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**Anaphora resolution vs. supplementation: Comments on  
Jeffrey C. King (2021) *Felicitous Underspecification*. Oxford University Press.<sup>1</sup>**

**ABSTRACT:** In his (2021) *Felicitous Underspecification*, Jeff King considers the interpretation of a wide range of linguistic expressions, which he calls the *Supplementives*, arguing that they are very often felicitously used despite their intended interpretation being underspecified. I argue that most of the kinds of cases he considers, of a wide variety of semantic types, are actually anaphoric expressions, and that using the QUD framework for context that King adopts (Roberts 1996), most of the felicitous examples he considers are not underspecified but instead can be argued to involve felicitous anaphora resolution.

In *Felicitous Underspecification* Jeff King considers the interpretation of a fairly wide range of linguistic expressions, which he calls the *Supplementives*. But there is another way of analyzing the expressions King considers (and more, besides): These are anaphoric expressions, and in order to understand what they mean when used competently in a given context, we needn't supplement their meanings in some fashion (as King argues), but only to resolve the anaphora as the speaker intends, as constrained by the context of utterance.

According to King, the **Supplementives** are “contextually sensitive expressions whose context invariant meanings arguably do *not* suffice to secure semantic values in context.” These include:

- demonstratives, demonstrative pronouns
- modals
- conditionals
- tenses
- gradable adjectives
- possessives
- *only*
- quantifiers
- expressions like *ready* that take implicit arguments: e.g. *Molly is ready*

By “semantic value in context” he means “the element that gets contributed to a supplementive in context qua contextually sensitive expression”. This isn't always the triggering expression's denotation in that context: For example, *only* requires an alternative set over which its exclusive clause ranges (see the discussion of King's example (6) below).

His central thesis in the book is the following claim, which I'll call **the felicitous underspecification thesis**:

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<sup>1</sup> These comments expand on those given at an author-meets-critic session of the Eastern APA 2024 meeting, NY, NY, January 18<sup>th</sup> 2024. I am grateful to Jeff King for his stimulating work, to the organizers of that session, and to the APA audience for their incisive questions.

[A]ll supplementives have felicitous uses in which they haven't been assigned unique semantic values in context. [King 2018]

He claims that in such cases, “supplementives get assigned a *range of candidates for being their semantic values in contexts* rather than being assigned unique semantic values in contexts.”

As an example of felicitous underspecification, consider King's (2021:10) example (1), in which he assumes that the semantic value for the past tense on *went* is underspecified:

- (1) [Context: Suppose it is common ground that Jamie took a one-month vacation in either May, July, or September of 2021 but we don't know which. We are discussing where he went and what he did on his vacation and are not concerned with which month he took it. You ask ‘Where did Jamie go on his vacation?’ So this is the immediate question under discussion. I say:]  
Jamie **went** to Costa Rica.

King's basic candidate updates for (1):

Jamie went to Costa Rica in May 2021.

Jamie went to Costa Rica in July 2021.

Jamie went to Costa Rica in September 2021.

King claims (2021:10): “Nothing about the context determines one of the months May, July, or September as the time that is the semantic value of the tense in context.” His three candidate updates each adopt as its event time one of the possible times when Jamie went to Costa Rica, as given in the Common Ground described. Since the utterance is felicitous and fails to distinguish between these updates, he assumes this is a case of Felicitous Underspecification.

Then the question he poses is:

In a case of felicitous underspecification, where no conversational participant objects to the utterance in question, how do conversational participants update the [Stalnakerian] context set? [King 2021:6]

He offers the following rule governing such update:

Felicitous underspecified update (FUU)

Given *c*'s context set *cs*, update *cs* with the weakest candidate propositional update *U* for  $\phi$  in *c*, if any, such that: (1) it gives a partial answer to the immediate question under discussion while adhering to Gricean maxims and not being ruled out by the common ground; and (2) no stronger candidate propositional update for  $\phi$  in *c* gives a better answer to the immediate question under discussion than does *U* while adhering to Gricean maxims and not being ruled out by the common ground. [King 2021:39]

The notion of *immediate question under discussion* that King assumes here is that of Roberts (1996/2012). In that work, the notion of a question is semantic: Intuitively, it is the set of possible

complete answers to the corresponding interrogative form. Formally, it is modelled as a set of propositions, where a proposition is a set of possible worlds. The notion of a QUD (Question Under Discussion) is pragmatic: among other things, the theory models the way that questions are related to the background assumptions in a context of utterance. Assume a Stalnakerian common ground, a set of propositions. As usual, the context set (CS) is the set of worlds in the intersection of the common ground. Then central to the notion of the QUD is that posing a question involves establishing a partition over the context set: each cell in the partition is one complete answer to the question, and because they are defined over the context set, each answer takes for granted all the information in the common ground. Questions are also related to each other and to the interlocutors' evident goals and intentions in ways that further constrain their interpretation and implications in context; but that goes beyond what we will consider here. Crucially, in order to be felicitous in context, any utterance must be RELEVANT to the current question under discussion, which I will call the Current Question, or **CQ**.

