

Free Choice Permission and the Counterfactuals of Pragmatics*

Melissa Fusco

Abstract

This paper addresses a little puzzle with a surprisingly long pedigree and a surprisingly large wake: the puzzle of Free Choice Permission. I begin by presenting a popular sketch of a pragmatic solution to the puzzle, due to Kratzer and Shimoyama 2002, which has received a good deal of discussion, endorsement and elaboration in recent work (Aloni & van Rooij, 2004; Alonso-Ovalle, 2006; Chierchia, 2006; Fox, 2007; Geurts, 2009; von Stechow, 2012). I then explain why the general form of the Kratzer and Shimoyama explanation is not extensionally adequate. This leaves us with two possibilities with regard to the original solution-sketch; either the suggested pragmatic route fails, or it succeeds in a particularly strange way: Free Choice permission is rendered a kind pragmatic *illusion* on the part of both speakers and hearers. Finally, I discuss some ramifications.

1 Free Choice Permission

Suppose I say to you

- (1) a. You may have the gin or the whiskey.
- b. $\Diamond(G \vee W)$

As you help yourself to the latter, I cry, “Stop! You can’t have the whiskey!”

It seems that I have contradicted myself. For (1) appears to entail

- (2) a. You may have the gin and you may have the whiskey.
- b. $\Diamond G \wedge \Diamond W$

But why? That this entailment is felt, but not generated by our straightforward semantics for “may” and “or,” is the Puzzle of Free Choice Permission (Kamp, 1973).

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My topic in this paper is an influential sketch of a pragmatic solution to the puzzle, due to Kratzer & Shimoyama (2002), which has received a good deal of discussion, endorsement, and elaboration in recent work (Aloni & van Rooij, 2004; Alonso-Ovalle, 2006; Chierchia, 2006; Fox, 2007; Geurts, 2009; von Stechow, 2012).

I begin by presenting the Kratzer and Shimoyama solution, and contextualizing it within a classical Gricean view of pragmatics. I then argue that the general form of the explanation does not cover the full range of the phenomenon; it relies on counterfactuals about alternative utterances that do not obtain in some contexts where the Free Choice effect is observed.

2 The Explanation

Suppose two books are under discussion, an algebra book and a biology book. I say: “you may borrow the algebra book or the biology book”: “ $\diamond(A \vee B)$ ”. Kratzer & Shimoyama (2002) offer a pragmatic explanation for the generation of the felt entailment to $\diamond A \wedge \diamond B$ for this case, framing the reasoning from a hearer’s point of view. The argument has been influential enough to bear direct quotation:

2 books are under discussion: an algebra book and a biology book. I say
 “You can borrow one of those two books.”
 Alternative set chosen: $\text{May}\{A, B\}$
 Truth-conditional content: $\diamond(A \vee B)$
 [You reason as follows:] she picked the widest set of alternatives, $\{A, B\}$. Why didn’t she pick $\{A\}$, which would have led to a stronger claim? Suppose $\diamond A$ is false. Then she should have made the stronger claim $\diamond B$. Why didn’t she? It couldn’t be because the exhaustivity inference $\neg\diamond A$ is false. Assume, then, that $\diamond A$ is true. The reason why she nevertheless made the weaker claim $\diamond(A \vee B)$ would now have to be that the exhaustivity inference $\neg\diamond B$ is false. We infer $\diamond(A) \rightarrow \diamond(B)$. Parallel reasoning for why she didn’t pick $\{B\}$ leads to $\diamond(B) \rightarrow \diamond(A)$. [Finally, $\diamond(A \vee B), \diamond(A) \rightarrow \diamond(B), \diamond(B) \rightarrow \diamond(A) \models \diamond A \wedge \diamond B$].
 (Kratzer & Shimoyama, 2002, pg.18-19).

The important idea from Kratzer and Shimoyama (hereafter “K&S”) is that, when a well-defined set of possibilities is under discussion (for example, the two books) *and* speakers are presumed to be both fully cooperative and well-informed (as the owner of the books would be), *exhaustivity inferences* are triggered. An exhaustivity inference embodies the generalization that, if the speaker didn’t assert “*p*,” where *p* is in the set of salient alternatives, then *p* is false. That is what explains why the speaker didn’t say (e.g.) “you can borrow book *A*” in the Free Choice case: it would have implicated, contrary to fact, that *you can borrow book B* was false.

