We have also seen that various forms of ignorance can be invoked in order to explain away these putative counterexamples. So on the one hand, the commitment to different kinds of blindness can perhaps be considered as a valuable asset for the contextualist. On the other hand, the commitment to blindness seems to be in tension with the claim that what explains our inclination to believe in strong tolerance is that the extension shifts in a way that makes the boundary elusive. Take extension blindness, for instance. If ordinary speakers are blind to these extension shifts, how can they affect their beliefs? Of course, given that the psychological mechanisms behind the shifts can affect speakers’ beliefs, and that they covary with the extensions, the speaker’s beliefs might shift in the required way even if she is blind to the extension shifts. In this sense, then, the speaker has some access to the extensions via her beliefs. But clearly the extension shifts have no essential role here, since they do not affect the speaker’s beliefs; all the work is done by the underlying psychological factors. So, extension blindness gives us even more reasons to be suspicious about the possibility to account for the appeal of soritical reasoning in terms of extension shifts.

One might feel tempted to suggest the following general reply to stabilised sorites: Nailing down the extension will not eliminate the symptoms of vagueness as long as the V-factors themselves still vary. For instance, the similarity of two adjacent objects considered pairwise will be just as salient in the case where the predicate is stabilised as in the original case. And if the similarity is equally salient in the two cases, we are just as likely to believe that the boundary is not where we are looking in the case where the predicate is stabilised as in the case where it is not. In other words, the salience of the similarity of the adjacent patches we are presently considering pairwise prevents us from spotting the boundary even if it is fixed at the very place we

\[115\] For instance, it might suffice that there are counterparts of the belief that are true in all relevant situations. Keefe (2000: 74) discusses such a line of reply and finds it unsatisfactory.
are looking. Small wonder that we cannot find the boundary even when the extension is fixed. However, although this kind of reply gives us an explanation of why the symptoms of vagueness remain even when the extension is nailed down, it cannot be used to save the contextualist explanation of the appeal of soritical reasoning. By claiming that the symptoms of vagueness, in particular the appearance of tolerance, can remain even when the extension is fixed, the contextualist in effect admits that the extension shifts have no essential role to play in explaining these symptoms.

Moreover, even if the stabilised sorites considered above do not give us any decisive reason to think that the contextualist strategy is flawed, there are other instances of soritical reasoning such that it could be questioned that their appeal essentially turns on shifts in the extension of the vague predicate involved. In the discussion above, we have followed the contextualist in focusing on forced-march like scenarios where the premises of a particularised sorites are considered in a sequence. We might concede that there is at least room for variation in the V-factors in such scenarios. But as we saw in section 4.2, it is not at all obvious that one must go through such a sequence in order to come to find strong tolerance principles appealing. One might just consider them in the abstract and be struck by how plausible they seem, just like one may be convinced that certain penumbral connections hold without having to inspect all the objects in a sorites series. Now, if we are inclined to accept strong tolerance principles without going through some process that will trigger the relevant context shifts, we can easily be taken in by a version of the ordinary generalised sorites argument independently of such shifts. And since going through that piece of reasoning does not require that we go through some forced-march-like process either, the shifts in the V-factors that are claimed to occur in the forced-march have no role to play in our buying into the soritical reasoning.

These observations bring us to a more general worry about the contextualists’ focus on a particular version of the sorites. Even if we agree with their accounts of what goes on in the forced march sorites, and relevantly similar situations, it is far from clear that the appeal of the sorites paradox essentially turns on this kind of context shifts. In other words, there are reasons to doubt that an answer to the psychological question that invokes extension shifts will be general enough to cover all versions of the paradox. One way to pursue this line of objection would be to appeal to versions of the sorites where there is no room for the extension shifts that the contextualist appeals.

---

116 We certainly have not exhausted the possible ways to stabilise the particularised sorites above. For instance, Stanley (2003:274) also appeals to the following modally stabilised sorites: “Patch P1 is red. That would still have been true even if P1 were indistinguishably more orange than it is. And that would still have been true even if P1 were indistinguishably more orange than that . . . And that would still have been true even if P1 were indistinguishably more orange than that. But then P1 would have been clearly orange. Contradiction.”

117 Thanks to Crispin Wright for drawing my attention to this problem.
to, such as the ones considered above. However, the present considerations gives us reason to doubt the viability of the contextualist strategy independently of stabilised sorites arguments: If we can come to find the strong tolerance principle plausible without going through some procedure which triggers the relevant kind of context shifts, then these shifts cannot be the key to a general explanation of the appeal of the ordinary generalised version of the sorites.

Maybe there is some perfectly general and theory-neutral explanation for why we tend to find strong tolerance principles appealing when we just consider them in the abstract. For instance, we might just be used to treat marginally different items as having the same semantic status with respect to vague predicates as long as no paradox threatens, and this may make us inclined to accept strong tolerance principles, at least initially. If there is some such explanation, then the contextualist would of course be free to invoke it in order to handle the ordinary generalised sorites, but this would not help with respect to the present worry. Embracing such a general and theory-neutral account would in effect amount to acknowledging that extension shifts have no essential role to play in answering the psychological question.

One of the lessons to be learned here is that even if it seems that we can learn a lot from thinking about the forced march, it may still be the case that the mechanisms which are at work in such scenarios are completely inert when it comes to other versions of the sorites argument. As argued above, the ordinary generalised sorites seems to be of this latter kind. This also seems to suggest that that there is not as much to be learned from the forced march as contextualists have tended to think. This suspicion will be further developed in the next chapter.
5. The Forced March

5.1 Origins of the forced march

When contextualists about vagueness present their views, they often refer to a special kind of scenario which has become known as the forced march sorites. The term ‘forced march’ was introduced by Terence Horgan, who uses it to denote a certain version of the sorites argument which is designed to force the subject to make a separate verdict on each pair of adjacent items in the sorites series. Horgan himself uses this argument to show that the assumption that a certain term is robustly vague leads to contradiction, no matter how many semantic values are allowed. According to Horgan (1994: 162), an expression $E$ is robustly vague if there is “nothing in our actual semantic norms that sanctions any single candidate-precisification of $E$ as correct, over and above various other candidate-precisifications”. A candidate-precisification is just what we referred to as an admissible precisification in section 1.3 above, namely an assignment of precise values which draws sharp semantic boundaries between at least some objects in the sorites series. If, as Horgan maintains, there is more than one candidate-precisification that is consistent with ordinary usage, no such candidate-precisification can be privileged over the others on the basis of our usage. Assuming that nothing else determines a unique candidate-precisification, the choice of one candidate-precisification would be arbitrary and hence not sanctioned by our actual semantic norms. As we saw in chapter one, this is just the kind of consideration that leads the supervaluationist to take all candidate-precisifications into account rather than privileging one of them. On the one hand, Horgan concludes that our semantic theory should respect the robustness of vagueness, and eschew arbitrary precisification, but on the other hand, he takes the following forced march argument to show that we cannot really do this without running into contradictions:

For the sorites sequence of baldness statements $B(O), B(1), ..., B(10^7)$, the argument goes as follows.

(A1) Consider the true statement $B(O)$, together with its right neighbor $B(1)$. What are the possibilities concerning the semantic status of $B(1)$? Allow as many different possible kinds of semantic status for $B(1)$ as you like – e.g.,

1. true;
2. false;
3. neither true nor false;
4. neither true, nor false, nor neither true nor false;
5. indefinite whether true or false;
6. indefinite
whether true, false, or indefinite whether true or false; etc. No matter how many such possibilities there might be (even infinitely many), either B(1) has the same semantic status as B(0) itself — viz., truth — or else B(1) differs from B(2) in semantic status. But if B(0) and B(1) differ in semantic status, then there is a sharp semantic boundary between them — which is incompatible with the robustness of genuine vagueness. Hence B(1) is true.

(A2) Consider the true statement B(1), together with its right neighbor B(2). [Etc. for B(1) and B(2), as per subargument (A1).] Hence B(2) is true.

(A100) Consider the true statement B(10^7), together with its right neighbor B(10^7). [Etc. for B(10^7-1), as per the preceding subargument.] Hence B(10^7) is true. (Horgan 1994: 173-174)

The argument rests on the assumption that vagueness is robust, and since the argument leads to paradox, Horgan (1994: 176) draws the preliminary conclusion that robust vagueness is impossible.\(^{118}\) Moreover, he argues that the supervaluationist solution to standard sorites paradoxes will not help in this case. Consider the disjunction of all the sentences of the form B(n) & ¬B(n+1). The negation of this disjunction would lead to paradox, but according to the supervaluationist, we can avoid this while still respecting the robustness of vagueness if we affirm the disjunction (or deny its negation) but deny that any particular disjunct is true. However, if we run a forced march on the disjuncts, and ask the supervaluationist about each disjunct whether it is true, she will at no point be able to answer yes, while still respecting the robustness tolerance. Horgan (1998: 323) concludes that under “forced-march querying” the supervaluationist must deny the truth of each disjunct, or posit a sharp semantic transition, and thus the commitment to robust vagueness will force her into contradiction.\(^{119}\)

Contextualists about vagueness can happily agree with Horgan’s preliminary conclusion that there can be no robust vagueness. Predicates that are only weakly tolerant are not thereby robustly vague, since weak tolerance principles are compatible with a difference in semantic status between adja-

\(^{118}\) However, he also thinks that robust vagueness is actual. His account is based on a synthesis between these two conflicting theses.

\(^{119}\) Horgan takes this to show that the supervaluationist is committed to the view that vague language is incoherent, something that Keele (2000: 212-213) denies. Her reply turns on the idea that it could be denied that there is always a suitable classification of any kind at all, and that the notion of supertruth itself allows for her to accommodate the distinction between there being semantic transitions and there being a fact of the matter about where these transitions are.
cent members of the series, as long as the line is not drawn between two adjacent objects presently considered pairwise.\textsuperscript{120} So, on the contextu\textsuperscript{120}alist view, vagueness is only robust with respect to relevantly similar objects that are considered pairwise. Since this does not preclude a difference in semantic status between some adjacent members of the series, Horgan’s argument cannot be used against weak tolerance.

Our concern in this chapter is not the ability of different theories of vagueness to handle the forced-march argument, but rather the possibility of invoking the forced march in order to argue for contextualism about vagueness. The scenarios that contextualists invoke incorporate crucial elements of Horgan’s argument, and although there is some variation in the forced march scenarios appealed to by contextualists, there is a common core, which boils down to something like the following: A competent and well informed subject is shown the objects in a sorites series. Typically, the objects are presented pairwise – first #1 and #2, then #2 and #3 and so on.\textsuperscript{121} The subject is then forced to make a judgement on each of the objects about whether the vague predicate in question applies or not. In the beginning of the march, the subject will have no problem with judging the objects, but as we enter into the borderline area, she will become more hesitant. On the one hand, since adjacent objects in the series are so similar, she will be reluctant to judge the members of any such pair to belong to different semantic categories. On the other hand, there comes a point at which she must shift categories, on pain of violating a clear case constraint. Sooner or later, the subject is caught between her unwillingness to violate tolerance, and her reluctance to judge the whole series in the same way. In the end, however, the latter wins, and the subject goes on to violate strong tolerance in order to be able to shift categories.

The earliest presentation of the forced march scenario (to my knowledge) was given by Hans Kamp, thirteen years before Horgan’s introduction of the term. Here is the scenario described by Kamp:

In front of us is a large screen. Its extreme left is green, its extreme right yellow, and there is a gradual transition from the one colour to the other. The screen is subdivided into many small squares, so small that each square appears to have a uniform hue and moreover, the colours of no two adjacent squares can be distinguished by sight. (…) We are both facing the screen which is entirely visible to you. I begin by pointing at a little square on the extreme left and ask you what its colour is. Assuming that you are not colourblind you will surely answer: ‘green’. I then point to the adjacent little square on the right and ask the same question. Probably you will again say ‘green’. Then I point to the square to the right of this one, and so on. After a

\textsuperscript{120} The categories need not be confined to the classical ones of truth and falsity, but may also include some third category, as it would have to do on Soames’s or Shapiro’s view.