**RELEVANCE:** Since the QUD reflects the interlocutors' publicly evident discourse goals at any point in a discourse, in order for an utterance to be rationally cooperative it must address the CQ.

An utterance *m* **addresses a question** *q* iff *m* either contextually entails a partial answer to *q* (*m* is an assertion) or is part of a strategy to answer *q* (*m* is an interrogation) or suggests an action to the addressee which, if carried out, will presumably help to resolve *q* (*m* is a direction).

There is also a class of examples where it doesn't matter which of the candidate updates is chosen, and King takes these *doesn't-matter* examples to be exempt from the FUU. I will just assume that that is correct.

There are certain features of an utterance, which King calls **felicity enhancers**—utterance features like succinctness and intimacy (“the range of values are so intimately related that it doesn't matter”, illustrated with type/token examples)—which tend to reduce the likelihood that underspecification of supplementives will result in utterance infelicity. We'll briefly discuss one of these, prospective uniqueness, below.

Context update involving supplementives is then guided and constrained by an Appropriateness Condition:

### **Appropriateness Condition**

A context *c* is appropriate for an LF  $\phi$  containing an occurrence of supplementive  $\sigma$  iff either:

- i.  $\sigma$  is assigned a unique semantic value in *c*,  $\phi$  violates no Gricean maxim in *c*, provides a partial answer to the question under discussion in *c*, and is not ruled out by the common ground in *c*;
- or
- ii.  $\sigma$  is associated with range of candidate semantic values *R* in *c*, FUU is defined for  $\phi$  in *c*; and  $\phi$  in *c* possesses **intimacy** or two other felicity enhancers;
- or

- iii.  $\sigma$  is associated with range of candidate semantic values  $R$  in  $c$  and  $\phi$  in  $c$  has a doesn't-matter update that provides a partial answer to the immediate question under discussion in  $c$ , doesn't violate any Gricean maxim in  $c$ , and isn't ruled out by the common ground in  $c$ ; and  $\phi$  in  $c$  possesses intimacy or two other felicity enhancers.

In assessing the underspecification thesis and King's account of update in the cases he considers, I want to start at the end of the book. King's last chapter deals with the definite Noun phrases (NPs), including pronouns, definite descriptions, demonstratives, and proper names.<sup>2</sup> He notes that in much of the literature, these NPs are said to carry uniqueness presuppositions. He then asks whether there isn't some tension between that uniqueness implication and being felicitously associated with a range of semantic values, as in case (ii) of the Appropriateness Condition.<sup>3</sup>

In anaphora generally, the triggering expression requires a contextually available **antecedent**. Antecedents are of all semantic types: not only corresponding to individuals, but also to sets of entities, events or intervals, degrees, properties, propositions, sets of propositions, etc.; the type of antecedent required by a given anaphoric element (or *trigger*) is a presupposition reflected in its lexical semantics. In order for the utterance containing an anaphoric trigger to convey its intended Gricean meaning<sub>nn</sub>, the speaker's intended anaphoric antecedent must be retrievable. This is a pragmatic requirement: If there is no unique appropriate antecedent, given the semantic content of the utterance and the context of utterance, then we cannot determine a uniquely intended speaker's meaning<sub>nn</sub>. This is what I called (Roberts 2003) a requirement of **informational uniqueness**.

Consider (2):

- (2) One of the neighborhood raccoons<sub>i</sub> got into my garbage last night. It<sub>i</sub> made a mess.

Suppose there are four different raccoons in the neighborhood—Dewey, Huey, Louie, and Max—and the speaker doesn't know which one got into the garbage. In this context, the utterance *it<sub>i</sub> made a mess* is not about some specific raccoon, nor does its use require that the speaker be able to identify or individuate the raccoon who made a mess—to say whether it was Dewey, Huey, Louie, or Max. The whole sequence means something like 'some neighborhood raccoon or other got into my garbage last night, and whatever raccoon it was made a mess'.

In (2), the denotation of the pronoun *it<sub>i</sub>* is non-specific, just like that of the subject NP in the first sentence, *one of the neighborhood raccoons*, which furnishes the pronoun's antecedent. In a theory of discourse anaphora (Heim 1982, Kamp 1981, Roberts 2023), if we update the context with the information in the first sentence, this leads to the introduction of a **discourse referent**

<sup>2</sup> He also includes here possessives. But possessives are only definite as a function of the definiteness of the possessor argument. So *the child's toy* is definite, but *a child's toy* is not.

<sup>3</sup> He contrasts familiarity with uniqueness, as if an account of definites would only attribute one of those properties to definites. But I think it's both (Roberts 2002, 2003, 2004) *familiarity* and *informational uniqueness*, and, using a different notion of uniqueness, Kadmon (1987, 1990) and Elbourne (2005, albeit reluctantly) agree. Familiarity (anaphoric presupposition) can be associated with NPs of a wide variety of types, including King's (2001) quantificational demonstratives, Heim's (1982) type *e* definites, and Elbourne's (2005, 2013) Fregean definite descriptions and E-type pronouns, the latter involving semantic uniqueness.