An exhaustivity inference is the strongest possible form of inference licensed by application of Grice’s Maxim of Quantity (Grice, 1975): “make your contribution as informative as required.” Such inferences mine significance from a speaker’s act of omission: from her *declining*

to assert some salient, more informative alternative p . Suppose the speaker said “ q ”, and “ p ” is a salient alternative to “ q .” There are two immediately obvious reasons for omitting to make the assertion “ p ”: (i) the speaker fails to know that the proposition “ p ” expresses in context is true, or (ii) positively knows that it is false. The meaning of what the speaker did say is then strengthened, either with $\neg K_s p$ (speaker’s lack of knowledge that p), in the first case, or $K_s \neg p$ (speakers knowledge that not- p), in the second case. These two moves in succession are familiar enough to have been dubbed the “Standard Recipe” for generating implicatures from the Maxim of Quantity (Sauerland, 2004; Geurts, 2009). An exhaustivity implicature results in the case where both steps go through, and the conclusion that $\neg p$ is reached.

What of the more *general* form of Gricean inference licensed by the Maxim of Quantity? We can distill the maxim into a kind of rational constraint on utterance-interpretation:

Quantity Constraint. If a speaker asserts “ q ,” then for all p logically stronger than q such that p is a relevant alternative to q , there must be some reason the speaker refrained from asserting “ p .” (Gamut, 1991, pg. 205)

K&S apply the Quantity Constraint to the Free Choice premise $\diamond(A \vee B)$, with a twist that generalizes on the Standard Recipe. They suggest that the reason the speaker refrained from asserting the stronger alternative “ $\diamond A$ ” is not that the proposition “ $\diamond A$ ” expresses is false, or unknown to the speaker (since it is both true *and* known, in the Free Choice case); rather, the problem is that the assertion “ $\diamond A$ ” would *itself* trigger a misleading exhaustivity implicature: the implicature that $\neg \diamond B$. Since, in a Free Choice case, the speaker wishes to communicate $\diamond A$ *and* $\diamond B$, this would be an undesirable implicature for the hearer to draw.

With that in mind, we can recast Kratzer and Shimoyama’s reasoning in full-blown form:

Why did the speaker say “ $\diamond(A \vee B)$ ” rather than the stronger “ $\diamond A$ ”? We consider two cases: the speaker knows $\diamond A$ is false (Case 1), or the speaker knows that $\diamond A$ is true (Case 2). Case 1: then why didn’t she say “ $\diamond B$,” which would have been stronger? There is no explanation; the speaker would be in violation of the Quantity Constraint. So, treating this as a *reductio*, move on to (Case 2): the speaker knows that $\diamond A$ is true. Then why didn’t she say “ $\diamond A$,” which would have been stronger? Here there *is* a possible explanation: if she had said “ $\diamond A$,” I would have concluded, via an exhaustivity inference, that $\neg \diamond B$. Maybe she wanted to avoid that inference. Likewise, if she had said “ $\diamond B$,” I would have concluded, via an exhaustivity inference, that $\neg \diamond A$. Maybe she wanted to avoid that too. Further, perhaps she wanted to avoid both of these inferences because she thinks their conclusions are false. Hence if the speaker is rational then she thinks both $\diamond A$ and $\diamond B$ are true.

If K&S are right, the Free Choice effect is really a special kind of quantity implicature: it can be paraphrased, without loss, by considering alternative possible permission-giving *assertions* (“ $\diamond A$ ”, “ $\diamond B$ ”) and their counterfactual effects. Hence it appears to be assimilable to classical Gricean explanations of implicatures along the lines of:

Alice: Did you enjoy your blind date last night?
Otto: The movie was nice.
(implicature: Otto did not enjoy the date.)

The reasoning, of course, is that if Otto had enjoyed the date, he would have said so. This Gricean explanation avoids the wild semantic hypothesis that the proposition expressed by “the movie was nice” is truth-conditionally incompatible with the proposition expressed by “Otto enjoyed the date”: a satisfyingly semantically conservative result.