\textsuperscript{121} As we will see below, Soames’s version is an exception in this respect, but that does not matter much for present purposes.
while, your answers ‘green’ will become hesitant, increasingly so, until the point is reached where you either say: ‘Now I really don’t know what to say anymore,’ or else some such thing as ‘this one really looks more like yellow’.  

Kamp offers a sophisticated semantics in which the context sensitivity of vague predicates plays a central role. However, his theory does not fit the generic account given in chapter two, and the main reason is that he does not abandon strong tolerance in favour of weak tolerance. In his account of the forced march scenario, he takes the subject’s application of the vague predicate $P$ to be guided by the following strong tolerance principle:

$$(EOI)\text{ Suppose that the objects } a \text{ and } b \text{ are observationally indistinguishable in the respects relevant to } P; \text{ then either } a \text{ and } b \text{ both satisfy } P \text{ or else neither of them does.}$$  

Kamp emphasises the tension between, on the one hand, the reluctance to violate tolerance, and, on the other hand, the reluctance to judge the whole series in the same way. In the forced march, Kamp says, you are subject to two forces, which eventually work against each other:

On the one hand there is a commitment to EOI which requires you to keep answering ‘green’, as it never seems quite right to suddenly stop saying ‘green’, after you have already said ‘green’ to the previous square – after all, the two squares look just the same. On the other hand there are the indubitably yellow squares on the extreme right. These serve as it were as ‘anchor points’. And there comes a time when the square about which you are asked looks as much like the yellow squares on the right as it looks like the green squares on the left. At that point, or shortly afterwards, the second force comes to dominate the first, and you either suspend or switch judgment.  

$$(Kamp 1981: 241)$$

As we saw in chapter three, Raffman has a fairly detailed story to tell about the psychological mechanisms that underlie these category shifts, and Kamp’s story about the two forces clearly anticipates her idea of the discriminating and categorising mechanism, although he does not elaborate it to the same extent. But as we saw in section 4.3 above, we may well accept this kind of psychological story without accepting that there is contextual variation in the extension of vague predicates. So the story about what happens in

---

122 Kamp contrasts this experiment with another one, which is exactly the same, except that only the patch to be judged and its predecessor are visible. The assumed different outcome is supposed to reveal the relevance of visible “anchor points”, but that does not matter much for the present purposes.

123 Kamp (1981: 237-238) takes observational predicates to be a particularly problematic subset of the set of vague predicates.
the forced march on the psychological level is not automatically going to give us an argument for contextualism. In what follows, we will look closer at some versions of the forced march and how they might be invoked in order to support contextualism. The main issue here is not whether the “data” that contextualists appeal to are accurate, but rather whether these “data” can support their preferred view or not. So, for present purposes, we can assume that the stories about the forced march told by contextualists are roughly correct, in the sense that normal speakers would behave as described.

5.2 The best option?

One idea would be that contextualism provides the best option for explaining what is going on in the forced march. Something like this has been suggested by both Soames and Shapiro. Let us start with a quick look at Soames’s version of the forced march, or what he calls a “dynamic” version of the sorites. It is basically the same as Raffman’s scenario described in section 2.3 above:

In this version of the paradox, we imagine a subject being presented with the colored patches in the chain one by one and being asked to characterize them as looking green or not. To avoid extraneous complications, we make sure that the conditions are normal, the lighting is good, and the subject is a suitable observer: the subject has good vision, is not color-blind and so on. We start with $x_1$, which the subject correctly asserts to look green. (…) Keeping $x_1$ in sight, we next present the subject with $x_2$ and ask whether it looks green. (Soames 1999: 212)

Then we can take the subject back and forth through the series, always keeping the previous patch visible to the subject, and thus make the subject both violate (strong) tolerance and contradict herself; at some point, the subject will shift categories, and if we take her back after the shift, her commitment to weak tolerance will lead her to contradict some of her previous judgements. Soames suggests that this scenario gives rise to the following puzzle:

On the one hand, no claim to the effect that something both looks green and does not look green can possibly be correct, so the subject may seem to have made a mistake. On the other hand, when we consider the subject’s individual judgements, none of them seems to be in error. On the contrary, each such judgement was straightforwardly sanctioned by the semantic rules governing the predicate looks green and so, it seems, could not be in error. What, then, is going on? (Soames 1999: 213)

Soames’s explanation is that on his contextualist picture, there is no real contradiction, since the extension has shifted during the process. The idea here is that if we posit the relevant kind of extension shifts, we can say that
the contradiction is merely apparent, since the conversational standards and the extension of the predicate have shifted in a way that allows both of her judgements to come out as true. Thus going contextualist makes it possible to solve the puzzles of the forced march sorites.

Shapiro too appears to reason along these lines. He appeals to what he calls a “conversational variant” of Horgan’s forced march. It is described as follows:

Suppose we have 2,000 men lined up in a row. The first is a mature Yul Brynner, who is clearly bald – he has no hair at all (or so we will assume). The last man is Jerry Garcia, in his prime. I take this as a paradigm case of a non-bald man. The hair of each man in the series (who has hair) is arranged in roughly the same way as his immediate predecessor in the series. After the first, each man differs from the one before by having only slightly more hair, perhaps imperceptibly more. Now suppose that the participants in a conversation start asking themselves about the baldness-state of each man in the series, starting with Yul Brynner, and they insist on a communal verdict in each case. As each question in the form “Is man \( n \) bald?” is put, they are to provide an answer of “yes” or “no”. (Shapiro 2006: 17-18)

As we have seen in previous chapters, Shapiro’s story has it that the conversationalists will at some point “jump”, i.e. change their answer from ‘yes’ to ‘no’, and if Shapiro’s theory is right, the extension of ‘bald’ will shift to accommodate their judgements as well as his weak tolerance principle. This will be reflected in that they will now give different judgements of the men immediately preceding the jump. This is basically the same kind of situation as the one described by Soames, and the following passage by Shapiro suggests that he has something like the argument suggested above in mind:

There are not many options for interpreting this scenario. The theorist can conclude that vague predicates (…) have some contradictory cases, or that any language (…) with vague predicates is incoherent generally (…). Or the theorist can find fault with the scenario. Perhaps there is something illegitimate in demanding a forced march through a sorites series. According to an epistemicist, for example, the subjects should refuse to answer when they get near the (precise) border, despite their instructions. (…) Or the theorist can claim that the subject(s) are incompetent, or have made some sort of mistake with their answers. (…) Or the theorist can follow Raffman and the present program and say that a shift of context has occurred. (Shapiro 2006: 26)

Although he does not say so explicitly, there is a rather clear implication to the effect that Shapiro takes the contextualist option to be superior. But is it really so obvious that the best way to go is to posit contextual extension shifts?

The idea that vague languages are incoherent may strike us as absurd. After all, we rarely run into contradictions in our everyday use of vague language, and we seem to have no trouble in communicating with it. Following
Wright (1987: 212-213) we may ask how competent usage can display this kind of coherence if such usage is actually governed by inconsistent rules. Of course, we should not just say that vague language is incoherent in general, and leave it at that. Rather, if we want to go for an alternative like this, we should also provide an explanation of why communication in ordinary situations runs so smoothly. One way to do this would be to point out that the forced march is not an ordinary situation, but rather a pretty extreme one in which we give the subject instructions which are specially designed to make her run into trouble. Most situations are not like that, and thus ordinary speakers do not encounter the same kind of difficulties in their everyday use of vague language. It may well be the case that vague predicates are in some sense incoherent, but that this incoherence only manifests itself in certain situations, like the forced march. As Horgan (1994: 179-180) points out, the incoherence need not impair our ability to use vague language as long as the incoherence remains well insulated or dormant, as it were. So we might accept that there is some amount of incoherence in vague languages without rendering our largely coherent use of it totally mysterious.

Perhaps the underlying idea here is that it is not plausible to assume that competent speakers could be forced into genuine contradictions. If we agree with this, then we might also agree with Shapiro and Soames that the best option is to try to explain away the contradictions as merely apparent. However, it is not clear that we should agree. As we have seen, the forced march seems to reveal a tension between the different principles that guide our usage of vague predicates in everyday situations. At some point, the speaker has to find a way to resolve the tension, and that will typically result in a violation of strong tolerance and a “jump”. In the scenarios where the speaker is taken back and forth through the series around the point of the jump, she will, if Soames and Shapiro are right, appear to contradict herself. Now, why should we not take this appearance at face value? Why should we exclude from the start that competent speakers may sometimes run into genuine contradictions? That a competent subject can be tricked into making certain judgements in situations like the forced march does not mean that we should prefer a theory according to which these judgements can all be correct or form a consistent set.124

Now, if competent subjects can be tricked into contradicting themselves so easily in the forced march, perhaps there is some fault with the scenario itself? In connection with his presentation of the forced march, Kamp raises the following concern:

124 As Peter Pagin (forthcoming) puts it: "(...) it seems to me absurd to try to rescue every single sequence of applications of vague predicates. Speakers do contradict themselves. It cannot be the goal of semantic theory to represent natural language as a foolproof means of making good sense (after all, people do paint themselves into corners and cut off the branches they are sitting on)."
One almost feels that the man who conducts such an experiment and leads the guileless subject to the embarrassing contradictions in which he will inevitably get entangled, may be accused of malice. (Kamp 1981: 242)

Shapiro (2006: 26n) points out that even if we agree with this moral judgement, we need not agree that there is anything “semantically or logically wrong with the experiment.” If by this he means that there need not be anything logically or semantically incoherent about the instructions given to the subject, he is certainly right. Telling the subject to judge the items in a sorites series is not like telling her to go find a barber who shaves all and only those who do not shave themselves. Of course, if we added to the instruction that she is not allowed to judge adjacent items differently, and that she must get the clear cases right, the task would be just as hard to accomplish as finding the impossible barber, but as the instructions stand, it does not seem strictly impossible to follow them.

However, according to a rather natural understanding of the instruction, the subject is asked to judge all items in the series. The subject is, after all, taken through the whole series, and is asked to make a judgement on each member, so it would be strange not to take this as an instruction to judge the whole series. Now, if Shapiro’s theory is correct, then, strictly speaking, the subject cannot accomplish the task so understood, at least not as long as Shapiro’s weak tolerance principle (WPT) remains in force. The reason is that on Shapiro’s view, every attempt to judge the whole series will inevitably fail, since as long as (WPT) is respected, some judgements will automatically be retracted. It is simply not possible to respect (WPT) and permanently assign a status to each member of the series. So insofar as the subject is supposed to respect (WPT), there is a natural understanding on which the task given to the subject is impossible.