$d_i$ —intuitively, a file of information about the non-specific raccoon—which constrains the way that contextually appropriate assignment functions can value coindexed free variables  $x_i$  in subsequent discourse. In (2), crucial to the felicity of *it* is the fact that there is exactly one salient discourse entity under discussion which can serve as its antecedent, the discourse referent for the non-specific raccoon. We see this by contrasting (2) with (3):

- (3)     One of the neighborhood raccoons <sub>$i$</sub>  got into my garbage last night.  
           One of the dogs <sub>$k$</sub>  started barking. The raccoon and the dog had a stand-off.  
           #The animal/#It was really upset.

Here, both NPs *the raccoon* and *the dog* are felicitous: Again, they do not refer to any specific raccoon or dog, nor do they entail the uniqueness of the raccoon or the dog under those descriptions. But the first and second sentences have introduced familiar-in-discourse entities  $d_i$  and  $d_k$  which uniquely (among the salient discourse entities) satisfy the descriptive contents of *the raccoon* and *the dog*, and this makes their use felicitous. In contrast, neither *the animal* nor *it* is felicitous here because their use in this context fails to satisfy the **informational uniqueness** requirement: there are two discourse referents which are entailed to be animals and which would be referred to with a neuter pronoun.

This is a familiarity-based account of anaphora. Here, an antecedent is neither a linguistic constituent nor an entity in the world. The intended denotation of a definite NP may be, e.g., a non-linguistically available entity (especially for canonical uses of demonstratives, Roberts 2002), or a hypothetical or arbitrary individual (as in donkey anaphora)<sup>4</sup>. If an antecedent has not been previously mentioned but its existence is entailed by the common ground, we say that it is merely **weakly familiar** (Roberts 2003). Just as we track the common ground in discourse, including propositions which have not been overtly asserted, so we track information about a wide variety of entities whose existence is familiar to the interlocutors.

Because the antecedents of definites can be themselves indefinite, as in (2) and (3), or merely hypothetical, carrying an anaphoric presupposition of informational uniqueness does *not* mean that the term in question is singular in the logical sense—“a term that signifies exactly one individual thing” (Ashworth 2019). In (2), there are up to four values available for  $it_i$ —the four raccoons—but still there is only one candidate antecedent discourse referent,  $d_i$  introduced by *a raccoon in my neighborhood*. And satisfaction of the anaphoric familiarity presupposition requires not speaker acquaintance with a particular denotatum, but only that, given the Common Ground, there be retrievable information about an informationally unique antecedent of the appropriate type.

Against the background of this approach to anaphora in discourse, a central claim in these remarks will be this:

All of King’s “supplementives” are expressions which trigger anaphoric presuppositions.

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<sup>4</sup> See Heim (1983), Chapter 1, for the best introduction to the problem posed by donkey anaphora; Kadmon (2001) for a technical introduction to Heim’s (1983) and Kamp’s (1981) dynamic semantic accounts; King & Lewis (2021) for a brief overview of the subsequent issues and literature; Roberts (2005, 2023) for a critique of earlier approaches and an integrated view in dynamic pragmatics.

This is supported by a large body of work in linguistics, hinted at by the few citations given here:

- definite descriptions, pronouns, demonstratives, definite possessives  
Kamp (1981), Heim (1982), van der Sandt (1992), Roberts (2002, 2003, 2005), Elbourne (2005, 2008, 2013)
- gradable adjectives  
Kennedy & McNally (2005)
- expressions that take implicit arguments: e.g. *ready* in *Molly is ready*  
See the literature on Null Complement Anaphora, especially Hankamer & Sag (1976), and the literature survey in Ranero & Royer (2023).

Cases involving operator domain restriction, the domain anaphorically retrieved:

- quantifiers generally  
von Stechow (1994), Roberts (1995)
- modals and conditionals  
See the extensive literature building on Kratzer (1980).
- ‘only’ and the cross-linguistically related adversatives and scalar additives: what’s contributed is an alternative set (*not* what we would normally call the semantic value of *only* in context)  
Rooth (1992), Beaver & Clark (2008), Roberts (2011), Toosarvandani (2010)
- tense  
Hinrichs (1981, 1986), Partee (1984), Dowty (1986), Roberts (1995), Cipria & Roberts (2000)

Thus, the supplementives as a class all have more in common with the class of definite NPs than King’s last chapter envisions. In my own work on anaphora in discourse, I have argued that the informational uniqueness required for felicitous use of a definite NP—pronoun, demonstrative, or definite description—is, in fact, required for felicity in all types of anaphora. Thus, the felicitous underspecification thesis is in tension with the assumption of informational uniqueness for all the “supplementives”.

Note: I’m going to ignore King’s examples involving gradable adjectives like *tall*. Besides anaphorically presupposing the standard with respect to which membership in the class denoted by the adjective is gauged, their use notoriously overlaps with the literature on vagueness and epistemicism. These difficult issues deserve to be tackled on their own, and I don’t have anything substantive to contribute to that debate.