Another interesting consequence follows, if the K&S reasoning is correct: we have an example of a case where Gricean reasoning takes into account the Gricean tendencies of other speakers. On such a picture, in conjuring extra meaning from the non-assertion of a stronger alternative, rational speakers take into account not only *the propositions expressed* by alternative utterances, but also what others would have *inferred* through Gricean mechanisms in situations where those utterances had taken place. For this reason, Chemla & Bott (2014), for example, call the K&S explanation a “second-order implicature.” The explanation suggests the following, revised picture of the Gricean maxims: rather than

Maxim of Quantity: Say what is informative.
Maxim of Quality: Say what is true.

we have:

(Reflective) Maxim of Quantity: Be informative, either by saying *or by implicating* what is informative.
(Reflective) Maxim of Quality: Be truthful, either by saying *or by implicating* what is true.

These reflective versions of the maxims do justice to Grice’s suggestion that

though [in some cases] some maxim is violated *at the level of what is said*, the hearer is entitled to assume that that maxim, or at least the overall Cooperative Principle, is observed *at the level of what is implicated*. (Grice, 1975, pg. 162-163, emphasis added).

Because Gricean reasoning is supposed to be an exercise of general intelligence, and intelligent agents are generally aware of the rational tendencies of others, this is a satisfyingly rational result: it gives a satisfyingly full-blooded picture of Gricean rationality.¹

3 The K&S Explanation has Insufficient Scope

Unfortunately, the K&S explanation does not seem sufficiently general to account for the full range of cases in which the Free Choice effect appears.

¹The awareness of the rational tendencies of others involves Gricean explanations in game theoretic considerations. For work in the game-theoretic aspects of implicature derivation, see, *inter alia*, Parikh (1991, 1992, 2001); Benz et al. (2006); Jäger (2008); Rothschild (2011) and Franke (2013). For a specific application to Free Choice Permission, see Franke (2011).

Notice that Kratzer and Shimoyama stipulate that two books are under consideration, book A and book B , *prior* to the utterance of the disjunctive permission “ $\diamond(A \vee B)$ ”. Because the permission $\diamond B$ is salient at the moment of utterance, other permission statements that do not mention B (like “ $\diamond A$ ”) implicate via exhaustivity that the corresponding permission statement $\diamond B$ is false—just as, in the Alice-Otto dialogue, the extant salience of Alice’s question makes Otto’s silence on the matter of the date especially meaningful. In K&S’s original case, where both book A and book B are being actively considered, it is true that:

(C1) If the speaker had uttered “ $\diamond A$ ”, she would have implicated that $\neg \diamond B$.

But the Free Choice inference has broader scope than this—it is not restricted to contexts in which the disjuncts of the embedded disjunction are already salient. Suppose I say:

(3) You may borrow the algebra book or date my sister.

The Free Choice effect obtains. But we may stipulate that my sister was no way salient before my utterance—in fact, you didn’t know I had one. Here, it is implausible to claim—if the claim is a Gricean one—that to have said instead “You may borrow the algebra book” would have been to implicate that you may not date my sister. But this is just what the counterfactual (C1) says.

This limits the scope of the K&S explanation: in the general case, sentences-in-context don’t have the salient alternatives they need to have for the explanation to work—the counterfactual (C1) is not true—unless $\diamond A$ and $\diamond B$ were already (mutually) salient at the time of utterance.

4 A Response: a double-effect?

I think there is a tempting, but ultimately unsuccessful, response to make to this objection. It is to argue that it is the utterance of the disjunctive permission *itself* that creates the salience relations that are needed to make (C1) true. On such a view, it is the speaker’s utterance of the embedded disjunction “borrow the algebra book or date my sister” that elevates to salience the two options that the exhaustivity reasoning exploits. The utterance, on such a theory, has two sequential pragmatic effects: it raises a set of alternative possibilities $\{A, B\}$ to salience, and then exploits exhaustivity inferences relative to that alternative-set to generate the implicature from $\diamond(A \vee B)$ to $\diamond A \wedge \diamond B$.

Could this be right? There definitely *are* examples of cases that could correctly be described as double-effects. These occur, for example, with a certain kind of context-sensitive expression. Consider an assertion of

(4) Otto is speaking.

When Otto asserts (4), he makes it the case that he is speaking. The utterance of (4) has

two sequential effects: first, it initiates some change in the context (it makes it the case that Otto is the speaker of the context) and then makes some assertion which depends for its truth on the very change that has been made.²

Recently, Ephraim Glick (Glick, 2009) has offered such “double-effect” explanations for sentences like

- (5) Sarah Vaughan and Ella Fitzgerald are both great singers, but I prefer *the former* to *the latter*.