Even if we agree that there is nothing semantically or logically incoherent about the instruction, there may still be something about the forced march scenario that affects the responses of the subject in a way that makes it illegitimate to draw the kind of conclusions that the contextualist wants. We cannot simply assume that the judgements that the subject makes are to be taken in the same way as judgements made in more ordinary situations. The setup of the experiment may well lead the subject into a behaviour which is not typical, and has little to do with the ability to employ vague language in everyday communication. As a result, it is not obvious what to make of the subject’s judgements. In her comments on Shapiro’s account of the forced march, Keefe raises worries of this kind:

Is it reasonable to draw any significant conclusions from the response subjects are driven to make when they are marched through a Sorites series and forced to judge each case either one way or the other? A subject will typically consider the point of the jump to be an arbitrary one – this seems to be to deny that it has any semantic significance. (…) [R]eading too much into the
response to forced march paradoxes seems rather like forcing someone to
guess the weight of something and then taking that guess to reveal that the
subject believes that the weight is exactly that. (Keeffe 2003: 79)

Moreover, one may argue that you should not make judgements about what
you do not know. Shapiro (2006: 26) himself points out that an epistemicist
could claim that “since [the subjects] do not and cannot know where the
border is, they do not and cannot know the baldness state of the man near the
border”, and thus they should refrain from making any judgement at all con-
cerning these cases. Something similar holds for the supervaluationist, al-
though here the reason for withholding judgement would be that there is no
fact of the matter as regards the status of certain items.125 However, the in-
structions do not leave room for this, so what is the poor subject to do? She
is caught between principles and norms that usually hold in normal situations
and the experimenter’s instructions. Thus, the experiment may be seen as
illegitimate in that it is supposed to reveal something about the speaker’s
linguistic behaviour, but it is designed to force the speaker to deviate from
the norms that usually guide her. It is not too far fetched to assume that inso-
far as the subject makes the judgements about the borderline cases that the
experimenter asks her for, they will be taken to carry much less weight than
ordinary assertions. Indeed, this may also make the subject more inclined to
change her previous judgements during the course of the experiment, and
thus it may be part of the explanation why the subject is inclined to jump at
different places at different runs. Moreover, if the judgements are not seri-
ously made, and the inclination to change judgements is due to the subject’s
lack of commitment to the judgements in the first place, it is hard to see why
we should need to posit extension shifts in order to explain the subject’s
behaviour.

Could it be claimed that the speaker has made some kind of mistake?
Shapiro (2006: 26) expresses his reluctance to go with this option by asking
the following rhetorical question: “But what sort of mistake? The subjects
are told to call them as they see them. What did they do wrong?” Well, if the
epistemic view is right, and the subjects did not by chance jump at the un-
known boundary, they will certainly have made some mistaken judgement.
And even if they jumped at the right place, their assertions (if they really are
to be taken as assertions) cannot have been sufficiently grounded, since they
cannot have known where the boundary is. More generally, even if we do not
sympathise with the epistemic view, it is far from clear why it would be so
bad if we had to conclude that the subject made a mistake. We have already
seen that there is some reason to think that the scenario itself might trigger
mistakes (like contradicting oneself), and since there is no need to put a re-

125 See Keeffe (2000: 212).
formed speaker can make no mistakes in the forced march, this option does not commit us to saying that the subject must be incompetent. Here is how Keefe responds to Shapiro:

Now, I agree that the charge of incompetence is unreasonable if subjects have been made to judge one way or another and have done exactly that. On the other hand, they can, surely, have been mistaken in their judgements (without being incompetent). What they did was perhaps unavoidable given what they were asked to do (namely, make a judgement on every case), but nonetheless, this is no reason to expect their judgement to be right. (Keefe 2003: 80)

Clearly, if the considerations presented by Soames and Shapiro are to work as an argument for contextualism, we need independent reasons for excluding the alternative options. And it seems equally clear that Shapiro’s brief remarks fail to provide us with such reasons. If, as suggested above, the subjects are tricked into making certain mistakes in the forced march, we should not blame them. But as Keefe points out, that does not mean that we should conclude that they have not made any mistake at all. The scenarios considered above do not provide us with any strong reason to posit extension shifts in order to make all of the subject’s judgements come out true or form a consistent set. Shapiro’s and Soames’s reluctance to ascribe mistakes to the subjects seems unwarranted, at least given that mistakes are compatible with competence. This latter point is important, since, as we will see in the next section, appeal to competence plays a central role in other arguments for contextualism as well.

5.3 Competence in the forced march

Raffman presents two arguments which both appeal to the story about what happens in the forced march. Her aim is to establish that the extensions of vague predicates vary with (something very like) internal context. The first argument goes as follows:

(i) Suppose that the extension of the predicate $P$ were invariant with internal context.

(ii) Then the category shift would occur at the same place on every run.

---

126 In section 4.3 above we saw how the psychological part of the contextualist story could be invoked in order to explain why ordinary speakers might be inclined to make certain mistaken judgements.

127 Note that Keefe’s 2003 paper is written in response to Shapiro’s 2003 paper, which is to a large extent reprinted in Shapiro’s 2006 book. See Shapiro (2003: 57) for the earlier version of the relevant passage.

128 For more on internal contexts, see section 3.6 above.
(iii) This would show that there is a sharp and fixed boundary determined by external context.

(iv) But then $P$ would not be vague.

(v) So, if the extension of a predicate does not vary with (something very like) internal context, then the predicate is non-vague.\textsuperscript{129}

From (v) it follows (by contraposition) that if a predicate is vague, its extension varies with internal context. However, it seems that this is more of a restatement of Raffman’s contextualist position than an argument for it. Let me explain.

Does (ii) follow from (i)? Well, even if it does, Raffman has not given us any independent reasons for accepting this step. It is at least epistemically possible that there are predicates such that the actual application of them will vary in the forced march even though their extensions do not vary with internal context. For all we know, ordinary vague predicates might be of this kind. And even if we assume that they are not, we have not excluded the possibility that we can stabilise vague predicates without thereby eliminating the symptoms of vagueness. We could even concede that the oscillation in the borderline area is due to shifts in the internal context, and still leave open the possibility that it occurs independently of the extension shifts.

The step from (iii) to (iv) also seems problematic, since it rests on the additional assumption that vagueness is incompatible with there being a sharp and fixed boundary when the external context is held fixed. This assumption may well be denied by someone who is opposed to Raffman’s view, for instance an epistemicist who believes in sharp, stable but unknowable boundaries. The cogency of this step thus relies on the falsity of certain opposing views, and this clearly mitigates the dialectical force of the argument.

Raffman’s second argument turns on the idea that the competence of ordinary speakers guarantees a tight connection between actual application and correct application. It goes as follows:

(i) Our \textit{actual} applications of vague predicates vary with internal context.

(ii) Hence, we would be incompetent in the use of such words if the extensions did not thus vary.

(iii) We are not incompetent with vague predicates.

(iv) Hence, the extensions of vague predicates vary with internal context.\textsuperscript{130}

\textsuperscript{129} For the original formulations of the argument, see Raffman (1994: 65-66) and (1996: 189-190). In what follows, we shall drop the qualification ‘something very like’.

\textsuperscript{130}
First of all, (i) could be rejected, since even if our actual applications of vague predicates vary in the forced march, it could be denied that this variation is due to variation in internal context. It may well be the case that such variation in actual application occurs when and only when $P$ is a vague predicate, but from a neutral perspective, all we can conclude from this is that the variation in actual application is a symptom of vagueness. This point can also be put as follows: Suppose that we hold the external context fixed throughout the forced march. If Raffman is right, then given that $P$ is vague, the actual application of $P$ will still vary on each run. But one can agree that this is what will happen in this case, while still denying that the variation is due to changes in internal context. All it shows is that fixing the external context is not enough to eliminate the subject’s lack of a clear and stable reason for drawing the boundary at a certain place in the series, and again, this is merely a symptom of vagueness whose source is still to be determined. Of course, if we find the psychological part of Raffman’s story plausible, we may be inclined to grant her the claim that internal context shifts are responsible for the variation in actual application, so let us put this worry aside and grant that (i) is correct, at least for present purposes.

But even if we accept (i), we could still deny that the extensions vary with internal context.\textsuperscript{131} The way that competent speakers apply vague predicates need not correspond exactly to their extensions, since speakers may be competent without being infallible: they can make mistaken judgements without thereby displaying incompetence.\textsuperscript{132} Of course, given that we take competence to require that one only make correct judgements in the forced march, Raffman’s reasoning seems warranted. If competent speakers’ actual application must match the extension, and actual application varies with internal context, then the extension too must vary with internal context. But the notion of competence needed for the step from (i) to (ii) seems implausibly strong, since it requires that competent speakers only make true judgements in the borderline area.

For illustration, suppose that an epistemicist like Williamson were to accept that the actual application of vague predicates varies with internal context. Would he thereby be committed to the claim that we are incompetent with vague predicates? It seems not. It would be perfectly consistent to claim that although we sometimes apply vague predicates incorrectly with respect to some borderline cases, we still remain competent, at least as long as we do not violate other important constraints on competent use, such as penumbral connections or clear case constraints. In fact, we might even allow such violations as long as they result from some kind of (understandable) mistake on

\textsuperscript{130} For the original formulations of the argument, see Raffman (1994: 66) and (1996: 190).
\textsuperscript{131} In the terminology used in section 4.3 above, we could accept the psychological account but reject the co-determination thesis.
\textsuperscript{132} See Keefe (2003: 80) (the passage quoted above).
the speaker’s part. We should at least leave room for an account of competence according to which a reasonably small amount of incorrect use can be compatible with competence. Indeed, given the setup of the forced march, there may even be some reason to expect competent speakers to make a few mistaken judgements.\footnote{See section 5.2 above.} After all, the kind of competence we should expect normal speakers to have when it comes to vague language need not involve being able to handle weird situations like the forced march. Rather, we should expect their abilities to be geared to handle everyday communication with vague language, and the possession of such abilities may well be compatible with making mistakes in the forced march.

We have seen that Raffman’s arguments do not look very promising, so let us instead turn to the following more general question: How could stories about the forced march, such as the ones given by Raffman and Shapiro, support the claim that the extensions of vague predicates vary with the V-factors? In particular, how do we get results about the correct application of vague predicates from a mere description of behaviour?

One idea would be that the story describes how subjects must behave in order to count as competent.\footnote{This is a quite plausible interpretation of Raffman, which has also been confirmed in personal conversation.} Given that we adopt a notion of competence according to which competent speakers only make correct judgements in the forced march, this would allow us to read off semantic values from the results of the experiment, and thus, if we were to get the results that the contextualists claim that we would, then this would lend some support to their theories. We have already seen that there is reason to think that this notion of competence is too strict, but even if we set that worry aside for the moment, there is a further, more fundamental problem with this approach. If we stipulate that the story describes how speakers must behave in order to count as competent (according to the strict notion), it seems that some semantic principles of the kind that we would like to read off from the experiment will already be invoked in the description itself. For instance, in order to know that a speaker would be incorrect in judging any two adjacent objects, considered pairwise, to belong to different semantic categories, we need to know that some weak tolerance principle to this effect holds. We would only have a reason to accept that the description is a description of the (only) correct way to apply vague predicates if we already had a reason to believe in weak tolerance.

Moreover, the assumption that speakers must behave in this way in order to count as competent is questionable. As already pointed out, why should deviations from the pattern described in the story about the forced march be taken to render a subject incompetent, as long as penumbral connections, clear case constraints etc. are respected? The problem here is that we have
no independent account of competence, and the rough ideas sketched above regarding the abilities that we should expect normal speakers to possess do not say nearly enough about how a subject must behave in the forced march in order to count as a competent speaker. As long as we lack a sufficiently clear idea about what the subjects must be like in order to count as competent, we should refrain from appealing to this notion in arguing for our preferred theory of vagueness. To tacitly assume that competence requires that one’s own preferred semantic principles are respected is to beg the question against other theorists who disagree on this score.

But if we cannot appeal directly to competence, maybe we can appeal to it indirectly by claiming that the story describes how normal speakers would behave in the forced march? Then we might at least hope to get a testable hypothesis: we could just take a sufficiently large sample of uncontrovertially normal speakers and run the forced march experiment on them. Since normal speakers may plausibly be taken to be competent, we can be sure that the subjects will be competent. However, this would not get us very far. Normality may be sufficient for competence, but it need not be necessary. That is to say, even if the story were to describe how normal speakers would behave, this would not mean that deviant behaviour would be incompetent, since the set of normal speakers may just be a proper subset of the set of competent speakers.