If all of King’s supplementives are anaphoric in the sense just sketched, then all of them require a uniquely most salient appropriate antecedent in order to be felicitously used. But keep in mind that in general, anaphora does *not* require specificity or singularity: an anaphoric antecedent may be indefinite, yet license perfectly felicitous anaphora.

King’s claim is that the acceptable uses of supplementives he considers are *not* felicitous in the sense I just defined: they are acceptable despite the fact that they are used in a context which fails to make available a unique appropriate interpretation. I don’t mean to quibble about the meaning of the term *felicitous* (for which I would assume the definition in Heim 1983). Instead, I want to make the following points:

- (a) For many of the examples King considers, I think that once we (i) appreciate the fact that informational uniqueness is consistent with indefiniteness and non-specificity, as described above, and (ii) take advantage of the affordances of the QUD framework he adopts, then the contexts King offers in these examples do make available an informationally unique antecedent for the anaphoric supplementive. The way in which this works is completely consistent with King's FUU. Thus, these cases fail to support the Felicitous Underspecification Thesis.
- (b) Some of King's "felicity enhancers" are features of context which lend greater salience and RELEVANCE (in the technical sense) to one candidate antecedent over others, and hence constrain the candidate antecedents to a singleton set, thereby satisfying informational uniqueness, rather than making its failure more palatable.
- (c) Apart from the "doesn't-matter" updates, the cases King considers where use of a supplementive is appropriate even though informational uniqueness is quite clearly not satisfied are those involving possessives whose antecedents are not informationally unique.
- (d) Unlike the interpretive process King envisions in his Appropriateness Condition, the QUD framework affords this domain restriction prospectively, rather than after the fact of compositional interpretation (Roberts 2017).

We can see some of the affordances of the QUD framework in examples involving tense, including King's (1), from above. A crucial assumption that King makes without argument is that among the candidates for propositional update with an underspecified supplementive are not only the basic updates with the alternative contextually available values for the supplementive filled in, but also the conjunction and the disjunction of the basic updates. So in (1), in addition to the basic update candidates (a-c), we also have the disjunction of the basic updates (d) and their conjunction (e):

- (1) [Context: Suppose it is common ground that Jamie took a one-month vacation in either May, July, or September of 2021 but we don't know which. We are discussing where he went and what he did on his vacation and are not concerned with which month he took it.]  
 A: Where did Jamie go on his vacation?  
 B: Jamie went to Costa Rica.

King's basic candidate updates for (1):

- a. Jamie went to Costa Rica in May 2021.
- b. Jamie went to Costa Rica in July 2021.
- c. Jamie went to Costa Rica in September 2021.
- d. Jamie went to Costa Rica in May 2021  $\vee$  Jamie went to Costa Rica in July 2021  $\vee$  Jamie went to Costa Rica in September 2021 [disjunctive update]
- e. Jamie went to Costa Rica in May 2021  $\wedge$  Jamie went to Costa Rica in July 2021  $\wedge$  Jamie went to Costa Rica in September 2021 [conjunctive update]

He shows that for (1) the disjunctive update is preferred by the FUU, given its context. The resulting proposition added to the common ground is 'Jamie went to Costa Rica in May, July or

September 2021'. I agree that this is the pragmatically preferred, attested interpretation. But I think we can explain it straightforwardly in the QUD framework *without* the FUU.

King's basic updates (1a-c) are, I take it, calculated on the basis of assumptions about how tense gets its value in context. King assumes that in this context there three different candidates for ways to resolve the past tense in the response in (1)—as one of the possible months for the trip. But in the literature on formal semantics and pragmatics, this is not the standard way of interpreting tense in context. I subscribe to a sophisticated treatment of tense originated by Hinrichs (1981,1986), Partee (1984) and Dowty (1986) in which tense anaphorically presupposes a Reichenbachian Reference Time (Reichenbach 1947), a temporal interval salient in context. The past tense tells us that the event in question took place at some time in the past and presupposes that this event took place within the anaphorically retrieved Reference Time interval. If you take tense to be a Priorean existential quantifier over past times (Prior 1967), then the Reference Time is essentially an anaphorically given domain restriction (Roberts 1995). Since natural language operators of all types generally have their domains restricted in context (von Stechow 1994, Roberts 1996), this is a particularly natural way to account for the interpretation of tense, and it offers an explanation for the kinds of contextually given implications noted by Reichenbach and Partee, among others. In discourse, this Reference Time is the event time of some event currently under discussion in the discourse, as reflected in the CQ; in narrative discourse, this is typically given by the prior utterance.

In (1), we can understand the past tense in the CQ 'where did Jamie go on his vacation?' to take as Reference Time the indefinite event time (temporal extension) of the event under discussion: Jamie's going on vacation in one of the unspecified intervals; in this way, the RT for *did* has an indefinite antecedent. This is the temporal counterpart of the underlined nominal indefinite antecedent in (4):

- (4) Jamie went to a great surfing spot for his vacation—either Columbia, Costa Rica, or Hawaii, I don't know which.  
It offered spectacular waves and great weather.