What fact makes it the case, in context, that the expression “the former” in (5) picks out Sarah Vaughan, and the expression “the latter” picks out Ella Fitzgerald? Nothing other than the utterance of (5) itself. Glick comments, “In general, the contextual facts that determine the values of context-sensitive expressions need not be facts that are available to the audience, or that even obtain, before the utterance begins” (pg. 11). We can add that it is easy to mistake this phenomenon for a semantic effect, rather than a pragmatic one, because the sentence in (5) carries the needed context-modifying effects along with it. Whenever (5) is uttered, it *creates* just the contextual features it needs for its expressions to have the right context-sensitive referents—so that the results appear to be context-*insensitive*.

The suggested response to the objection, on Kratzer and Shimoyama’s behalf, then, is this. The alternative permissions \diamond (borrow the Algebra book) and \diamond (date my sister) do *not* need to be salient in context prior to the utterance of the Free Choice premise. Rather, the utterance of the disjunctive permission “ \diamond ((borrow the Algebra book) \vee (date my sister))” raises them to salience, and the K&S reasoning proceeds as above.

4.1 Double-Effect Response Fails for Counterfactuals

I do not think this attempt to extend the K&S sketch of the Free Choice Inference will work. In reasoning counterfactually about what the alternative assertion “ $\diamond A$ ” would have implicated if it had been uttered instead of “ $\diamond(A \vee B)$ ”, the reasoner continues to illicitly make use of facts about what *actually* occurred. If it is the utterance of the disjunctive permission $\diamond(A \vee B)$ *itself* which raises the alternative-set $\{A, B\}$ to salience at the time of utterance, then in the counterfactual situation in which “ $\diamond A$ ” was asserted instead of “ $\diamond(A \vee B)$ ”—the counterfactual situation relevant to the antecedent of (C1)— $\diamond B$ is not a salient alternative. So if “ $\diamond A$ ” had been uttered instead, it would still not have implicated $\neg \diamond B$. The counterfactual (C1) is still false.

What is the difference between the good cases of double-effects and the bad? Glick’s point about sentence (5) is that contextual features F (denotations of “the former” and “the latter”) don’t need to obtain *prior* to an utterance that exploits them. And this is true. But the

²The first effect corresponds to what Stalnaker calls “the modification of the prior context”: “The prior context that is relevant to the interpretation of a speech act is *the context set as it is changed by the fact that the speech act was made, but prior to the acceptance or rejection of the speech act*” (Stalnaker, 1999, pg. 101, emphasis added).

K&S gambit is that contextual features F (mutual salience relations) don't need to obtain in the same *possible world* as an utterance that exploits them. This is far less convincing. The difference between an unproblematic double-effect case like Glick's and the one under consideration is the difference between prior vs. posterior contexts (in the first example) and *actual* vs. *counterfactual* contexts (in the second).

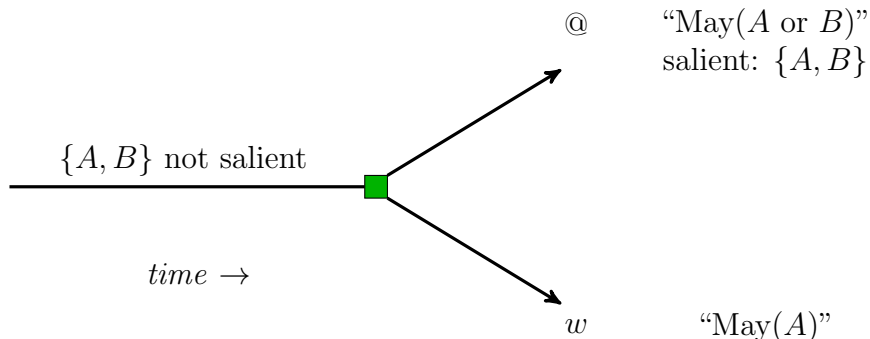
In Glick's case, the assertion of (5) exploits the very contextual effects it creates. But in Kratzer and Shimoyama's case, we are trying to establish that an assertion of

- (6) “ $\diamond A$ ”
 “You can borrow the algebra book”

can exploit the alternatives created by a different utterance:

- (3) “ $\diamond(A \vee B)$ ”
 “You can borrow the algebra book or date my sister”

...this, recall, is what is needed to establish (C1): that if the speaker had said (6) instead of (3), she would have implicated, via exhaustivity, that $\neg \diamond B$.