Going through all possible alternative accounts of competence with vague language would take us too far afield. However, it is worth pointing out that the model of linguistic knowledge which was suggested in section 4.7 above on behalf of the contextualist (in order to enable her to allow that competent speakers may be ignorant of certain truth-conditional features of their utterances) does not lend any support to the idea that competent speakers must act in a certain way in the forced march. In fact, it may well be claimed that the practice of ordinary speakers does not cover cases like the forced march at all, at least not as regards the classification of borderline cases. After all, the induction into the practice will typically consist in learning how to use vague expressions in everyday situations. Even if a certain kind of behaviour will in fact turn out to be typical for speakers who have been induced in the practice, deviations (even systematic ones) need not lead to expulsion from the linguistic community.

Finally, let us turn to the question about what principles it is that competent speakers really believe in. Do they believe in strong tolerance? Or is it rather the case that they believe in weak tolerance, but tend to assent to strong tolerance principles because they confuse them with weak tolerance principles? As pointed out in section 4.2 above, one idea would be to use the forced march to find out. If it turns out that subjects in the forced march violate strong tolerance, but obey weak tolerance, then this may count as evidence for the claim that they really only believe in weak tolerance.
However, this strategy looks rather dubious. As the forced march is set up, it is impossible to go all the way through the series without violating strong tolerance at some point, on pain of violating a clear case constraint. Clearly, we cannot conclude from this that speakers who do in fact violate strong tolerance in such scenarios do not believe in strong tolerance. Consider a variant of the forced march in which we add to the rules of the game that the subject is not allowed to retract any of her judgements about the objects in the series. In such a scenario it would be impossible for the subject to go all the way through the series without violating the weak tolerance principle (WPT), on pain of violating a clear case constraint. Now, if we could conclude from the ordinary forced march that the subject does not believe in strong tolerance, we should be able to conclude from the modified version that the subject does not believe in (WPT). I suggest that both of these arguments should be dismissed. In scenarios like these, the subject does what she has to in order to complete the task. All that we could conclude from the “data” above is that the subject is more reluctant to violate clear case constraints than tolerance principles.

Another way to put this point is that the typical versions of the forced march are designed to force the subject to violate strong tolerance, while still allowing the subject to obey weak tolerance. It is very unlikely that such experiments could reveal anything about whether the subject implicitly believes in weak or strong tolerance. It may well be the case that the subject is trying to obey strong tolerance, and in her effort to avoid the most flagrant violations of it happens to obey weak tolerance. In order to illustrate this point, let us go back to Kamp’s take on the forced march.

As we saw in section 5.1, Kamp takes the strong tolerance principle (EOI) to be what guides the subject, rather than some weaker version of it. The subject is taken to display an implicit belief in a strong tolerance principle, but given how the experiment is set up, she is unable to conform to it all the way, since she also believes that the squares on the extreme right are yellow, and in the end, the latter belief comes to dominate the former. Instead of concluding that the strong tolerance principle cannot really be part of the competent speaker’s implicit knowledge, Kamp adopts a view according to which such predicates are governed by inconsistent rules:

The interest of such Gedanken experiments lies, I feel, in the force with which they expose the nature of the paradox as well as its depth. They appear to show that a substantial class of terms which our language contains, and which it could hardly do without, are ruled by semantic principles which are strictly incompatible. This is a fact that we must take very seriously indeed. It is equally remarkable that in actual practice we manage so well with such terms in spite of the lurking contradictions that beset them. (Kamp 1981: 241-242)
Of course, one may disagree with Kamp’s view of the matter. However, the important point for present purposes is that the “data” about the subject’s behaviour in the forced march do not really give any clear support to the claim that speakers’ have an implicit belief in weak tolerance rather than strong tolerance. Kamp is an example of someone who agrees about the “data” but draws a quite different conclusion, and even if one might find the idea that our language is really governed by inconsistent rules hard to swallow, there is nothing about the “data” that speaks against such a view.

The upshot is that it seems unlikely that we could appeal to the forced march in order to establish that competent speakers have some kind of implicit knowledge of weak tolerance principles. This means that the confusion strategies discussed in section 4.2 above still rest on an unsupported and controversial assumption. More generally, we have seen that there is reason to doubt that the forced march can do much work for the contextualist, unless we make some fairly questionable assumptions about what normal speakers’ competence with vague language entails about their behaviour in the forced march.
Chapter 6: Unstable Contexts

6.1 The Heraclitus problem

As we have seen in previous chapters, at least some versions of contextualism – i.e. the ones promoted by Raffman and Fara – are intended to be compatible with classical logic and semantics. We have also seen that whether or not the classical package can be retained depends on whether or not the V-factors can determine sharp boundaries. But even if we assume that there are sharp boundaries in each context, we have no guarantee that the V-factors themselves are stable enough to guarantee that the extensions remain the same throughout an application of what appears to be a classically valid rule of inference. As we noted in connection with the discussion of Raffman’s notion of no-status items, the relevant subject’s psychological state may well be in constant flux, and as we noted in chapter four, the subject will often not be aware of these changes. Thus, the extensions of vague predicates can change slightly at any moment without our noticing. Why is this a problem? Surely the contextualist could still claim that classical logic is valid for vague language? Well, the problem does not concern the validity of classical logic, but rather its usefulness. Here is how Shapiro puts this point:

(…) I submit that these rapid changes in extension put a damper on the usefulness of classical logic when reasoning with vague predicates. The supposedly precise extensions of the predicates can change in the very act of our considering them as we go through an argument, trying to reason in an ordinary situation. We can call this a Heraclitus problem. Just as the river changes every time we step into it, the extensions of vague predicates change momentarily, literally right before our eyes. An argument may be valid, and its premises might be true at a given moment, but by the time a human reasoner has concluded something on the basis of them, the extension of the terms may have changed, and along with that, some of the sentences may no longer be true. (Shapiro 2006: 35)

Shapiro draws the conclusion that we should abandon classical logic in favour of a logic that does not require that the extensions are held fixed all through the argument. In particular, he wants a logic that only requires that more mundane contextual factors, which do not change so rapidly and with-

---

135 See section 3.7.
out notice, are held fixed. In other words, the logic for vague predicates should be able to handle shifts in the V-factors in stride. It should be noted that the Heraclitus problem does not only affect classical logic, but any logic which requires that the extensions are held fixed during the course of an argument.

Shapiro is certainly right that the contextualist cannot just rest content with saving the validity of classical logic. Something must also be said about when and how classical logic can be applied. Again, the Heraclitus problem does not pose any threat to the validity of the logic. Rather, the point is that due to the instability of the extensions we cannot be sure whether or not certain necessary conditions for its adequate application have been fulfilled. We can illustrate this point by first considering the following version of the sorites paradox, and a typical contextualist treatment of it:

(1) A man with 200,000 hairs on his head is not bald.

(2) If a man with \( n \) hairs is not bald, then a man with \( n-1 \) hairs is not bald.

(3) Therefore, a man with 0 hairs on his head is not bald.

In chapter four, we saw that contextualists have tried to explain the appeal of claims like (2) by focusing on our judgements about their instances. Classical logic warrants the step from the truth of the instances of (2) to the truth of (2). So, if we were to check all the instances and find them to be true, we would be in a position to affirm (2). If we go on to investigate all the pairs of adjacent items in the series, and find that for each such pair the relevant conditional holds, we might easily take ourselves to be in a position to conclude that (2) – which appears to generalise over these conditionals – is true as well. However, since, according to the contextualist story, the extension will have shifted during the investigation, we are not really in a position to generalise, and this means that we would commit a fallacy if we were to reason in this way. Even though there is nothing wrong with the inference from the instances of a generalisation to the generalisation itself, such a rule cannot be applied in the present case due to the extensions shifts. Thus, even if classical inference rules are valid, they cannot be used in order to derive the paradoxical conclusion.

Of course, as regards the sorites paradox, such a result would be welcome. Indeed, the above diagnosis is basically the same as the one suggested by Fara.\(^{136}\) The problem is that there are patterns of reasoning to which the same diagnosis appears to apply although they are intuitively perfectly fine. So, the question is why we should dismiss soritical reasoning on the grounds that the extensions shift during the reasoning when it seems that there are

\(^{136}\) See section 4.3 above.
arguments that are analogous in the relevant respects but which are clearly not fallacious. In other words, if we dismiss soritical reasoning merely on the grounds that there is no guarantee that the extension stays fixed, it seems that we will have to dismiss intuitively valid reasoning as well. Even though the contextualist can maintain that classical logic actually holds, there is no general guarantee that the basic requirement that the extensions remain fixed is fulfilled, so we might not be able to apply classical inference rules to vague language at all. Insofar as the fallacy that the above contextualist diagnosis locates in the reasoning that leads to the sorites paradox consists in treating the extensions as fixed when they do in fact vary, it seems that pieces of reasoning that seems perfectly fine must be rejected along with sorites reasoning, at least given that the V-factors are as unstable as the psychological factors discussed in previous chapters. In the next section, we will consider some objections connected to this problem.

6.2 Keefe’s and Sorensen’s objections

The fallacy in the soritical reasoning described above may be compared to fallacies of equivocation. As Roy Sorensen (1998: 219) puts it, the plausibility of (2) is due to the fact that we agglomerate many contexts into an “ambiguous montage”. This means that we can reject (2) and explain its initial plausibility by appeal to what might be called a contextual equivocation. However, as Sorensen points out, such a charge of equivocation must avoid condemning good arguments like the following:

(1*) A man with 200,000 hairs on his head is not bald.

(2*) If a man with \(n\) hairs on his head is not bald, then, then a man with \(n+1\) hairs on his head is not bald.

(3*) Therefore, a man with 300,000 hairs on his head is not bald.

This argument mirrors the ordinary Sorites argument, but it proceeds in the opposite, benign direction. Given the considerations above about the instability of the V-factors, there will be shifts in context as we consider (what appears to be) the instances of (2*) similar to those that occur when we consider (what appears to be) the instances of (2).\(^{137}\) If this warrants a dismissal of the sorites argument, it will also, it seems, warrant a dismissal of the sound argument above on the same grounds. More generally, this seems to show that the contextualist who wants to claim that the reasoning behind the sorites paradox involves a fallacy of equivocation is also committed to the

\(^{137}\) For more on this instability, see sections 3.6 and 4.7.
claim that intuitively sound reasoning involving vague expressions is equivocal in the same sense.

Keefe (2007) presents a more developed version of this objection. First, Keefe notes that the contextualist diagnosis suggested by Fara locates a certain kind of equivocational fallacy in the reasoning from instances considered in different contexts to the generalised sorites premise:

Let us consider how we are supposed to reason. We generalize from the truth of each instance of ‘If $F_x$ then $F_{x+1}$’ (or the truth of every instance we have considered) to the truth of the corresponding universal generalization. But it turns out, on the contextualist account, that the instances whose truth we grasp are not instances of the same thing: the predicate in question has a different extension in relation to different instances. We are not warranted in generalizing, for to do so would be to commit something akin to a fallacy of equivocation. ‘For all $i$, if $F_x$ then $F_{x+1}$’ does not follow from the truth of something of the form ‘If $F_x$ then $F_{x+1}$’ for every $i$, if it takes something different to count as ‘$F$’ in relation to different instances. (Keefe 2007: 284-285)

Second, she points out that according to the contextualist solution, the extensions of vague predicates are constantly in flux, since they are relative to contextual factors that are extremely unstable. As we saw in chapter three, this depends on what the V-factors are taken to be, but insofar as we focus on contextualist accounts like Raffman’s and Fara’s, according to which we should identify them with psychological factors, there are pretty good reasons to think that Keefe is right in this respect.138 Moreover, we are (typically) not aware of how and when the extensions change – indeed, they may change even when we believe that they do not, and despite that we intend them to remain fixed.139 Now, add to this picture that vagueness is pervasive in natural languages, and we seem to get the consequence that we cannot reliably apply what appear to be good inference rules when we reason with ordinary vague expressions. Consider the following, apparently unproblematic, application of induction:

Suppose I observe a string of red postboxes and note that they are each red; the context changes with each observation and, since they are marginally different shades of red and different objects are salient alongside them, the standards required to count as ‘red’ will also change. When I go on to conclude that all postboxes are red, I do not mean the same thing by ‘red’ in the conclusion as I mean in all the instances, and so, again, I am guilty of equivocation. Moreover, I cannot guard against equivocation by deciding to keep the context fixed, since I do not have the power to keep it fixed through changes of what is in sight or in mind: these changes inevitably bring with them a change in context. (Keefe 2007: 285)

---

138 See sections 3.5 and 3.6 for more details.
139 Both Raffman and Soames endorse this kind of context blindness. See also section 4.7.
The problem here is that since there is no reliable way to keep the extensions fixed between considering the instances and considering the generalisation, we cannot reliably apply the rule. Or so the argument goes.