Here *it* means 'the surfing spot Jamie went to on his vacation', which we don't take to be underspecified. Rather, the antecedent *a great surfing spot* is indefinite—indeterminate between the three locales—yielding the effect of Boolean disjunction: We know that the denotation of *it* is either Columbia or Costa Rica or Hawaii. Just so, in (1) the indefinite event time for the past tense *did* in the utterance that denotes the CQ serves as the antecedent Reference Time for the past tense *went*. Since the antecedent is indefinite—indeterminate between the three months—the answer is similarly indeterminate with respect to the event time of the travel, yielding the same effect of Boolean disjunction as we find in the nominal examples (2) and (4). From an anaphoric point of view, there is nothing underspecified about (1).

What might the CQ contribute to its interpretation? In QUD theory, the answers to a question are not sentences but propositions, cells in a partition over the CS determined by the common ground. What does that partition look like for (1)? The common ground entails that Jamie went on vacation in either May, July or September, so the CS includes some worlds in which he went in May, some in which he went in July, and some in which he went in September. Suppose, to

restrict the set of candidates for simplicity’s sake, that we also know he was only considering going to Columbia, Costa Rica, or Hawaii, that he went to only one country, and that the destination had no bearing on the timing of the trip—so far as the interlocutors know, he might have gone to any of those places in any of the three months. Then the CQ ‘where did Jamie go on his vacation?’ imposes a three-celled partition on the CS:

CQ partition for (1), given a Context Set CS:

{ {w ∈ CS: in w Jamie went to Columbia in May or July or September},  
 {w ∈ CS: in w Jamie went to Costa Rica in May or July or September},  
 {w ∈ CS: in w Jamie went to Hawaii in May or July or September} }

Since the common ground tells us that any of the dates was possible for any of the destinations, in each of the cells in the CQ partition there are some worlds in which Jamie went in May, some in which he went in July, and some in which he went in September. In fact, each of King’s basic candidate answers (1a-c) *entails* the first cell in the partition; but each is over-informative relative to the CQ, which only requires that one specify Jamie’s destination, not the timing of the vacation.

The response in (1) is RELEVANT in this context because it is a straightforward answer to the CQ—in fact, a complete answer: If we take the response to be true, adding it to the common ground, this eliminates two of the three cells in the CQ partition, leaving only the proposition that Jamie went to Costa Rica in May, July or September. Since for each of the three possible months for the vacation, there are worlds in this cell in which the vacation took place in that month, this amounts to what King calls his “disjunctive” interpretation, the update he proposes for the example. But deriving this result does not involve first deriving the underspecified interpretation, determining the candidate updates and then applying the FUU or any neo-Gricean principles. Rather, it just assumes that the response is RELEVANT to the CQ, in the sense of Roberts (1996): i.e., the response is intended to be understood as a partial answer to the question, the RELEVANCE partly guaranteed by taking the Reference Time of the answer to be the Event Time of the event under consideration in the CQ. Given the CQ partition, based on the common ground, this is the only RELEVANT way to understand (1) in that context.

In Chapter 4, King considers other possible responses to the CQ in (1), including (1N), where (1) occurs under negation, and (1B), where it occurs embedded under *believes*:

- (1N) Jamie didn’t go to Costa Rica.
- (1B) Glenn believes Jamie went to Costa Rica.

King claims that “In principle, there are three ways we could update with 1N” in view of “the candidate semantic values for the tense in 1N in context”, the basic updates in (1Na-c) plus their disjunction or conjunction. In addition he proposes a possible update with what he calls *1N’s embedded update*: “the result of negating 1’s disjunctive update”. So he offers the following candidates:

King’s candidate updates for (1N):

1Na. Jamie didn’t go to Costa Rica in May 2021.

|                    |                                                  |                          |
|--------------------|--------------------------------------------------|--------------------------|
| 1Nb.               | Jamie didn't go to Costa Rica in July 2021.      |                          |
| 1Nc.               | Jamie didn't go to Costa Rica in September 2021. |                          |
| $\wedge 1Na-c:$    | $1Na \wedge 1Nb \wedge 1Nc$                      | [the conjunctive update] |
| $\vee 1Na-c:$      | $1Na \vee 1Nb \vee 1Nc$                          | [the disjunctive update] |
| $\neg \vee 1Na-c:$ | $\neg[1Na \vee 1Nb \vee 1Nc]$                    | [the embedded update]    |

In (1N), he claims, we update with 1N's embedded update, which is equivalent to the conjunction of its alternatives 1Na-c. This is because, as required by the FUU, that update is a partial answer to the CQ, isn't ruled out by the common ground, and is stronger than the other candidates.

