Asserting Clarity & Managing Awareness[1]

Phil Crone — Stanford University

Abstract. Barker and Taranto (2003) introduce the "paradox of asserting clarity," arguing that true assertions of the form *It is clear that p* are necessarily uninformative. Following a Stalnakerian perspective according to which assertions are felicitous only if they are informative, assertions of clarity should therefore never be felicitous: either they are false or they are uninformative. I address this problem in two ways. First, I argue for a semantics of *clear* according to which assertions of clarity may be both true and straightforwardly informative in certain contexts. Second, I argue that in those contexts in which asserting the clarity of p appears to be uninformative, such an assertion may nonetheless by felicitous in virtue of its function of raising awareness of p. I formalize this proposal using a model of awareness in discourse following Franke and Jager (2011).

Keywords: assertions of clarity, awareness, uninformativity

1. Introduction

Barker and Taranto (2003) argue that true assertions of clarity are necessarily uninformative. To illustrate, suppose there is a picture in front of us labelled "Mindy" that shows a woman wearing a white coat and a stethoscope. In such a context, (1) may be felicitously asserted.

(1)   It is clear that Mindy is a doctor.

The felicity of (1) depends upon the existence of evidence that Mindy is a doctor. In this case, the evidence is Mindy's attire. If the photograph instead showed a woman dressed in plain clothes, (1) would not be felicitous. In addition, it appears that this evidence must be publicly available. Suppose again that the photograph showed Mindy dressed in plain clothes, but that I also possessed private evidence that Mindy was a doctor. Still, (1) would not be felicitous. From these observations, we can offer a first-pass, informal proposal for the truth conditions of clarity statements. A proposition of the form *It is clear that p* is true if and only if there exists publicly available evidence, i.e. evidence that is available to all discourse participants, supporting the conclusion that p (the "prejacent").

Now suppose a speaker truly asserts the clarity of some proposition p. It follows that there is evidence supporting p available to all discourse participants. Assuming these discourse participants to be rational, they should all recognize the existence of the publicly available evidence that supports

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p. As a consequence, all discourse participants should already know that p is clear and should have already concluded p. Thus, any assertion of the clarity of p should be uninformative. What, then, is the purpose of asserting clarity?

Resolving this question is the central concern of this paper, which is organized as follows. In §2, I offer a more detailed semantics for propositions of the form *It is clear that p*. It follows from this proposal that there are true, straightforwardly informative assertions of clarity. Still, in many contexts, clarity assertions are not obviously informative, and I discuss previous proposals for handling these cases in §4. I ultimately reject these existing accounts, and in §5 I offer a novel proposal for seemingly uninformative clarity assertions that is based on the potential of such assertions to raise awareness of discourse participants.

2. The Semantics of *Clear* & Informative Clarity Assertions

The existing literature on assertions of clarity (Barker and Taranto, 2003; Bronnikov, 2008; Barker, 2009; Wolf and Cohen, 2011; Barker, 2011; Wolf, 2014) observes that clarity statements may be relativized to a particular individual or group, as shown in (2).

(2) It is clear to me/you/Donald Trump that Mindy is a doctor.

Such expressions are typically referred to as statements of "personal clarity," in contrast to statements of "simple clarity," such as that in (1). Clarity statements may also make explicit the evidence from which the prejacent follows (Barker, 2009; Bronnikov, 2008).

(3) It is clear from what she is wearing/from the diplomas in her office/from her extensive knowledge of anatomy that Mindy is a doctor.

There is no term generally used to refer to clarity expressions such as (3). Here, I refer to them as statements of "evidential clarity."

In order to have a unified explanation of simple, personal, and evidential clarity expressions, I assume that *clear* takes three arguments: a prejacent, an experiencer, and a body of evidence. While the prejacent must be stated explicitly, the experiencer and evidence arguments may be left implicit. We can account for the truth conditional meaning of each type of clarity statement by first giving an account of the truth conditions in cases in which all arguments are stated explicitly and then giving accounts for the interpretation of experiencer and evidence arguments when they are implicit.

To begin, consider the following clarity statement in which each argument of *clear* is explicit:

(4) It is clear to me from what she is wearing that Mindy is a doctor.

Intuitively, (4) entails that the speaker believes the prejacent and that the evidence plays some causal role in the speaker possessing this belief.[2] These intuitions appear to be confirmed by the infelicity of (5a) and (5b).

(5) a. # It is clear to me from what she is wearing that Mindy is a doctor, but I don't believe she is a doctor.
     b. # It is clear to me from the fact that $2 + 2 = 4$ that Mindy is a doctor.

On this view, (5a) is infelicitous because the second conjunct of contradicts the first. Example (5b) is infelicitous because, whether or not it is actually clear to the speaker that Mindy is a doctor, it is hard to imagine how the fact that $2 + 2 = 4$ could play a causal role in the speaker's beliefs about this matter.