Keefe (2007: 286) gives a second example, which concerns reasoning from the truth of (what we take to be) the instances of ‘Anyone one-hundredth of an inch taller than a tall man is also tall’ to the truth of the generalisation itself.\(^{140}\) Here again it seems that the reasoning will have to be deemed fallacious by the contextualist, due to the constant extension shifts. Moreover, just like the reasoning in the case of (1*)-(3*), this reasoning mirrors the one that is dismissed as equivocal in the case of the sorites. We just proceed in the opposite, benign, direction. So it seems even harder to make these patterns of reasoning come out non-fallacious while coherently dismissing soritical reasoning.

6.3 Collection

In order to meet these objections, the contextualist must find a way to render soritical reasoning fallacious without having to accept that apparently unproblematic applications of the relevant inference rules are fallacious too. For instance, it might be possible to give an analysis of the fallacy that is consistent with the contextualist diagnosis, but which does not turn on the claim that the fallacy consists in the kind of equivocation described above. Both Sorensen and Keefe assume that the contextualist is committed to positing a fallacy of equivocation in both the soritical and the non-soritical cases, so if this assumption could be rejected there might be a way out. So, what the contextualist needs is an alternative way to model these cases. How could this be done?

In order to make the context relativity explicit, let us take the premises in the soritical case to be represented by pairs \(<F_a, F_{a+1}, c_j>\) of sentences and contexts.\(^{141}\) If the context shifts as we consider different premises, the appropriate way to represent them is as follows:

\(<F_a, F_{a+1}, c_j>, <F_a, F_{a+1}, c_j>, ..., <F_a, F_{a+1}, c_m>\>

Having come to believe the premises in their respective contexts, we now wish to draw our conclusion in the context we are in at that time, call it C. Now, we may distinguish between two different steps in the reasoning. The first step – call it the collection step – will be to go from the premises as

\(^{140}\) Keefe’s example concerns reasoning from an arbitrary instance, but both her objection and the reply I am about to suggest work equally well when applied to reasoning from all instances.

\(^{141}\) In the other cases the form of the sentences will be different but the general idea is the same.
represented above to \(<Fa_1 \supset Fa_2, C>, < Fa_2 \supset Fa_3, C>,…,< Fa_{n-1} \supset Fa_n, C>\). The collection step will be correct – in the sense of being truth preserving – only if the extensions for the context sensitive predicate \( F \) determined in the original contexts \( c_1,\ldots,c_m \) all overlap with \( C \) with respect to \( a_1,\ldots,a_n \). That is to say, for each \( i,j, <Fa_i \supset Fa_{i+1},c_j> \) must have the same truth value as \(< Fa_i \supset Fa_{i+1}, C>\). In some cases, for instance when all the objects are clear cases of \( F \)-ness, or when the sentences for some other reason are true relative to any context, the collection step will be safe enough to count as clearly warranted. As will be shown below, this is the case in Sorensen’s and Keefe’s examples. But in some cases, the contextual relativity will make the collection step clearly unwarranted since the nature of the case necessitates a change in truth-value for at least one of the premises, which invariably renders the collection step incorrect. According to the present model, this will be typical for cases involving soritical reasoning.

The second step in the reasoning – call it the logical step – will be to apply the relevant inference rule in order to draw the conclusion from the collected premises. Since all premises are now considered with respect to a single context, there is no equivocation, and hence no such fallacy. Given that the preceding collection step was clearly warranted, the reasoning as a whole is reliable. However, if the collection step was less than clearly warranted, we cannot really trust the reasoning, and if it was clearly unwarranted, we must reject it. Using this model, the contextualist can claim that what distinguishes soritical reasoning from non-soritical reasoning is that the collection step in the former is clearly unwarranted while the collection step in the latter is clearly warranted. Let me explain.

The contextualist could concede that the extensions of most of our everyday predicates will indeed be in constant flux, but claim that in most cases, this will not matter for the application of the inference rule. For instance, in Keefe’s postbox example, nothing at all will happen to the truth values of the premises – as long as they fall inside all the extensions in the range of variation, the collection step will be correct. In fact, since the postboxes are all paradigm cases of redness, they will be guaranteed to fall in the extension by the relevant clear case constraints. So, since the ascriptions cannot be untrue relative to any context, the collection step will be clearly warranted. On this model there is no real fallacy, and the reasoning is in fact reliable, despite the extension shifts.

In contrast, the collection step in the case of (2) is clearly fallacious; it leads us to a false belief about (2) on the basis of correctly formed beliefs about the pairs of adjacent objects in the series. To illustrate, recall that on Fara’s account there is always a boundary somewhere in the series, and hence a false instance of the generalised conditional in each context. However, the changes in context make the boundary shift around in such a way that every time we consider a pair of adjacent objects, the relevant conditional is true. The boundary is always somewhere, but it is elusive in the
sense that it is never where we are looking. Consequently, the context we are in after having considered all the pairs is such that it renders one of the conditionals false, even though it was true in the context in which the corresponding pair was considered. The contextualist can thus use this model to give an explanation of why the same form of reasoning is reliable in many everyday cases but not in sorites cases, namely that in the latter kind of cases the collection step is clearly unwarranted.

Essentially the same point applies to Keefe’s second example and in (1*)-(3*) as in the mailbox example. The collection step is clearly warranted. The extension will not change in a way that affects the truth-value of any of the conditionals. In fact, the truth of the conditionals is guaranteed by the more general principles ‘Anyone taller than a tall man is also tall’ and ‘Any man with more hairs than a man who is not bald is not bald either’. The fact that the reasoning proceeds via something that looks like instances of a tolerance principle may lead us to think that the reasoning is more similar to soritical reasoning than it actually is, but the crucial difference is that soritical reasoning relies on tolerance, while reasoning in the benign direction of the (monotonic) sorites series does not.

But does this move really give us the resources to draw the desired distinction between fallacious and non-fallacious reasoning with vague language? Suppose that the extension of the vague predicate shifts because the content of that predicate shifts. Then, in the soritical and the non-soritical cases alike, the collection step will change the content of the premises, not just the extensions of the constituent predicates. Given that we individuate premises in terms of their content, this means that the premises used as the basis for the logical step will no longer be the same as the premises for which we have evidence, and this may be seen as a fallacy in its own right. Thus, there is a sense in which the reasoning will still be fallacious in the non-soritical cases insofar as it is fallacious in the soritical cases, and this was exactly what we wanted to avoid.

It might be thought that we could avoid this problem by going non-indexicalist. In chapter two, a distinction was drawn between indexicalism, according to which both the content and the extension vary with the V-factors, and non-indexicalism, according to which only the extension varies with the V-factors. On the non-indexicalist view, the same relativised proposition is expressed in all contexts that differ at most with respect to the V-factors, but we still get the desired variation in extension, since the different contexts determine different circumstances of evaluation. It may thus seem that the non-indexicalist about vagueness can avoid the consequence that the premises used as the basis for the logical step do not have the same content as the premises for which we have evidence, and this may be taken as a reason for preferring non-indexicalism over indexicalism.

However, this move cannot help with the present difficulties without undermining the non-indexicalist’s reply to the Fregean objection from incom-
pleteness considered in section 2.5 above. The objection turned on the observation that a proposition which can have different truth-values at different times is incomplete. If the content of an assertion is exhausted by such an incomplete content, it cannot have a stable evaluation across times. In order to avoid this problem, it was suggested that the non-indexicalist follow Recanati and distinguish between two notions of content: the relativised content expressed by an utterance, which is truth-conditionally incomplete, and the complete content of an utterance, which consists of the relativised content and the relevant parameters of the circumstance determined by the context of utterance. While the relativised content remains the same across contexts that differ at most with respect to the V-factors, the complete content varies whenever the relevant parameters of the circumstance of evaluation vary, so it will not remain the same across contexts which differ with respect to the V-factors. The reason that we cannot deal with the present problem by going non-indexicalist is that it concerns the evaluation of sentences in context, based on evidence collected in those contexts. The evidential relation must hold between the evidence collected and the complete content, since otherwise the evidence cannot support a certain evaluation. This means that if the complete content changes when we perform the collection step, the problem that we no longer have evidence for the premises when we perform the logical step will arise for the non-indexicalist as well.

Is there any other way out for the proponent of the model suggested above? Well, it might be suggested that the gap between the evidence and the premises is no serious problem in itself. The fallacy is supposed to consist in the fact that after we have performed the collection step, we strictly speaking do not have evidence for the propositions we use as premises. However, it could be argued that this problem may arise independently of contextualism about vagueness, simply because actual reasoning takes time. Although we may disagree about whether or not there are temporally neutral propositions, we can agree that only contents that contain a time-specification are truth-conditionally complete. So if we want to reason from the truth of the premises to the truth of the conclusion, we need all the propositions involved to be temporally specific. So, for instance, when I consider the postboxes in Keeve’s example above at different times, my evidence for them being red will consist in (or at least be adequately represented by) propositions of the form ‘Postbox $B_n$ is red at time $t_m$’. Of course, from the fact that a postbox $B_n$ is red at time $t_m$, nothing follows logically about the colour of postbox $B_n$ at $t_k$, when $t_m \neq t_k$. So if I want to draw any conclusions about the colour of the postboxes by applying (classical) inference rules, I need to collect them into the context in which I draw the conclusion, and in the case at hand, this context will be different from the contexts in which I have observed the postboxes. Since changing the temporal

---

142 See section 2.5 above, (Evans 1985: 349), and (Frege 1967: 338).
component of the proposition, as we will do in the collection step, means changing the complete content, the premises used as the basis for the logical step will no longer be the same as the premises for which I have evidence.

It thus seems that there will sometimes be a gap between the evidence that we have and the propositions we use as our basis for reasoning, simply because both collecting evidence and reasoning takes time. Normally, collection steps like the one in the previous paragraph are warranted, and in such cases it seems clear that there is nothing fallacious about the reasoning, even though strictly speaking we do not have evidence for the propositions that we use as premises. However, this does not mean that the possible slack between evidence and premises is no problem at all for the contextualist. In certain cases, the slack will not affect the reasoning, simply because we have a strong justification for the collection step. We have very good reasons to believe that certain properties are stable over at least sufficiently short stretches of time, as in the case with the postboxes. Similarly, even on the contextualist picture, we have very good reasons to believe that a clearly red postbox remains red even when the V-factors shift, and that any object redder than a red object is also red, relative to any context. So in certain cases, including those invoked in Keefe’s and Sorensen’s objections, there will be a sufficiently strong justification for the collection step in order for the reasoning to count as non-fallacious despite the slack between evidence and premises. But there are other cases in which such a justification is lacking, and in those cases we will not be able to reliably apply classically valid inference rules.

Firstly, consider a situation in which the postboxes in Keefe’s example are scattered around the neighbourhood (in the usual way) so that I cannot observe them all at once. I want to know whether or not they are all red. I take a walk and check them out, and find that each of them is indeed red at the time I observe it. As pointed out above we would normally be justified in assuming that the postboxes remain red, and thus it would not be unwarranted to conclude that all the postboxes are red. However, just as I am about to draw this conclusion, I learn that the postboxes in the neighbourhood are currently being painted yellow, in order to please an influential group of Swedish immigrants. In such a situation I would have reason to think that the collection step might not be warranted, since the colour of some of the postboxes may well have changed since I observed it. That is, the extension of ‘red’ might have changed between the time when I established the premises as true and the time when I want to draw my conclusion, not because of some change in the context, but rather because of a change in the relevant part of the actual world.