But let's consider (1N) in view of the CQ partition for (1). Resolving the tense in (1N) to the familiar Reference Time of Jamie going on his vacation (in one of the three months, leaving which indefinite), the truth conditional content of (1N) negates the interpretation we derived for (1), straightforwardly ruling out the first cell in the partition. This is then the same update King derives by his more complex use of the compositionally unmotivated set of alternatives and the FUU. Moreover, it avoids the problem pointed out to King by Sam Carter (p.c.):

. . . We saw that in many of our cases of the embedded constructions considered in the present chapter, the sentences had what we called their embedded updates. In such cases, **the sentence containing the felicitous underspecified supplementive is a subsentential clause and has the same update it would have unembedded, which it contributes to the update of the entire embedded construction.** But now **doesn't this fact cast doubt on the [claim] that the communicated content of the embedded clause is pragmatically determined since these clauses are not being used to perform speech acts and their updates semantically compose with the semantics of the element embedding them?**

King's calculation of the meaning of the embedded clause assumes it is an *update* on the common ground. Yet that is not the case since the embedded clause is not itself asserted. In fact, the intended content of the embedded clause must be determined *before* the understood content of the whole assertion can be determined and the FUU applied.

In using the CQ partition, we avoid this problem altogether. We needn't calculate candidate updates and posit special embedded updates, but only consider the truth conditional content of the response—with its anaphoric presupposition satisfied by the indefinite CQ event time—and its relationship to the CQ partition. A similar argument can be made for the other kinds of embedded cases King considers, including embedding under *believe* (1B) and *doubt*: Since the embedding predicates are not factive, these do not offer direct partial answers to the CQ, but only offer evidence that might bear on the proper answer. Answers are often derived through such considerations, and in any case are not always made with a single utterance.

Consider (5), where King claims that tense is also underspecified, involving what he calls “conjunctive update”:

- (5) [Context: Suppose it is common ground that Annie has Monday and Wednesday off this week and that she goes to various beaches on her days off. We are interested in which beaches Annie went to this week on her days off. You ask ‘Where did Annie go to the beach?’ This is the immediate question under discussion. I say:]  
Annie went to Lasuen.

King’s candidate updates for (5):

- a. Annie went to Lasuen on Monday.
- b. Annie went to Lasuen on Wednesday.
- c. Annie went to Lasuen on Monday  $\wedge$  Annie went to Lasuen on Wednesday
- d. Annie went to Lasuen on Monday  $\vee$  Annie went to Lasuen on Wednesday

Again, King assumes that this is a case of Felicitous Underspecification because it fails to specify on which days Annie went to Lasuen. So he assumes that one should update with either the conjunction or the disjunction of the basic candidates, (5c) or (5d). He takes his FUU to argue that the conjunctive (5c) is the understood update.

I assume that the CQ in (5) is ‘where did Annie go to the beach this week?’, and that it is known that Annie never goes to more than one beach per day. For simplicity I consider only three surfing beaches in southern California: Lasuen, Riviera, and T-Street. The common ground entails that in Annie goes on both days off to one beach per day, so that this is true in all the worlds in the CS over which the partition is defined. But the CQ doesn’t ask on which days Annie went to which beaches, so this is left indefinite in the six cells corresponding to complete answers in the CQ partition over the CS in (5):

| CQ for (5):                                                                          | <u>cell #</u> |
|--------------------------------------------------------------------------------------|---------------|
| { $w \in CS$ : in $w$ Annie went to Lasuen (on Monday & Wednesday)},                 | 1             |
| { $w \in CS$ : in $w$ Annie went to Riviera (on Monday & Wednesday)},                | 2             |
| { $w \in CS$ : in $w$ Annie went to T-Street (on Monday & Wednesday)},               | 3             |
| { $w \in CS$ : in $w$ Annie went to Lasuen (on M or W) & Riviera (the other day)},   | 4             |
| { $w \in CS$ : in $w$ Annie went to Lasuen (on M or W) & T-Street (the other day)},  | 5             |
| { $w \in CS$ : in $w$ Annie went to Riviera (on M or W) & T-Street (the other day)}, | 6             |

In order to be RELEVANT to the CQ, the response must entail the removal of at least one of the six cells in the partition. There are two ways this can be satisfied by uttering the sentence in (5). With rising final intonation it will tend to convey a merely partial answer, reinforced by the follow-up in (5’):

- (5’) Well, she went to Lasuen.  $\uparrow$  I’m sure of that because she talked about it, but I’m not sure which day or days she went there.

(5’) would eliminate three cells from the partition: 2, 3, and 6; that is, those in which Annie didn’t go to Lasuen this week, thereby constituting a felicitous partial answer. But if (5) is instead uttered with falling (“final”) intonation and no follow-up, as I take it King tacitly assumes, one will most likely understand the speaker to intend it as a complete answer to the CQ,

eliminating all but one of the cells. This, then, implicates that Annie went to no beaches other than Lasuen this week, eliminating all the cells except 1.

King does not consider the partial answer (5') as a possible interpretation for (5). Instead, he assumes that for (5) there are only his two candidate basic updates (5a) and (5b), and their conjunction and disjunction. In fact, neither of King's candidate updates (5a) and (5b) corresponds to a cell in the CQ partition for (5). Instead, each is a merely partial answer that would eliminate 2, 3, and 6, leaving 1, 4, and 5 as candidate complete answers. Of King's candidates, only the conjunction (5a)+(5b) entails a complete answer to the CQ, ruling out all but cell 1 in the partition. This is the interpretation that King arrives at via the FUU. But again, the FUU doesn't seem to be necessary in order to arrive at this conclusion. We can get there with the common ground/CS and the CQ alone (taking into account the contribution of final prosody).