These intuitions will help us accurately characterize the meaning of clarity propositions. One final aspect of *clear* that must be reflected in its truth conditions is the fact that *clear* is a gradable predicate, as shown by the grammaticality of expressions such as *very clear* and *reasonably clear*. Following Barker (2009), I further assume that *clear* is a vague predicate. I do not offer evidence for this position here, but see Barker (2009) for a Sorites paradox involving clarity.[3]

These observations allow us to informally characterize the meaning of clarity statements as follows: *It is clear to x from e that p* is true if and only if x possesses the evidence e and e is sufficient evidence for x's degree of belief in p to be at least as great as some contextually relevant degree d. In §5, I introduce a model of agents' doxastic states which can be used to formalize this proposal for the meaning of *clear*.

While the prejacent must be explicit in all clarity expressions, we observed above that either the experiencer or the evidence may be left implicit. Following Condoravdi and Gawron (1996), implicit arguments can receive either an existential interpretation or an anaphoric, context-dependent interpretation. This contrast is illustrated by (6):

(6) a. There was a piece of bread on the table, but John didn't eat.
     b. There was a good job available, but Fred didn't apply.

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[2]This conclusion is shared by Barker and Taranto (2003); Bronnikov (2008) and Wolf and Cohen (2011), but see Barker (2009) for an alternative perspective.

[3]Interestingly, *clear* appears to be one of the few predicates that is vague, but allows modification with maximality modifiers like *100%* and *completely*. Another such predicate is *bald* (Kennedy, 2007).

In (6a), *eat* has an implicit argument that receives a narrow scope existential interpretation; (6a) is true only so long as John ate nothing. In particular, if John did not eat the piece of bread on the table but did eat something else, (6a) is false. In contrast, the implicit argument of *apply* in (6b) receives an anaphoric interpretation. We understand this sentence to mean that Fred didn't apply for the good job that was available, but it is possible that Fred applied for something else, such as a loan.

Let's now consider how to classify implicit arguments of *clear* using this typology. First, consider cases of personal clarity in which the evidence argument is left implicit, such as (7).

(7) Mindy is wearing a white coat and a stethoscope, but it is not clear to me that she is a doctor.

If the implicit evidence argument of (7) were interpreted anaphorically, we would expect (7) to be true so long as Mindy's attire does not play a causal role in the speaker believing that Mindy is a doctor. Crucially, such an interpretation would leave open the possibility that it is clear to the speaker that Mindy is a doctor, but that the speaker's belief that Mindy is a doctor is based on some other body of evidence. However, this is not the interpretation that (7) receives. Rather, it follows from (7) that there is no evidence whatsoever that leads the speaker to the conclusion that Mindy is a doctor. Thus, the implicit evidence argument receives an existential interpretation.

In contrast, an implicit experiencer argument appears to receive an anaphoric interpretation based on context.[4] Consider (8):

(8) The board of directors met last night. It was not clear that the CEO had to be replaced.

The most natural interpretation of (8) is one in which it is not clear to the board of directors that the CEO had to be replaced. Of course, this is compatible with it being clear to someone else, such a disgruntled investor, that the CEO had to go.

These considerations allow us to challenge the arguments supporting the paradox of asserting clarity discussed in the previous section. First, note that the paradox of asserting clarity only arises in the context of simple clarity assertions. In particular, assertions of personal clarity do not generally give rise to the paradox. Personal clarity only requires that the experiencer possess the relevant evidence supporting the prejacent and that the experiencer believe the prejacent. Personal clarity says nothing about whether agents excluded from this experiencer argument either possess the relevant evidence or believe the prejacent. Thus, if some discourse participants are excluded from this expe-

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[4]This proposal regarding the implicit experiencer argument of *clear* closely resembles various contextualist approaches to epistemic modality (Kratzer, 1981; DeRose, 1991; von Fintel and Gillies, 2008; von Fintel and Gillies, 2011; Stalnaker, 2014).

riencer, there is no reason to think that they possess the relevant evidence or that they would have concluded the prejacent. It follows that assertions of personal clarity may be straightforwardly informative.

Next, we simply recognize that this argument applies whether or not the experiencer is stated explicitly. If simple clarity is asserted and the implicit experiencer argument receives an interpretation that excludes some discourse participants, then the assertion may be informative. It is common to encounter such uses of *clear* in journalistic contexts. For example, consider the following from the Corpus of Contemporary American English (COCA; Davies 2008):

(9)   a.   It is clear that Maliki has come out as the winner in the political crisis he provoked. He has made it more difficult for his Shia rivals to dissent while simultaneously confining his Sunni opponents in a position suitable for exerting pressure and exploiting divisions within their ranks.
       b.   But look closer at the China model, and it is clear that it is not so easily replicated. Most developing countries do not have China's bureaucratic depth and tradition, nor do they have the ability to mobilize resources and control personnel in the way that China's party structure allows.

The implicit experiencer argument in both examples in (9) is, intuitively, experts or those "in the know." This experiencer will often exclude the addressee, who is presumably not an expert and is interested in learning about Iraqi politics or the Chinese economic model. Thus, we expect these clarity assertions to be straightforwardly informative. The fact that the evidence supporting the prejacent is provided after clarity is asserted further supports the claim that these simple clarity assertions are intended to be informative. If the addressee already possessed evidence supporting the prejacent, then explicitly stating this evidence would be superfluous.