Secondly, consider a situation in which I want to find out whether some borderline cases of red postboxes are red or not. According to the contextualist picture, the extension of ‘is red’ may change very rapidly due to changes in the V-factors. Consequently, if I check postbox one and correctly observe
that it is red, and then check postbox two, which is slightly redder than postbox one, and correctly observe that it is red, it is quite possible that the V-factors have shifted between my observations in a way that makes postbox one fall outside the extension of ‘is red’. In such a case, we would thus *not* be justified in concluding that postbox one and two are both red. In other words, if the contextualist picture is right, there will be situations in which we will not be justified in making the required collection step, and this means that there will be situations in which we cannot reliably apply classically valid inference rules. As the above example illustrates, not even simple applications of conjunction introduction will be reliable in general. Indeed, since the relevant shifts in the V-factors may occur very swiftly, such rules will not even be reliable in cases where the time interval between the observations is very short.

The moral here is that even if we need to perform collection steps in order to apply logic in general, and even if the justification for our so doing can be undermined by the possibility of extension shifts during the reasoning, there is a crucial difference between the first and the second situation above. The first situation is one in which the justification for the assumption that things like postboxes do not change their colour over short stretches of time is undermined due to rather extraordinary circumstances. The second situation is one in which there is no justification in the first place, at least not if the contextualist picture is assumed to be correct. As we have seen, many situations in which we reason with borderline cases will be of this kind. When we reason with clear cases, or when there is something else that justifies the collection step, as in the examples invoked in Keefe’s and Sorensen’s objections, this problem does not arise, so the contextualist will not be committed to claiming that all reasoning with vague language is fallacious. However, it still seems that Shapiro is right that the rapid extension shifts will put a damper on the usefulness of logic, and thus we still lack a proper reply to the Heraclitus problem. Thus, the model above can at most help the contextualist with certain problematic counterexamples. As we will see at the end of the next section, further considerations cast doubt on the very idea that there is a collection step involved in the soritical reasoning as diagnosed by Fara, so in the end it is far from clear that this model is at all viable.

### 6.4 Speech reports and belief contents

We take ourselves to be able to use indirect speech to report what other people have said in different contexts. However, if the contents of vague expressions are in constant flux due to contextual variation, how is this possible? This is the gist of Keefe’s recent objection to contextualism about vagueness:
‘S said that a is F’ will almost never be strictly true. For the context of this report will be different from that in which S made the utterance, due to the [difference in the V-factors]; correspondingly, ‘a is F’ will express a different proposition in those two contexts. We will generally be lacking a way to report speech, and the indirect speech reports that we do make will almost always be inaccurate. (Keefe 2007: 286)

Keefe’s objection consists in two related charges against the contextualist. Firstly, on the contextualist picture, there is no reliable way to report speech. Secondly, as a consequence of this, most of the reports that we actually make are inaccurate. How could the contextualist respond to these charges?

In the previous section, we saw an example of a problem that could not be dodged just by going non-indexicalist. However, when it comes to speech reports, this move looks more promising (at least initially). The crucial difference between this issue and the issue discussed in the previous section is that when it comes to speech reports, it could be claimed that what matters is not the complete content, but rather the relativised content. Following Recanati (2007), we can claim that the relativised content is the explicit content, and this is what needs to be preserved in a correct speech report. In other words, when we ask about what the speaker said, all we need to care about is what (relativised) proposition the speaker expressed. In that case, the relativised content is enough. It is only when we want to evaluate the utterance that we need the complete content. How does this move help with Keefe’s objection? Well, according to non-indexicalism, the (explicit) content does not vary between the context of the original utterance and the context of the report. In an intuitively correct report, the same propositional content – a relativised proposition – is expressed in the report and the original utterance, despite the context change, so the report is not rendered false by non-indexicalism. So, in reply to Keefe’s first point, the non-indexicalist could claim that the linguistic vehicle used in making the utterance can also be used to report the utterance. Since this renders our usual way of reporting speech reliable, this also takes care of Keefe’s second point.

So, according to non-indexicalism, a speech report may leave out important aspects of the utterance, namely the V-factors determined by the context, without omitting anything that is crucial for fulfilling the purpose of reporting, which is just to convey the explicit content of the utterance, i.e.

---

143 As we saw in section 2.5 above, Recanati (2007: 82-86) invokes this distinction in his attempt to rebut Mark Richard’s famous objection against temporalism. Recanati’s basic idea is that belief reports are ambiguous between one interpretation which requires the complete content, and another one which requires the relativised content. The most obvious similarity with the present application is that it is when we are interested in the truth-conditional properties of the belief that we need the complete content. Similarly, it is when we focus on the truth of someone’s utterance that we need the complete content. However, as we saw in section 2.5, and as we will see below, the strategy relies on the availability of relativistic readings in the relevant cases.

144 Modulo the required substitutions of indexical expressions.
the relativised proposition that the speaker expressed. This means that there is a sense in which the report is incomplete, but this incompleteness does not affect the accuracy of the report. Although this may seem like a neat solution, matters are not so simple, since the non-indexicalist framework generates some pretty counterintuitive consequences.

Suppose that Julia utters the following: ‘Sebastian said that Charles is tall, but it is false that Charles is tall, so Sebastian must have said something false.’ Suppose further that Sebastian uttered ‘Charles is tall’ in C, and thereby expressed the V-factors neutral proposition p, and that Julia’s reporting context is C’. Moreover, let C and C’ differ only with respect to the V-factors, and let p be true in C but false in C’. In particular, let it be clear that Charles’s length and the lengths of those in the relevant comparison class remain the same. On the non-indexicalist reading of Julia’s utterance, her reasoning is not valid. The incompleteness of the relativised content makes it lack a stable evaluation, so although the complete content of Sebastian’s assertion remains the same, the relativised content reported may be evaluated differently with respect to the reporting context. This means that Julia’s report is correct, just like her claim that the proposition reported is false, but from this it does not follow that Sebastian said something false. In fact, in the situation described, what he said was true when he said it.

Why is this a problem for the non-indexicalist? Well, the fact that Julia’s reasoning is intuitively valid suggests that a reading which renders it invalid is incorrect. The following example makes this point even clearer. Suppose that Julia utters ‘Sebastian said that Charles is tall, but it is false that Charles is tall; however Sebastian said something true’. Intuitively, this utterance is self-contradictory, but on the non-indexicalist reading it is consistent. So, the non-indexicalist must claim that there is an available reading of this utterance according to which the utterance is consistent. Again, the problem is that the very fact that we do not readily recognise this reading is in itself an indication that such a reading is not really available. Indeed, this second example seems even more problematic, since here the non-indexicalist reading is not even triggered when the ordinary reading is contradictory, and this gives us pretty good reasons to assume that it is not available at all.

Are there any other ways to meet Keefe’s objection? Well, the contextualist might claim that the objection relies on an unreasonably strict requirement for the accuracy of a speech report, since she presupposes that reports which do not reproduce a proposition identical to the one expressed by the

---

145 This example is due to Peter Pagin.
146 Thanks to Richard Dietz and Martin Montminy for pointing out that examples like these are problematic for the non-indexicalist.
147 It may perhaps be argued that we are just blind to these readings, and this might perhaps be backed up by considerations like the ones discussed in section 4.7 above. However, even given the availability of such an explanation, the resulting view seems at least as counterintuitive as the claim that we cannot reliably report speech.
original utterance cannot be correct. How could such a claim be supported? Well, one might think that just as the possibility of there being a slack between evidence and premises need not make an inference unreliable, the possibility of a small difference between the original proposition uttered and the proposition reported need not undermine the reliability of the report. As we saw in the previous section, such slacks can occur even if contextualism about vagueness is false, for instance when the temporal component of the complete content differs. The present suggestion is that speech reports can be correct even though the proposition reported is not identical to the proposition expressed by the original utterance, at least if the only difference lies in the time component of the complete content. For instance, if Sebastian utters the sentence ‘Charles is responsible for the coffee machine’ on Monday and Julia reports him on Tuesday by uttering the sentence ‘Sebastian said that Charles is responsible for the coffee machine’, we would like to count the report as being reliable and correct even if we take the time specification of the propositions to differ due to the difference in time of utterance. If this is right, then, there are cases of intuitively correct speech reports in which the proposition reported differs from the original proposition. To pursue the parallel with the discussion in the previous section, the contextualist might also invoke the notion of collect in order to state an alternative criterion for speech reports. The idea would be that as long as the explicit content is identical in the report and the original utterance, the reliability of the report depends on whether we can reliably collect into the reporting context.

However, even if such a strategy could be made to work, it would only take care of a limited range of cases, namely those in which we have a sufficiently strong justification for thinking that the collection can be made without altering the truth-value. On the contextualist picture, this would include reports of utterances concerning clear cases, and other cases in which the truth-value remains stable across contexts which differ in the relevant respects. But as we saw in the previous section, this would not include reports of utterances concerning borderline cases, so we would still not be able to make reliable speech reports in general.

Could the contextualist accept Keefe’s strict condition, but deny that the contextual variation makes it impossible to fulfil it? Well, one way would be to appeal to context stabilising operators. If ordinary speakers have at their disposal expressions which could be used in speech reports in order to make the (complete) propositional content match the one expressed in the original utterance, then it would be possible to make reliable speech reports after all, even if we demand that the propositional content be identical. For instance, it would in principle be possible to make a strictly correct report in C’ of an utterance that was made in C, where C and C’ differs only with respect to the V-factors, by uttering something to the effect of ‘Sebastian said that Charles was tall in context C’. However, since we do not actually make use of such
operators in the relevant situations, this move does not take care of Keefe’s charge that most of the reports we actually make are inaccurate according to the contextualist view. Moreover, recall that one of the strategies for treating stabilised sorites was to claim that ordinary speakers cannot have any reliable intuitions about the stabilised versions of the sorites since they simply do not have an appropriate grasp of the terms involved. Thus, tolerance intuitions could be explained away by appeal to their lack understanding. But if the context stabilising operators are assumed to be part of their own language, this strategy will no longer be viable. Finally, there seems to be no good reason to assume that there are any operators of this kind, so the prospects for this strategy look dim.

Finally, let us now turn to some concerns about belief contents. According to Keefe, the contextualist runs into difficulties when faced with the following question concerning the subject’s beliefs as she considers different adjacent pairs in the sorites:

Does our subject believe the *same thing* of each pair, according to the contextualist, when she believes something reported by sentences such as ‘it is not the case that one is F and the other is not-F(…)? This question poses a dilemma. (Keefe 2007: 280)

On the first horn of the dilemma, where the answer to the question is ‘no’, the contextualist faces two problems. Firstly, what should we say about beliefs that have been previously formed in different contexts, and are not currently conscious? Does the subject retain them in their original form or not? Secondly, it certainly seems to us that we believe the same thing of all the pairs, and if we do not, why should we be inclined to count our beliefs as instances of the same generalisation, as we must if we are to be inclined to form a belief in the major premise of the sorites on the basis of our beliefs about the individual pairs? On the second horn, where the answer to Keefe’s question is ‘yes’, it seems that we must somehow change the contents of our beliefs about previously considered items as the context and thus the property ascribed changes, and such a proposal raises puzzling questions like the following:

I acquire a belief about a pair, and at a later time have what is, in effect, a new belief about this pair. What could explain why I acquire this new belief (and why I cease to have the old one)? It is not acquired via confrontation with the pair. And how could confrontation with a different pair explain it? (Keefe 2007: 282)

At this point, the contextualist might appeal to the distinction between relativised and complete content, and say that in one sense the subject believes the same thing of all pairs, and in another sense she does not (always) believe the same thing about all the pairs. She believes the same thing in virtue
of ascribing the same relativised property to all the pairs, but since the truth-
value of what she believes varies across contexts, she does not ascribe the
same complete property to all the pairs, and thus there is another sense in
which she does not believe the same thing. According to this view, which
horn we take depends on which notion of belief we take the dilemma to con-
cern. However, the distinction is not of much interest in this case, since as
we saw above, it is the complete content that matters when we reason from
our beliefs about the pairs to the generalised sorites premise. So in order to
explain how the subject could conclude that the sorites premise is true on the
basis of her beliefs about the pairs we must explain how the complete con-
tents of her beliefs can be instances of one and the same generalisation. So
how could this be done?