King considers another type of example in which he claims that vagueness about group membership results in underspecification. Briefly consider (6), involving purported underspecification of the alternative set associated with *only*:

- (6) [Hearing Ted Cruz during the 2016 US presidential campaign infamously compare his denial of the well-established fact that the climate is warming to what he claimed was Galileo's denial that the Earth is flat, I turned to my wife and said:]  
Only Ted Cruz compares himself to Galileo. [King 2021:18]

King says about (6):

Surely it may be that nothing in the context of utterance fixed a unique alternative set for my utterance. After all, I didn't intend the alternative set to include everyone since Galileo's birth or even everyone currently in the world, since I know it is very likely that others made Galileo/self comparisons. Given that I was roughly intending to convey the claim that **no one other than Cruz who is the sort of political person Cruz is compares himself to Galileo**, a number of candidate alternative sets spring to mind since they are arguably sets of people who are the sort of political person Cruz is: US politicians in the 2016 election cycle, prominent US politicians, prominent world politicians, and prominent people in US political circles. But I didn't intend any of these groups to be the alternative set assigned to 'only' in [6]. . . Further, there doesn't seem to be any other feature(s) of the context that could fix the alternative set. And yet the utterance was perfectly felicitous. [CR's emphasis]

King assumes there are at least four candidate propositions for (6), along the following lines:

- (6a) Cruz compared himself to Galileo and no other US politician in the 2016 election cycle did.
- (6b) Cruz compared himself to Galileo and no other prominent US politician did.
- (6c) Cruz compared himself to Galileo and no other prominent world politician did.
- (6d) Cruz compared himself to Galileo and no other prominent person in US political circles did.

And argues that the attested update is a conjunction of those candidates.

However, given that the context is a political campaign, the appropriate comparison class would evidently be something like ‘the people running in this race’, or else the even broader ‘the class of contemporary politicians’. This, then, is the right kind of contextually salient domain restriction in this context to satisfy the anaphoric presupposition of an alternative set for the exclusive clause of *only* (Rooth 1992, Beaver & Clark 2008, Roberts 2011). The exclusive clause of *only* always involves universal quantification—here ‘for all entities  $x$  in the domain other than Ted Cruz, it is not the case that  $x$  compared themselves to Galileo’. Taking the domain to be broad in this way effectively covers all the elements of the more restricted sets given by King’s candidates. So, since universal quantification corresponds to Boolean conjunction, this yields King’s desired result.

Note that in (6) the vagueness of the membership in the relevant class of politicians is not a problem. This pertains to another example King discusses in the introduction, (7):

- (7) [Context: Glenn and I are out surfing at Lost Winds beach. There are some surfers to our south stretching a quarter mile or so down the beach. I notice that some surfers in an ill-defined group to our immediate south are getting incredible rides. I say to Glenn looking south toward them:]  
Those guys are good.

He continues: “It seem easy to imagine that nothing in the context of utterance determines a unique group of surfers as the semantic value in context of ‘Those guys’,” which he takes to mean that this is a case of felicitous underspecification. But it seems to me that it is perfectly clear what group is denoted: the NP’s denotation is no less well-defined than *the nearest group of surfers in the indicated direction*. Take the demonstrative description *those guys* to denote a non-atomic entity in a Link-style lattice-semantics for plurals (Link 1983). The fact that it is not altogether clear how many atomic parts this supremum has or how to identify them doesn’t strike me as constituting underspecification. Compare (7) to an example with a mass term. Suppose we’re cooking and some sugar gets spilled on the kitchen floor. It’s unclear how many grains of sugar there are or exactly where they’re all located. Nonetheless, I wouldn’t say that *Please sweep up the sugar* or *Please sweep it all up* are underspecified: it’s the supremum that counts, and that seems pretty clear in the mass case. I don’t see how the count case is significantly different. In neither does the individuation of the parts play a role in the denotation itself or significantly undercut the content the speaker wants to communicate. A certain amount of vagueness about group membership is regularly allowable.

Now consider an example of a different nature (pp.31ff):

- (8) [Context: Suppose we attend a martial arts tournament. There are four brackets and the winner of each will be a semifinalist for the championship. The members of each bracket come into the gym as a group and begin practicing together. Observing the four groups, I notice that the members of one bracket are all significantly larger and more skilled than those in the other brackets. Pointing at the group, I say:]  
That semifinalist is going to win the tournament.

King claims that in (8):

My utterance is felicitous, even though neither my intentions nor anything else in the context determines a unique individual as the semantic value of my demonstrative [*that semifinalist*] in context.