If clarity assertions can be straightforwardly informative in this way, what is the appeal of the argument presented in §1? Most previous researchers have assumed, contra the claims here, that implicit experiencer arguments must include all discourse participants.[5] If this assumption were true, then the paradox would, indeed, reemerge for all cases of simple clarity. But even on the more nuanced picture presented here, we can imagine that in many cases, the implicit experiencer argument of *clear* does include all discourse participants. For example, this is the most plausible understanding of the implicit experiencer in (1). In such cases, we must find some other explanation for the function of clarity assertions. In the next section, I consider several previous analyses of the function of clarity assertions when the experiencer argument includes all discourse participants.

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[5]Barker (2009) acknowledges that implicit experiencer arguments may take other values, but the default is for this argument to include all discourse participants.

3. Previous Proposals for Uninformative Clarity Assertions

3.1. Barker (2009)

Barker (2009) leverages the vagueness of *clear* to argue that the effect of asserting clarity is not to inform discourse participants about the prejacent or about any agent's beliefs in the prejacent. Rather, the function of assertions of clarity is to establish a minimum standard for what counts as clear in the given context. Barker proposes a slightly different semantics for *clear* than that given in §2. Inspired by Kratzerian approaches to modality (Kratzer, 1981), Barker assumes the presence of a stereotypical ordering source $g(w)$ in the common ground, which induces an ordering on worlds $\leq_{g(w)}$ ind. Next, Barker assumes the existence of a measure function $\mu(w)$ mapping worlds to degrees such that $\mu(w) \leq \mu(w')$ if and only if $w \leq_{g(w)} w'$. Finally, if d is a contextually relevant standard for clarity, a proposition p is clear if and only if for all worlds w such that $\mu(w) \leq d$, $w \in p$. That is, p is clear if and only if all of the most "normal" worlds are p-worlds.

Since $g(w)$ is in the common ground, there can be no doubt among discourse participants regarding any proposition's degree of normality. However, there can be doubt about whether a world's degree of normality meets the contextual standard for clarity in the context. The effect of asserting clarity is to set a minimum value for this standard. For example, asserting (1) has the effect of establishing that however clear it is that Mindy is a doctor, that will count as clear in the present context. Similar effects can be observed in the use of other vague adjectives. Barker gives the following example:

(10)   a. A: I'm new in town. What counts as tall around here?
       b. B: See Bill over there? Bill is tall.

B's assertion in (10b) does not inform A about Bill's height, since both A and B can see how tall Bill is. Rather, (10b) informs A of the contextual standard for tallness. On Barker's proposal, this is the only type of function that asserting clarity can have.

Several authors have leveled criticisms against Barker's proposal, three of which I consider here. First, Wolf and Cohen (2011) point out that on Barker's account, it should be impossible to have disagreements regarding simple clarity assertions. Consider our original example with Mindy wearing a white coat and a stethoscope, but further assume that she is shown holding a lit cigarette. We could imagine the following exchange:

(11)   a. A: It is clear that Mindy is a doctor (because she's wearing a white coat and a stetho-scope).
       b. B: No, it is clear that Mindy is not a doctor (because she's smoking).

On Barker's account, all discourse participants share the ordering source $g(w)$, and therefore share

judgments about the relative clarity of two propositions. This predicts that we should never encounter a situation like that shown in (11), but such cases are unremarkable. Barker (2011) responds to this criticism by allowing that discourse participants may be in disagreement about the correct ordering source $g(w)$. While this successfully addresses Wolf and Cohen's concern, it is a relatively large departure from Barker's earlier claim in Barker (2009). Moreover, even with this adjustment, Barker's proposal faces two additional problems.

Bronnikov (2008) highlights two problematic cases for Barker's proposal. First, Bronnikov considers repeated clarity assertions that depend upon similar bodies of evidence. Suppose a woman wearing a white coat and a stethoscope walks by A and B. A may felicitously assert (12a). Next, a man walks by dressed the same way. It is then felicitous for B to assert (12b).

(12) a. A: It is clear that she is a doctor.
      b. B: It is clear that he is a doctor, too.

On Barker's account, the assertion of (12a) sets a contextual standard for clarity such that it is clear that a person wearing a white coat and a stethoscope is a doctor. But then (12b) should follow immediately from the fact that the man is wearing a white coat and a stethoscope. B's assertion in (12b) can have no effect on our understanding of either the contextual standard for clarity or the appropriate stereotypical ordering source. Nonetheless, (12b) is felicitous.

Bronnikov also points out that Barker's proposal predicts the assertion of the clarity of a necessarily true proposition to have no contextual effects. Consider (13).

(13) Take an integer n that is divisible by 9. It is clear that n is divisible by 3.

Since a number that is divisible by 9 will be divisible by 3 in all possible worlds, any choice of ordering source and any contextual standard of clarity will make the clarity statement in (13) true. Once again, Barker's account predicts this clarity assertion to serve no purpose.