Above we construed the reasoning as involving a collection step, and this
means that although the complete contents of the beliefs do not strictly in-
volve the same property, there is a point at which the contents are collected
into the present context, and thus become instances of one and the same ge-
eralisation. Of course, the collection step will not be warranted in this case,
and that is why the reasoning from the instances is fallacious according to
the above model. Nevertheless, it gives us an idea of how it is possible for
the beliefs about the pairs to be treated as instances of one and the same ge-
eralisation although they do not include the same property. When the beliefs
are first acquired, they may differ in complete content insofar as they are
acquired in different contexts but once the collection step has been pe-
formed, the same complete property is ascribed to all the pairs. The explana-
tion for why the subject acquires a new belief – that is, a belief with a differ-
ent complete content – is that the subject collects the old belief into the new
context, and thereby alters the complete content.

Before the beliefs are collected into one and the same context, they will,
according to the contextualist picture sketched above, differ in complete
content. This amounts to taking the first horn of Keefe’s dilemma with re-
spect to this stage of the reasoning. Why, then, does it seem to us that we
believe the same thing of each pair? Trivially, if we knew that the contents
differed, we would not believe that the contents were the same. Thus, if we
grant the plausible assumption that ordinary speakers believe that the content
is the same, then the claim that the content is different commits the contextu-
list to the claim that we are ignorant of the content shifts. Indeed, insofar
as they are already committed to the kind of content blindness discussed in
section 4.7 above, ignorance of this kind is rather to be expected. It also
seems that such ignorance can be invoked in order to explain why we tend to
make the fallacious collection step; if we do not realise that the complete
contents are different, we will not regard the collection step as even poten-
tially fallacious. Indeed, in such a case we will probably not even realise that
we collect.
However, the commitment to such ignorance also threatens to undermine the whole idea of using the notion of collection in the contextualist diagnosis of soritical reasoning. If it seems to the subject that she already believes the same (true) thing of all the pairs, then, from the subject’s point of view, there is no need for collection, and therefore it would be implausible to construe her reasoning as involving a collection step. If this is right, then, the flaw in her actual reasoning cannot consist in an unwarranted collection step. Rather, the fallacy will consist in that she regards the content of her ascriptions to be the same all the way through the sorites series. Since this kind of equivocation will also occur in the intuitively valid arguments discussed in section 6.2 above, these arguments will, according to the contextualist diagnosis, be just as fallacious as the soritical ones. Taking the second horn of the dilemma, and claim that at any given time, the subject does believe the same thing about all the pairs, would not help with respect to this problem. If the subject believes the same thing of each pair (and it also seems so to the subject), then again there will be no need for a collection step from the subject’s point of view. The fallacy will again have to consist in that the subject fails to realise that she has ascribed different properties to the different pairs, and this diagnosis will apply equally well to the intuitively sound arguments considered above. Hence, it does not seem like the model suggested in section 6.3 will do the trick when it comes to restricting the scope of the contextualist diagnosis to genuinely soritical reasoning.
7. Concluding Remarks

7.1 Contextualism and its competitors

We have seen that contextualist theories of vagueness face a number of problems. In chapter four, we examined different contextualist strategies for dealing with the psychological question, and found them all to be problematic in various ways. It was also argued that although the contextualist could appeal to various forms of ignorance in order to explain why the symptoms of vagueness remain even when the extension is nailed down, the very same forms of ignorance appears to undermine some of the contextualist strategies for dealing with the psychological question. Moreover, it was suggested that even if the contextualist strategies would work with respect to the forced march sorites, it is far from clear that they have the resources to explain the appeal of other versions of the sorites. In chapter five we discussed the forced march sorites, and it was argued that the “data” about what happens in such scenarios cannot really give any firm support to contextualism about vagueness. In order to get the kind of results that the contextualist wants, we need to make assumptions which cannot be considered legitimate in this context. In chapter six we turned to the question of to what extent contextuels can retain classical logic and semantics. We saw that even if classical logic remains valid, we cannot in general reliably apply classically valid inference rules to vague language, due to the instability of the extensions. Moreover, we considered a couple of objections according to which the contextualist diagnosis of the sorites will also locate fallacies in intuitively sound pieces of reasoning. A model was suggested on behalf of the contextualist, but in the end it turned out to be of much less help than we had hoped. Again we saw how certain forms of ignorance that might be invoked to deal with one problem can turn out to undermine the solution of another one.

How serious are these problems? Well, insofar as we follow Fara and take the main motivation for going contextualist to be that it can offer a plausible answer to the psychological question in terms of the semantics, a failure in this respect must be considered as a great disappointment. Similarly, if we feel attracted by the prospect of saving classical logic and semantics, the discovery that the contextualist theory does not really save classical reason-
ing with vague language is likely to put a damper on our enthusiasm. Finally, given the general difficulties about invoking the “data” about competent speakers’ behaviour in the forced march in order to support central contextualist principles, we have reasons to be sceptical about the possibility of finding firm empirical support for contextualism about vagueness. However, while it seems rather clear that these considerations undermine some of the support for contextualism, it is not so clear that they give us any strong arguments against this view.

Firstly, as regards the psychological question, we have already seen that one might reject the whole idea that the semantic account must provide the resources to answer it. Even though such an approach would definitely undermine the claim that contextualism has an advantage in this respect, it would also mitigate the impact of the failure to provide an answer in terms of the contextualist semantics. If we can let a semantically neutral psychological account take care of the psychological question, there is no need to demand that an adequate semantics for vague language must yield an answer to it.

Secondly, when it comes to the possibility of supporting contextualism via appeal to empirical data, it is far from clear that contextualism is any worse off than other candidate theories. As Keefe (2003: 78) points out, the basic problem is that the same linguistic behaviour could be appropriate to different semantic theories. If this is right, then, we should not expect that data about linguistic behaviour could lend very firm support to any semantic theory. In the end, we might just have to lay the theories on the table and let their merits speak for themselves.

Thirdly, one might think that the problems raised in chapter six show that contextualist defenders of bivalence have a significant disadvantage compared to epistemicians like Williamson. However, as we noted in section 4.7, there is nothing in Williamson’s account that excludes the possibility of very rapid shifts in the extensions, due to changes in the pattern of use that determines meanings and extensions for vague predicates, and thus it seems that the epistemist is in an equally bad position in this respect. Both the contextualist and the epistemist can tell us what forms of inference are valid in a natural language, since they simply coincide with the classically valid ones. But given the instability of the extensions, they cannot in general tell us whether or not a given piece of reasoning instantiates a valid form of reasoning.

What about higher-order vagueness? This is not the place to go into any deeper discussion about the nature of this phenomenon, so a couple of brief remarks will have to do. Many theorists claim that an adequate theory of vagueness must somehow accommodate higher-order vagueness. However, not everyone agrees with this. According to Crispin Wright (forthcoming), this idea is deeply misconceived; higher-order vagueness is not a basic datum, but rather an illusion due to misunderstandings of the nature of vague-
ness. If this is right, then, a failure to account for higher-order vagueness should not count against any theory of vagueness, including contextualism. So, one option for the contextualist would be to simply dismiss this issue as irrelevant. But suppose that we do demand that an adequate theory of vagueness provide an account of higher-order vagueness. Would that give contextualists any significant disadvantage compared to other theorists?

Here is one reason for thinking that it would. As we saw in section 1.3, one could object to the supervaluationist account that since each sentence is either (super)true, (super)false or indeterminate, the supervaluationist semantics entails that the borderline area is sharply bounded. Similarly, one could object to the contextualist account that since the positive clear cases will invariably fall in the extension and the negative clear cases will invariably fall in the anti-extension, each clear case must be a clear case relative to any context. Thus, the objection goes, there is no scope for contextual extension shifts when it comes to predicates like ‘clearly red’ and clearly not red’, and thus they cannot be vague according to the contextualist. How could the contextualist respond?

One option would be to go for an epistemist account of higher order vagueness. This would amount to conceding that that the boundaries between the clear cases and the borderline cases do not vary with the V-factors, and instead claim that the unclarity about the location of the boundaries enclosing the borderline area stems from our inability to find out where the boundaries are. Since this means that the phenomenon of higher-order vagueness is taken to have an underlying nature which is quite different from that of the phenomenon of first-order vagueness, we get a kind of hybrid account of vagueness. Alternatively, we might stick to a uniform characterisation of vagueness, and deny that what we experience as higher-order vagueness really is a species of vagueness. In any case, we get a non-uniform account of the phenomena. Of course, many theorists would argue that a uniform account is to be preferred, but there are exceptions. For instance, Richard Heck (2003: 124) maintains that “there is nothing ad hoc about the refusal to go epistemic at one point but not at the other” and he backs this up by emphasising that the appearance of uniformity might well be deceptive.

Another option would be to mimic Keefe’s strategy for handling the above objection against supervaluationism. She observes that the objection

---

148 Soames (2003) endorses a view which is similar to this in that he acknowledges that there might be higher-order predicates such that they have sharp, stable and unknown boundaries.  
149 Moreover, as we saw in section 1.4, Williamson’s epistemic theory is impure in the sense that he posits a special semantic feature of vague predicates, viz. the instability of their meanings, and invokes an epistemological story from there. Thus, there is a sense in which his theory is also a hybrid theory, even though he offers a uniform account of vagueness at different orders. See also Åkerman & Greenough (forthcoming).  
150 See section 1.3 above.
depends on the assumption that the meta-linguistic expression ‘admissible precisification’ is precise, and thus suggests that we simply reject that assumption and take the meta-language to be vague.\textsuperscript{151} The contextualist could follow Keefe in this respect if they account for the clear cases in terms of admissible precisifications as determined by the V-factors. In general, the constraints discussed in section 2.1 could be understood as restricting the range of extensions which the V-factors could determine to the acceptable ones. Given this understanding of clear case constraints, the contextualist to will be in an equally good position as the supervaluationist when it comes to rebutting the above objection by appeal to vagueness in the relevant expressions. Insofar as Keefe is right that we should expect vagueness in what counts as acceptable here, the contextualist is just as entitled as the supervaluationist to the claim that the borderline area is not enclosed by sharp and stable boundaries.

The upshot of this is that even if we demand that an adequate theory of vagueness accommodate higher-order vagueness, there is no obvious reason why this would give contextualist theories of vagueness any significant disadvantage compared to its main rivals. More generally, even if contextualism about vagueness appears problematic in various respects, it is far from obvious that it would rank below the other leading theories in an overall comparison, since as we saw in chapter one, they too face significant problems. For instance, many-valued theories assign the same value to contradictions and truisms, supervaluationists are committed to sharp boundary claims although the main motivation behind them is the intuition against bivalence, and epistemicists have no proper account of how the sharp boundaries are determined. Even though contextualism in its present state is less than satisfactory, it is far from clear that it is any worse off than its main competitors. So how can we get clearer on these issues? Well, if we had some suitable method for ranking the different alternatives, we might at least hope to find out which of these alternatives is the best (or least bad). Let us therefore turn to this issue, and the more general question of how we should proceed in order to arrive at the best possible theory of vagueness.