Note that in the scenario King presents, there are as yet no semifinalists, but it is known that there will eventually be a semifinalist in each group. This means that for any given group, the common ground entails the existence of a unique semifinalist-to-be among the group members, so that there is a weakly familiar discourse referent for the eventual semifinalist, whoever that may be. Since the speaker has clearly indicated a single group and used a demonstrative whose descriptive content makes the denotatum be a semifinalist, it seems clear that the informationally unique antecedent must be that for the semifinalist associated with the indicated group. Thus, *that semifinalist* arguably refers to the as-yet-unidentified-but-familiar semifinalist of the group pointed to. The use of a demonstrative whose demonstratum is not the intended denotation is quite common. Roberts (2002) argued that this constitutes a form of Bridging (Clark 1975), a common way of indirectly retrieving the intended familiar antecedent for a demonstrative or other definite. We see it, for example, in this nice example of what Nunberg (1995) called deferred ostension:

- (9) [Context: Speaker is holding up a key to a parking attendant:]  
This is parked out back. [Nunberg 1995]

(8) is a case in which King says we appeal to the felicity enhancer *prospective uniqueness*, “the prospect of there being a unique semantic value in context for the demonstrative”, which helps to make the example felicitous despite its underspecification. That is exactly what I have described in explaining my understanding of the example, but I dispute that the result is underspecified. The familiarity that makes an anaphoric example felicitous only requires the interlocutors’ knowledge of the existence of a discourse referent bearing the appropriate properties. There needn’t be a specific referent, or even an existing entity which has the properties in question at speech time. From the indicatum and the descriptive content, the hearer in (8) can retrieve the intended weakly familiar discourse referent. So the example is felicitous in the technical sense, and hence *not* underspecified. All the cases in which King would appeal to prospective uniqueness as a felicity enhancer (see Chapter 6, pp.140ff) are ones where I would argue that the anaphoric presupposition is satisfied by a weakly familiar, highly salient (and so readily retrievable) discourse referent available to satisfy the familiarity presupposition of the purportedly underspecified expression.

The discussion above is not intended to suggest that there are no cases where underspecified anaphoric antecedents—those which fail weak familiarity and informational uniqueness—are nonetheless felicitous. If we ignore the cases involving the vagueness associated with gradable adjectives, I find that of all King’s examples, those which clearly display felicitous underspecification involve the use of singular definite possessive NPs, such as his (10):

- (10) [Perez owns a car and leases a car. He drives each frequently and if someone were to point at either car and ask whose car it is we would without hesitation reply ‘Perez’s’. It is also common ground that Perez’s friend Cindy, who has no car, needed to go downtown today for an interview. You ask me how Cindy got to her interview today. So this is the immediate question under discussion. I say:]  
Cindy got to her interview by borrowing Perez’s car.

I agree that (10) seems felicitous, though it involves use of a singular possessive NP where there are clearly two entities which satisfy the NP’s descriptive content: Perez has two cars, and *Perez’s car* doesn’t distinguish between them to suggest an informationally unique familiar antecedent.

But note that this is a well-attested problem in the literature on possessives (Barker 1995). Consider:

- (11) [Context: On the phone, Burt tells Alice that he can’t join her to go surfing:]  
Alice: How come you can’t go?  
Burt: I broke my arm skiing.
- (12) [Context: A group of colleagues are in a Zoom meeting:]  
Cass: I’d better go. I have to take my daughter to her ballet class.

In (11), Burt’s utterance does not presuppose that he has exactly one arm. In (12), Cass doesn’t imply that she has only one daughter. This kind of use of possessives is quite common and perfectly felicitous, and I don’t know of an explanation for its felicity. It seems like in (11) it doesn’t matter for response to the CQ *which* arm is broken. In (12) it doesn’t seem to matter for the purposes of the conversation how many daughters Cass has. And just so, in (10), it doesn’t matter much which car Cindy took. So I do think most of these are felicitous cases where the anaphora is not resolved to an informationally unique antecedent. The default is the disjunctive interpretation, or, as I would have it, the Boolean existential, which is what King predicts.

Other kinds of indeterminacies *do* arise: ambiguities that are not resolvable in context, anaphora that has no antecedent. In some cases, such indeterminacy doesn’t seem to matter from the perspective of the goals that the speaker’s utterance serves, and in that case, we leave the indeterminacies be, as in the third clause of King’s Appropriateness Condition. But I think such utterances *are* technically infelicitous, because they involve a failed presupposition of familiarity—they’re just *acceptable* for pragmatic reasons nonetheless. And I think they are less common than King’s discussion would suggest. The great majority of the examples he considers can be understood to involve felicitous anaphora resolution, as illustrated above.

There is one more feature of the QUD framework which King does not explore, but which I think is relevant here: the fact that when a context of utterance is adequate, the common ground in conjunction with the CQ helps to solve possible ambiguities, resolve anaphoric dependencies and domain restriction, determine the intended speech act performed, and indicate implicatures as well, all of this in real time in the course of interpretation. In Roberts (2017) and Roberts (2022) I offer extended discussion, psycholinguistic evidence, illustration and explanation in a

formal pragmatic framework, arguing that it is not a question of first solving for a (possibly indeterminate) interpretation and *then* determining the proposed update on the basis of a set of candidate interpretations. Unlike the interpretive process King envisions in his Appropriateness Condition, the QUD framework affords this domain restriction prospectively, rather than after the fact of compositional interpretation.

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