3.2. Wolf and Cohen (2011)

As discussed above, Wolf and Cohen (2011) argue against Barker's proposal for the function of clarity assertions. On Wolf and Cohen's alternative analysis, the meaning of personal clarity statements is largely similar to the proposal in §2. However, in the case of simple clarity, Wolf and Cohen do not take the implicit experiencer argument to be evaluated in an anaphoric, context-dependent manner. Rather, they take simple clarity to embody an "objectivized" form of belief. This is obtained by taking the weighted average of all reasoners' degrees of belief in the prejacent, where each reasoner is weighted by how good a reasoner they are. A proposition is clear if this

weighted average exceeds the contextual threshold for clarity. Informally, Wolf and Cohen propose that a proposition is clear if and only if it is believed by good reasoners.

Wolf and Cohen's account is perhaps most plausible for cases such as (9), in which simple clarity assertions do appear to depend upon the beliefs of experts or good reasoners. This proposal also succeeds in avoiding the problem illustrated by (11), since two interlocutors may disagree about what is believed by good reasoners. But Wolf and Cohen's proposal still faces a difficulty in explaining repeated assertions of clarity based on similar bodies of evidence. On Wolf and Cohen's account, after a speaker has asserted (12a), it follows that good reasoners' degree of belief that a woman dressed in a white coat and stethoscope is a doctor exceeds some threshold d. It does not follow as a logical consequence that good reasoners would also assign a high degree of belief to the proposition that a man dressed in the same way is a doctor. Nonetheless, we would have to have relatively odd views about good reasoners for (12b) to fail to be true. In other words, making relatively weak assumptions about the beliefs of good reasoners, Wolf and Cohen's account predicts that (12b) should serve no function after the assertion of (12a).

Turning to the assertion of the clarity of necessarily true propositions (13), Wolf and Cohen have no problem in guaranteeing that such propositions are true. We would certainly expect good reasoners to assign high degrees of belief to necessarily true propositions. But it is unexplained why exactly we should care what good reasoners believe regarding necessarily true propositions, since presumably the discourse participants themselves are capable of concluding that such propositions are true. This critique highlights a more general problem for Wolf and Cohen's approach that extends to cases in which the prejacent is not necessarily true. In particular, when a proposition could easily be inferred by all discourse participants, why should it matter what "good reasoners" would conclude? Why should we care, for example, that good reasoners can conclude that Mindy is a doctor in (1) when the discourse participants themselves are capable of reaching such conclusions?

3.3. Bronnikov (2008)

Bronnikov (2008) develops a "missing inference" analysis of clarity assertions. The intuition behind this approach is that although the contextually available evidence supports p, not all discourse participants may have actually inferred p from this evidence. The point of asserting clarity is to point out to other discourse participants the availability of a particular inference that they may not yet have computed. In Bronnikov's words, after a speaker asserts clarity, each discourse participant is "invited to build the inference for himself" (149).

Bronnikov takes an expression of the form *It is clear to x that p* to be true if and only if x has performed a sound inference whose conclusion is p. Formally, we write $\mathbf{B}_\alpha p$ to mean that agent α believes p. Bronnikov does not assume that beliefs are closed under entailment or any notion of rational inference. Rather, agents' belief states are expanded through the application of inference

rules. Therefore, agents may believe in the existence of evidence that supports p, but may fail to actually believe p in virtue of having not employed the necessary inference rules. These inference rules are divided into the sets $Triv_\alpha$, $Easy_\alpha$, and $Hard_\alpha$, representing trivial, easy, and hard inferences for an agent α, respectively. We write $\langle A \rangle p$ to mean that p holds after the application of some subset of the rules in A. Using this formalism, *It is clear to x that p* is true if and only if $\langle Easy_x \rangle \mathbf{B}_x p$ and presupposes that $\neg \langle Triv_x \rangle \mathbf{B}_x p$. This presupposition is included in order to rule out expressions such as the following:

(14) a. John ate a sandwich and a bag of chips.
      b. ?? Therefore, it is clear that John ate a sandwich.

Bronnikov's approach avoids several of the shortcomings of the proposals considered above. With respect to disagreements, there is nothing preventing two agents from inferring contradictory conclusions, even if they share the same evidence. With respect to repeated assertions of clarity based on similar bodies of evidence, reaching the conclusion in each case requires a separate inferential process that may or may not occur. Therefore, each assertion can play the role of highlighting a separate inference available to the discourse participants. With respect to the clarity of necessarily true propositions, agents may fail to believe propositions that are necessarily true since their beliefs are not closed under entailment. Beliefs in necessarily true propositions must still be formed via some inferential process, and asserting the clarity of these propositions can draw attention to these inferences.

Despite these successes of Bronnikov's proposal, it still suffers from a number of problems. First, there is an inconsistency regarding the interpretation of $\langle A \rangle p$. Bronnikov's prose suggests that this formula should be interpreted as meaning that p now holds as a result of the application of some subset of the actions in A. But if this is the case, then there seems to be no way to correctly account for cases of simple clarity in which the experiencer includes all discourse participants. On such an interpretation of the experiencer argument, *It is clear that p* would have to mean that all discourse participants have performed easy inferences and have concluded p. But now we face the paradox of asserting clarity again: all discourse participants have already concluded p, so what is the point of asserting that it is clear?