7.2 Notes on methodology

Keefe claims that the methodology which should, and often is used for assessing theories of vagueness is best understood in terms of establishing a (wide) reflective equilibrium:

Theorists should aim to find the best balance between preserving as many as possible of our judgements or opinions of various different kinds (some intui-

\textsuperscript{151} Shapiro (2006: chapter five) appears to be inclined towards a view of this kind.
This is a familiar strategy in philosophical theorising. But as Keefe (2000: 40) rightly points out, this method invites “different equilibria reached by choosing to retain different judgements and justifying the sacrifices by emphasising different gains”. This in turn means that even if we agree on what the relevant body of opinions is, and to which degree the different theories preserve the relevant judgements, there is still scope for considerable disagreement as regards how different costs and benefits are to be weighed against each other. And indeed, it appears that most of the debates between current theorists of vagueness boil down to disagreements about these fundamental questions. At the end of chapter one, we noted that some theorists seem prepared to swallow some rather peculiar consequences in order to be able to stick with their preferred theory. One way to motivate such a stance is to claim that it is the best alternative available, and this is exactly what Keefe does in order to defend her version of supervaluationism. She concedes that her view has some counterintuitive consequences, but argues that this price is easily worth paying given the overall success of the framework, especially compared to the other alternatives. No doubt proponents of different theories would disagree on this score. Moreover, this way of arguing for a certain theory of vagueness makes sense only under the assumption that all alternatives have been given due consideration. Now that we have put one more alternative on the table, we might be in a slightly better position to make such a claim, but if we really want to find the best possible account of vagueness, we should remain open to other approaches. Even if we were to conclude that one of the theories considered above should get the highest rank among these alternatives, we should not simply go for that theory and conclude that no further progress is possible.

If this is right, then, Keefe’s preferred methodology will at best give us a subjective ranking of the available theories. Given that all of them face serious problems, choosing a theory by applying this method amounts to picking the alternative which, in our own opinion, has the least bad consequences. In the long run, we might be able to find more generally accepted ranking principles and given that better alternatives become available, Keefe’s method might, in the end, lead us to the right account. But given the current state of affairs, there is no good reason to think that making a choice between the available options based on this method will lead us to the right (or best possible) account.

Nevertheless, one might feel compelled to make such a choice given that one takes a solution to the problems of vagueness to be something that we

---

152 To illustrate this, Keefe cites Aristotle (Nicomachean Ethics VII 1 1145b5-6), Rawls (1971: 20), Goodman (1954: 63-64), and Lewis (1983: x).
cannot afford to wait for until more progress in this area has been made. We might compare this to the choice of, say, a social policy in a situation where we have some acute problems that need to be taken care of immediately in one way or the other.\textsuperscript{153} In such a situation, the best thing to do might be to make a choice between a number of more or less bad alternatives, even if we have good reasons to think that at some later point, better options will become available. If one thinks that the general situation in philosophy is analogous to this kind of situation, one may well feel compelled to make an immediate choice.

However, although the problems of vagueness are significant for many areas of philosophy, it is hard to see why we should opt for a quick solution rather than a good one. It is not as if the rest of the philosophical community just sits paralysed and waits for the vagueness theorists to come up with a solution to the sorites paradox. On the contrary, a lot of progress is made in areas where the problems of vagueness are relevant despite the fact that there is no widespread agreement on how these problems should be handled. Most philosophers simply assume that there is some satisfactory solution to be found. Of course, if one does feel paralysed by the problems of vagueness, one might feel tempted to just go for the alternative that seems like the best one for the moment, despite its flaws. In time, one might even become used to the defects of the theory to the extent that one is no longer bothered by them. Indeed, Lewis (1993: 29) thinks that one can learn to live with the counterintuitive consequences that supervaluationism yields once one understands why it yields them. As Raffman & Shapiro (2003: 262) point out, this helps explaining the current situation in the vagueness debate; one will typically consider one’s opponents to be worse off, since one’s pre-theoretical intuitions will have been affected by one’s theorising in a way that makes serious flaws of one’s own theory appear less disturbing. But the fact that one can learn to live with a certain theory does not mean that that theory is correct, or even the best one.\textsuperscript{154} Accepting a less than fully satisfactory theory just to get some peace of mind is not good methodology.

Alternatively, one might just be very pessimistic about the prospects for making any more significant progress in this area. Indeed, Keefe (2000: 152) thinks that the alternatives she has considered (basically the same as the ones considered in chapter one above) exhaust the range of plausible alternatives, and she has no hope that there are any radically different alternatives yet to be discovered. Together with her opinion that her own view is a satisfactory alternative despite its flaws, this naturally leads her to regard supervaluationism as the best possible theory. As one might have expected,\textsuperscript{153} Thanks to Christopher Gauker for suggesting this analogy.\textsuperscript{154} Moreover, as Burgess (1998: 244) points out, Lewis’s point does nothing to explain away the counterintuitive consequence itself. Burgess compares this to someone who was asked to build a sausage machine but ended up with a rissole machine, and then tries to justify his blunder by explaining how the machine actually manages to produce rissoles.
Raffman & Shapiro (2003: 262) disagree with Keefe’s view on the matter, since they hold out hope that some theory which differs radically from the alternatives considered by Keefe will prove to be correct. However, even now that we have added contextualism to the options on the table, we still seem to be faced with a choice between a number of less than satisfactory theories. Instead of committing ourselves to any one of these, I suggest that we keep our minds open, and hope for further progress in this area.
Bibliography

Austin, J.L. (1962) Sense and Sensibilia, Oxford University Press.


accommodation, 62, 63, 64, 65, 66
Åkerman, J., 26, 71, 113, 158
Alston, W.P., 9
ambiguity, 10, 47, 48, 49, 55
Austin, J.L., 9, 10
belief contents, 149, 153
bivalence, 16, 21, 22, 23, 24, 25, 40, 76, 77, 85, 90, 91, 92, 93, 94, 95, 157, 159
blindness, 114, 115, 116, 117, 118, 119, 121, 143, 154
borderline, 12, 16, 17, 20, 22, 23, 28, 29, 34, 35, 36, 37, 38, 59, 65, 66, 82, 87, 89, 105, 116, 126, 132, 134, 135, 137, 148, 149, 152, 158, 159
Bosch, P., 8
Burgess, J.A, 16, 93, 161
Cargile, J., 25
clear case constraints, 34, 42, 88, 119, 126, 135, 136, 138, 145, 159
classical logic, 15, 17, 21, 22, 26, 92, 95, 140, 141, 142, 156
co-determination, 30, 36, 38, 91, 119, 135
collection, 144, 145, 146, 147, 148, 149, 152, 154, 155
comparison class, 28, 33, 34, 35, 48, 78, 79, 81, 106, 151
competence, 67, 100, 115, 117, 119, 132, 133, 134, 135, 136, 137, 139
confusion strategies, 97, 102, 139
constraining property, 20
conversational score, 62, 63, 65, 69, 71, 72, 73, 74, 106
conversational standards, 61, 64, 65, 114, 129
degree theories, 18, 19, 21, 31, 77
dispositions, 38, 60, 69, 83, 84, 86, 88, 89, 90, 92, 94, 105
dumbweett, M., 15
dynamic sorites, 39, 114
degree theories, 18, 19, 21, 31, 77
dispositions, 38, 60, 69, 83, 84, 86, 88, 89, 90, 92, 94, 105
dumbweett, M., 15
dynamic sorites, 39, 114
degree theories, 18, 19, 21, 31, 77
dispositions, 38, 60, 69, 83, 84, 86, 88, 89, 90, 92, 94, 105
Dummett, M., 15
dynamic sorites, 39, 114
Edgington, D., 19, 20, 21
ellipsis, 47, 56, 107, 108, 109, 110, 111, 112
Ellis, J., 109, 110
equivocation, 142, 143, 144, 145, 155
Euthyphro contrast, 37
Evans, G., 54, 147
explicit content, 54, 55, 57, 150, 152
extension shifts, 8, 34, 36, 47, 48, 49, 50, 60, 63, 89, 102, 103, 105, 107, 108, 114, 121, 122, 123, 128, 129, 132, 133, 134, 144, 145, 149, 158
Fara, D., 33, 34, 35, 40, 41, 42, 43, 44, 48, 49, 74, 75, 76, 77, 78, 79, 80, 81, 92, 96, 99, 100, 101, 102, 103, 104, 105, 140, 141, 143, 145, 149, 156
Fine, K., 22
forced march, 39, 40, 41, 44, 45, 48, 67, 68, 69, 70, 72, 74, 81, 82, 101, 106, 119, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 156, 157
van Fraassen, B., 22
Frege, G., 14, 53, 146, 147
Gauker, C., 47, 161
Gert, J., 109, 110
Goodman, N., 160
gradability, 74
Greenough, P., 15, 26, 113, 158
Halldén, S., 17
Heck, R.G. Jr, 105, 106, 158
Heraclitus problem, 140, 141, 149
higher-order vagueness, 16, 20, 21, 23, 24, 93, 157, 158, 159
Horgan, T., 39, 124, 125, 126, 129, 130
imprecision, 9, 10
indexicalism, 47, 48, 49, 50, 51, 52, 53, 58, 107, 108, 109, 110, 111, 115, 118, 146
indexicalism*, 109, 111
indexicals, 45, 46, 47, 48, 49, 71, 107, 108, 109, 110, 112, 116, 117
inexact knowledge, 26, 27, 76
interest relativity, 48, 74, 75, 76, 77, 79, 101
interests, 74, 75, 76, 77, 80, 101, 102
internal context, 81, 82, 83, 84, 85, 86, 87, 88, 89, 91, 94, 114, 133, 134, 135
judgement dependence, 36, 37, 38, 84, 85, 91, 92, 119
Kamp, H., 8, 39, 44, 126, 127, 130, 131, 138, 139, 164
Kaplan, D., 45, 46, 47, 51, 52, 53, 57, 117, 164
Keefe, R., 15, 18, 19, 21, 22, 23, 24, 25, 28, 29, 30, 31, 32, 34, 47, 93, 94, 96, 98, 106, 120, 121, 125, 131, 132, 133, 135, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 157, 158, 159, 160, 161
Kennedy, C., 77, 78
King, J., 57
Kleene, S.C., 17, 59
Lewis, D., 22, 31, 61, 62, 63, 64, 65, 66, 70, 71, 160, 161
MacFarlane, J., 47, 50, 51, 52, 53, 57, 58
Machina, K., 18, 19, 20
many-valued theories, 16, 17, 20, 21, 22, 24, 35, 159
margin for error, 27, 28
McGee, V., 35
McGinn, C., 54
McLaughlin, B., 35
Mehlberg, H., 22
mental score, 69, 70
methodology, 32, 159, 160, 161
Montminy, M., 8, 43, 44, 116, 151
non-indexicalism, 47, 48, 49, 50, 51, 52, 53, 58, 76, 107, 111, 115, 118, 120, 146, 150, 151
normality, 17
no-status items, 85, 86, 87, 88, 89, 90, 92, 140
open texture, 36, 37
Pagin, P., 8, 44, 68, 130, 151
paraconsistent logic, 71, 72, 73
Partee, B., 57
penumbral connections, 22, 59, 89, 92, 98, 119, 122, 135, 136
Pinkal, M., 8
precisification, 22, 23, 24, 25, 124, 159
presupposition, 62, 66, 71
Priest, G., 71
psychological question, 96, 97, 99, 100, 102, 103, 104, 121, 122, 123, 156, 157
<table>
<thead>
<tr>
<th>Authors</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wright, C.</td>
<td>13, 36, 37, 38, 39, 41, 81, 122, 130, 157</td>
</tr>
<tr>
<td>Zardini, E.</td>
<td>80, 111</td>
</tr>
</tbody>
</table>