We might instead interpret $\langle A \rangle p$ as a type of conditional: p would hold *if* some subset of A were applied. In this case, we avoid the problem of recreating the paradox of asserting clarity. Even if all discourse participants would believe p if they were to apply some subset of the actions in A, this does not mean that these agents actually have applied these actions. But we now have a problem with the presupposition of *clear*. If we interpret $\langle A \rangle p$ as meaning that p would hold if some subset of A were applied, the presupposition of *clear* is that it is not the case that x would believe p if x were to perform some set of trivial inferences. Since a speaker who asserts the clarity of p presumably already believes p, there exists a trivial inference available to this speaker that has p as its premise and p as its conclusion. Whether or not the speaker actually performs such a trivial

inference, the presupposition of *clear* should always be unsatisfied simply because this inference is available. Thus, there seems to be no consistent way to interpret $\langle A \rangle p$.

It is also questionable whether we want to classify the oddness of (14b) as being the result of a presupposition failure. If this were the case, we would expect this "presupposition" to project in contexts such as questions, the antecedents of conditionals, and in the scope of negation. But the negation of (14b) in a context immediately following the assertion of (14a) appears to be false, rather than undefined:

(15) a. John ate a sandwich and a bag of chips.
      b. # Therefore, it is not clear that John ate a sandwich.

A final problem for Bronnikov's analysis comes from examples of clarity assertions in which it is not obvious that any inference is involved or, if an inference is involved, it is a very trivial one. For example, suppose I am packing for a business trip to LA in the dead of winter. While I am busy packing my heavy winter coats, a friends asks me the following:

(16) Why are you packing all of that? It's clear that it might be warmer in LA.

Intuitively, my friend's utterance simply reminds me of a possibility that I have forgotten. It is not obvious that I must now perform an inference whose conclusion is that it might be warmer in LA. A defender of Bronnikov's account would face the burden of explaining why an inference with such a weak conclusion is non-trivial.

In spite of these issues, I take the core insight of Bronnikov's analysis to be correct. When clarity assertions appear to be uninformative, they do seem to play a role in highlighting a conclusion that a discourse participant has failed to recognize. In the next section, I offer an alternative account of how to cash out this intuition.

4. Clarity Assertions and Awareness

The central idea behind the present proposal is that although there may exist publicly available evidence supporting some conclusion that p, discourse participants may be unaware of this evidence or of the conclusions that follow from this evidence due to inattentiveness or forgetfulness. When this is the case, a speaker may assert the clarity of p to draw their interlocutors' attention to either the evidence supporting p or to p itself. Raising awareness in this way may then serve the goals of the interlocutors in further reasoning or in solving some decision problem they face.

These ideas are formalized using a simplified version of the model of awareness dynamics pre-

sented in Franke and Jager (2011).[6] We begin by defining for each agent α a background probability distribution over propositions $P_\alpha : \wp(\mathcal{W}) \to [0, 1]$. Each agent is also associated with a set of "unmentionable" propositions $\mathfrak{U}_\alpha \subseteq \wp(\mathcal{W})$ and assumptions $\mathfrak{A}_\alpha \subseteq \mathfrak{U}_\alpha$ for α. Finally, we define α's filtered probability distribution given $\mathfrak{A}_\alpha$ as $P'_\alpha = P(\cdot \mid \cap \mathfrak{A})$.

Unmentionable propositions represent are those propositions that fail to distinguish possible worlds for an agent. Alternatively, we may think of unmentionable propositions as those which an agent fails to have explicit beliefs about. The basic idea has a long history in the linguistic and philosophical literature (Lewis, 1979; J. Groenendijk and Stokhof, 1984), and similar ideas have recently been used to explain phenomena regarding epistemic modality (von Fintel and Gillies, 2010; Yalcin, 2011). To illustrate with an example from Yalcin (2011), suppose an agent is not considering whether it is raining in Topeka now. The proposition that it is raining in Topeka now may nonetheless be compatible with the agent's beliefs. We may say that, given the agent's beliefs, it might be raining in Topeka. But at the same time, we it would be incorrect to say that the agent *explicitly* believes that it might be raining in Topeka, since the agent is not considering the issue. Rather, this is an implicit belief, which could become explicit if the agent were to consider it consciously. On Franke and de Jager's model, if p were the proposition that it is raining in Topeka now and α were an agent who is not aware of p, we would have $p \in \mathfrak{U}_\alpha$.

One of the key contributions of Franke and de Jager's model is to recognize that the type of implicit belief described above is not the only form that unawareness may take. To illustrate this second form of unawareness, suppose I have lost my keys and begin searching for them throughout my house. After a long search, I come up empty-handed. Finally, a friend of mine suggests that I check for the keys in my car. I smack my forehead and run out to look for my keys there. In this situation, I was originally unaware of the possibility that my keys were in the car. But, more than that, I behaved as if I knew that my keys were not in my car. On Franke and de Jager's model, we would say that I had an implicit assumption that my keys were in the house. Formally, if q were the proposition that the keys are not in the car and β were an agent who assumes that the keys are not in the car, we would have $q \in \mathfrak{U}_\beta$ and $q \in \mathfrak{A}_\beta$.

Both the background probability distribution P_α and the filtered probability distribution P'_α represent α's beliefs in some sense. The difference is that the background distribution represents these beliefs under full awareness, i.e. when α's sets of unmentionable propositions and assumptions are empty. In contrast, the filtered distribution represents an agent's beliefs conditioned on their implicit assumptions. As shown in the example involving the search for my keys, agents solve decision problems based on their beliefs under unawareness, i.e. according to their filtered probability distribution. For this reason, unawareness, particularly unawareness accompanied by assumptions, can cause agents to deviate from rational behavior. The above example also illustrates that unawareness can be easily overturned. If we have $p \in \mathfrak{U}_\alpha$ and an agent β mentions p,

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[6]Most notably, many of the decision theoretic aspects of Franke and de Jager's model are excluded here, although similar are discussed informally.

$\mathfrak{U}_\alpha$ is updated such that p is removed from it. In this way, agents can influence others' resolution to decision problems simply by making them aware of propositions, rather than informing them.

Now that we have a set of tools for modelling agent's doxastic states with unawareness, we can use these tools to formalize the proposal for the semantics of *clear* given in §2. Recall that we said that *It is clear to x from e that p* is true if and only if x possesses the evidence e and e is sufficient evidence for x to believe p to at least some contextually relevant degree d. One question that emerges given Franke and de Jager's awareness model is whether the relevant notion of belief for clarity statements is an agent's belief in the prejacent according to their background model or according to their filtered model. To resolve this issue, consider once again the example in which I have lost my keys. On my background probability distribution, I may very well have considered it quite likely that my keys were in my car. But given my unawareness of this possibility, it was impossible that my keys were in my car according to my filtered probability distribution. In this situation, it would be odd to say that it was clear to me that my keys were in the car while I was still unaware of this possibility. Thus, I take it that an agent's filtered probability distribution is relevant for clarity statements. A second issue that emerges is how to capture the notion that e is sufficient for some agent x to believe p. I formalize this by considering an agent x's beliefs given their body of evidence in a particular context, E_x, and comparing this to what their beliefs would be given this evidence, but with e removed. Putting these ideas together, let X be a set of agents, E_x be agent x's total body of evidence in some context c, and d be the standard for clarity in c. Then *It is clear to x from e that p* is true if and only if $\forall x \in X(P_x(p|E_x) > d \land P_x(p|E_x \setminus e) \not> d)$.[7]

Let's now illustrate how this proposal handles assertions of clarity that are seemingly uninformative. To make the effects of raising awareness on agents' behavior more salient, we will consider a context in which there is a clear decision problem facing the interlocutors. Suppose a friend and I go out looking for pastries in San Francisco. We come across two bakeries, Tartine and Arizmendi. There is a long line outside Tartine, while no such line is visible outside Arizmendi. My friend might turn to me and felicitously utter the following:

(17) It is clear there is a wait at Tartine.

On the awareness model, we can straightforwardly understand the function of this assertion. On the one hand, I may have recognized the line outside Tartine but for some reason might fail to realize that this means there will be a wait at Tartine. On Franke and de Jager's model, we may say that I make an implicit assumption that there is no wait at Tartine. In this case, (17) would raise

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[7]This definition for clarity statements predicts that a proposition p may be clear to agent even if that agent is unaware of p, so long as the agent makes no assumptions about p. This seems correct. Even if I am not explicitly considering the fact that $2 + 2 = 4$, this does not mean that the proposition is not clear to me. The definition also rules out p being clear to an agent when the agent assumes p is true. Given such an assumption, there is no evidence e such that if e were removed from the agent's total body of evidence, the agent's subjective probability in p would fall below d. This also seems correct. If I assume that my keys are in the house due to unawareness of other possibilities, it does not seem appropriate to say that it is clear to me that my keys are in the house.

awareness of the proposition that there is a wait at Tartine, overturning my assumption. On the other hand, I may have failed to recognize the evidence in the context due to an implicit assumption that there is, in fact, no line outside Tartine. In this case, even if I made no assumption about there being a wait at Tartine, my filtered probability distribution might assign a low probability to there being a wait at Tartine due to my assumption about the lack of a line outside Tartine. Upon hearing (17), I can conclude that my friend possesses evidence that there is a wait at Tartine. This could be privately held evidence, similar to the examples in (9). But if I believed it to be unlikely that my friend possessed such private evidence, I could conclude that the utterance (17) was based on publicly available evidence. As a result, I would reexamine the context, recognize the line outside Tartine, and update my beliefs accordingly. In either case, the function of (17) on my behavior would be the same. It would be better for the two of us to get pastries without waiting for them. But if I do not recognize the wait at Tartine due to unawareness, I might try to go there anyway. By ensuring that I am aware of this proposition, my friend increases the chances that I reach an optimal solution to this decision problem.

Of course, if my filtered probability distribution does not encode the fact that there is a wait at Tartine and we adopt the proposal for the semantics of *clear* given above, it is not clear *to me* that there is a wait at Tartine. And therefore, it is, strictly speaking, false that it is clear to both me and my interlocutor that there is a wait at Tartine. In this way, it may appear that the paradox of asserting clarity has not been solved since we cannot interpret the implicit experiencer argument of *clear* in (17) as including all discourse participants and still have it come out as true.

We can counter this criticism by noting that if the implicit experiencer argument is interpreted as including all discourse participants, (17) is not true before it is uttered, but is true immediately after it is uttered. Due to the awareness-raising effects of this utterance, my assumptions, either about the wait itself or about the line outside Tartine, are immediately overturned. As a result, my filtered probability distribution will now encode belief that there is a wait at Tartine. Biting the bullet, we may say that my friend asserts something false in (17). However, the falsity of this utterance does not give rise to any infelicity due to the content of the utterance becoming true immediately afterwards.

Alternatively, we might adopt a proposal along the lines of that presented in von Fintel and Gillies (2011) for *might*. Adapting this proposal for *clear*, we would say that a speaker is licensed to assert simple clarity so long as they might outright assert personal clarity for some reasonable resolution of the implicit experiencer argument. In the case of (17), my friend is licensed to assert that it is clear that there is a wait at Tartine simpliciter because they may outright assert that it is clear to them that there is a wait at Tartine. However, in interpreting this utterance, a listener will attempt to resolve the implicit experiencer argument in the most informative way possible. In the case of (17), I interpret the implicit argument as including both myself and my friend. At the time I do so, the proposition that includes all discourse participants in its experiencer argument is true because I have been made aware of the prejacent and my beliefs have been updated accordingly.

Note that on this model, if I have recognized the line outside Tartine, am unaware of the proposition that there is a wait at Tartine, but make no assumption about this proposition, hearing (17) should not change my behavior. So long as I make no assumptions regarding either the evidence or the prejacent, my filtered probability distribution will encode the fact that there is a wait at Tartine. Although somewhat counterintuitive, this is not an outlandish conclusion. In such a situation, I could not utter anything regarding there being a wait at Tartine, but I could utter the following:

(18)   Let's not go to Tartine. Look at that huge line.

Example (18) indicates a belief that going to Tartine is a bad idea, but couches this belief in terms of the line outside Tartine, rather than the wait itself. In such a context, becoming aware of the proposition that there is a wait at Tartine would not obviously change any of my decisions.

Let's now revisit some of the cases that proved problematic for the alternative theories discussed above. First, consider repeated assertions of clarity, as shown in (12a) and (12b). Although (12a) raises awareness for all discourse participants that the woman is a doctor, this does not guarantee that all participants are also aware that the man is a doctor. Thus, there is nothing infelicitous about asserting (12b) following an assertion of (12a). Next, consider the assertion of the clarity of necessarily true propositions. Although a propositions is necessarily true, this does not guarantee that an agent is aware of it. Asserting the clarity of a necessarily true proposition can therefore function to raise awareness of it.

However, given what we have said above, making an agent aware of a proposition should generally only change their behavior if they had been making some implicit assumption regarding that proposition. We generally do not want to say that agents make implicit assumptions that necessarily true propositions are false, so it seems we have not explained the function of asserting the clarity of a necessarily true proposition. This issue can be resolved by allowing that unawareness without assumptions does not affect an agent's behavior in general, but that performing certain actions requires full awareness of a proposition. That is, for an agent to perform certain actions, belief without assumptions is not enough; instead, explicit belief is required. In particular, reasoning and drawing inferences would seem to require full awareness of both the premises and the conclusion. Therefore, in order to allow an addressee to successful reason about an issue, a speaker may need to raise the addressee's awareness of a particular proposition, even if the speaker did not take the addressee to be making an implicit assumption about this proposition. This explanation has an intuitive appeal for cases like (13), where it seems that the only reason to raise awareness of the proposition that n is divisible by 3 is to ensure that some inference is successfully performed.

For such cases, it appears that the proposal offered here closely resembles Bronnikov's in that asserting clarity plays the role of allowing the addressee to perform some inference. There is a similarity here, but note that the awareness-based proposal achieves this simply by having the addressee become aware of some proposition involved in the inference, while on Bronnikov's account, the

existence of such an inference is entailed by the truth conditions of *clear*. The awareness-based account achieves greater coverage in that it can explain the function of assertions of clarity in which it does not seem that the speaker necessarily wants the addressee to perform some inference, such as (16). In the context of (16), the speaker presumably wants to raise my awareness of the fact that it might be warmer in LA, since my behavior reflects an assumption that it will not be warmer. This does not require me to infer from some evidence that it might be warmer in LA, just to recognize that I am failing to consider important facts about weather.

The awareness-based account is also able to capture the fact that trivial assertions of clarity often seem odd, as pointed out by Bronnikov. After a speaker asserts that John ate a sandwich and a bag of chips (14a), we can assume that all speakers are aware that John ate a sandwich. Therefore, asserting that it is clear that John ate a sandwich (14b) should not alter any interlocutor's awareness state, and is therefore superfluous. However, I differ from Bronnikov in predicting (14b) to be true, but pragmatically odd, rather than infelicitous due to a presupposition failure.

Finally, we can consider cases of disagreement about clarity, as illustrated by (11). These are perhaps the hardest cases to capture on the proposal advanced here. Suppose B believes that Mindy is not a doctor, since she is smoking. After A asserts that it is clear that Mindy is a doctor, it cannot be clear to both A and B that Mindy is (or is not) a doctor. Thus, B's assertion should be not be interpreted such that the implicit experiencer of *clear* includes both A and B. Nonetheless, this seems to be the most natural way to interpret this utterance. What could be going on here?

Ultimately, the answer to this puzzle likely lies outside the scope of any analysis of *clear* in particular. Rather, resolving this issue seems to require a solution to notoriously difficult questions about faultless disagreement with predicates of personal taste and epistemic modals (Stephenson, 2007; von Fintel and Gillies, 2008; MacFarlane, 2011; MacFarlane, 2014). One possible answer to this question comes from von Fintel and Gillies (2011). Again assume that a speaker is licensed to assert simple clarity so long as they may outright assert personal clarity. Then, both A and B are licensed to assert simple clarity so long as it is clear to each of them that Mindy is (or is not) a doctor. But they may also interpret the other's assertion more broadly to mean that it is clear to both of them that Mindy is (is not) a doctor. By interpreting the other's utterance as such, both A and B might find themselves disagreeing with one another, although both of their assertions were licensed. A piece of evidence in favor of such an analysis is that A may respond to (11b) by denying that they ever asserted that it was clear to B that Mindy was a doctor.

(19) Well, I never said it was clear *to you* that she's a doctor. Still, it's clear *to me* that she's a doctor.

Nothing about the disagreement in (19) violated what we have said so far regarding *clear*. In this case, we simply allow for two agents to maintain different, incompatible doxastic states.

5. Conclusion

To recap, we've seen two ways to resolve the paradox of asserting clarity outlined in §1. The first builds on the view that statements of simple clarity involve an implicit experiencer argument that is resolved contextually. When this argument is resolved in such a way that it does not include all discourse participants, assertions of simple clarity can be straightforwardly informative. The second resolution to this puzzle is based on an understanding of how assertions can raise awareness of propositions. Even when the context contains sufficient evidence to conclude some proposition p, this does not guarantee that all discourse participants are aware of p or are aware of the evidence supporting p. Asserting the clarity of p can ensure that all participants are aware of this proposition, which may have repercussions for these participants' behavior.

While the first resolution to the paradox of asserting clarity depends upon the particular lexical semantics for *clear* given in §2, the second resolution depends on much more general considerations about how speakers may manipulate the awareness of their interlocutors. Therefore, we should expect this sort of reasoning to extend to other cases in which assertions are seemingly uninformative, such as the following:

(20) a. It's obvious that p.
      b. We all know that p.
      c. As you already know, p.
      d. Needless to say, p.
      e. . . .

These examples show that natural language is teeming with expressions that should be necessarily uninformative. For any of the expressions in (20), we could develop an argument similar to the paradox of asserting clarity. In each case, we may find that the use of these expressions is explained by their ability to raise awareness.[8]

A final question that arises from considering these uninformative expressions and their awareness-raising uses is why a speaker would ever choose to raise awareness using one of these devices rather than by simply asserting p outright. For example, if I want to raise your awareness that there is a wait at Tartine, why assert that it is clear that this is so, rather than simply asserting that it is so? An answer to this question comes from considering a listener's pragmatic reasoning about the possible intentions of a speaker who asserts p, as opposed to a speaker who asserts *It is clear that p*. If we take the implicit experiencer argument of *clear* to include both the speaker and the addressee, then an assertion of *It is clear that p* entails that the addressee believes p. Thus,

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[8]On the other hand, there are undoubtedly other uses of these expressions, as well as uses of *clear*, that are not fully captured by only considering their effects on agents' awareness. For example, all of these expressions seem to have a rhetorical effect of showing that the speaker takes the prejacent to be a settled matter.

a speaker making a clarity assertion communicates that they believe the listener to be (at least implicitly) informed with respect to p. In contrast, nothing similar is communicated by an outright assertion of p. Moreover, if clarity assertions or seemingly uninformative expressions like those in (20) are in pragmatic competition with an assertion of the prejacent, the latter may implicate that the speaker does *not* believe the listener to be informed about p. Assuming such an implicature has a social cost, assertions of clarity or assertions of the expressions in (20) should be the preferred way to raise awareness when the speaker takes the addressee to believe p.

In closing, it is important to note that the awareness-based analysis of clarity assertions joins a body of other recent work that has argued for the importance of incorporating notions of attention and awareness into understandings of semantics and pragmatics (Ciardelli, Jeroen Groenendijk, and Roelofsen, 2011; Franke and Jager, 2011; Roelofsen, 2013; Westera, 2013). This work challenges more conservative notions of the functions that different types of utterances can have in discourse. For example, the original articulation of the paradox of asserting clarity was motivated by a view of discourse according to which the only function of assertion is to inform one's interlocutors. The more liberal view offered here is not only useful for resolving puzzles such as that involving clarity assertions. It is also more psychologically realistic in that it recognizes well-known deficits of human cognition concerning memory and attention. Once these factors are acknowledged, it should come as no surprise that communicative systems would have ways to manage attention and awareness. We are likely to find more cases like the one discussed here in which aspects of natural language can only be fully understood once we acknowledge their awareness-managing functions.

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