We can use a picture to illustrate the point. Suppose that the actual world and w are exactly alike until the moment of the speaker's decision of what to utter. This branching picture, then, models the speaker's *choice* of what to say. By stipulation, we are in the case where the alternatives $\{A, B\}$ are not salient before the moment of utterance. Granted, (3) can raise the needed alternatives to salience. But that doesn't mean that (C1) is true. For (C1) to be true, it would have to be true that, on the w branch, the alternatives $\{A, B\}$ are salient—this is what we need to establish that *if* the speaker had uttered “ $\diamond A$ ” *instead*, she would have implicated (via exhaustivity) that $\neg \diamond B$. But from the point of view of w , this reasoning makes no sense: B (dating my sister) is *not* salient in w . And what I said in the actual world cannot raise the option of dating my sister to salience in w —how could it, since, by stipulation, w differs from the actual world in virtue of the fact *that I never mentioned her there?* The counterfactual (C1), the antecedent of which directs us to w , is clearly not validated by this model.

The problem with (C1) is identical in structure to the argument underlying a famous objection to Lewis (1973)'s theory of counterfactuals, known as “the future similarity objection” (Fine,

1975).³ The future similarity objection goes like this. Consider:

(7) If Nixon had pressed the button, there would have been a nuclear holocaust.

(7) is intuitively true. However (the objection goes) it is *false* on Lewis’s theory, because a counterfactual world v where Nixon pressed the button and somehow the bombs failed to go off is more similar to our world (in respect of the lack of widespread nuclear devastation) than any world where Nixon pressed the button and there *was* a holocaust. The cases are analogous because the world v where Nixon pressed the button and everything continues as in the actual world is like the world w where I utter (6)—not mentioning my sister—and the pragmatic reasoning continues as in the actual world—e.g., relative to the *actually* salient alternatives {borrowing the algebra book, dating my sister}.

Lewis undertook to refute such a view in Lewis (1979a). He argued that the everyday normalcy of v no longer counts as similar to the everyday normalcy of the actual world, because it is radically distinct in causal origin.⁴ *Our* everyday normalcy depends causally on the fact that Nixon didn’t press the button; in v , he *did* press the button. So the matching features of the worlds are not similar. The upshot for a theory of counterfactuals is: redact the (past) causes, and future similarity of effect counts for next to nothing in evaluating the closeness of worlds—hence, it counts for next to nothing in evaluating the truth of counterfactuals like (C1). In w , the salience of dating my sister, like the everyday normalcy of button-pressed world v , is causally orphaned.

5 An Evidential Maneuver

I argued above that an utterance of “May($A \vee B$)” cannot be relied on to do the causal work of raising the alternatives required for the truth of (C1) to salience—neither from the theorist’s, nor from a cooperative hearer’s, point of view. Perhaps, though, this claim is more than is strictly needed by the Kratzer & Shimoyama explanation. In this section, I consider a different argument on K&S’s behalf, to the effect that (C1) (repeated below) is a reason-giving consideration for deriving Free Choice permission.

(C1) If the speaker had uttered “ $\diamond A$ ”, she would have implicated that $\neg \diamond B$.

Recall that, in the stipulation of the case, B —dating the sister you didn’t know I had—was not salient at the time of the utterance of the Free Choice premise. The suggestion, however, is that the hearer might rationally come to believe that B is salient upon hearing the utterance of the premise, even if it isn’t. That means (C1), while it still wouldn’t be true in the context under consideration, might be believed by the hearer to be true:

³See also Tichý (1976); “Tichý cases” is perhaps a more general term for this style of counterexample to Lewis’s theory.

⁴In Lewis’s terminology, a “miracle” that causes v ’s post button-press features to reconverge with the features of the actual world counts as a “really big” miracle (recall that “miracle” is a quasi-technical term in Lewis’s theory; it is a violation of determinism.) See esp. Lewis (1979a, pp. 469-471).

(C2) The hearer believes (C1).

To explain the truth of (C2), the argument appeals to a Lewisian notion of accommodation (Lewis, 1979b) instead of a Glick-like double effect. A suggestion in this vein can be seen in Craige Roberts’s gloss on accommodation (Roberts, 1996), which she uses in her development of the technical notion of a “question under discussion.”⁵ Roberts writes:

if it is clear that an interlocutor presupposes a question or assertion ϕ which is not yet commonly agreed upon but the others have no objection, then they behave as if the common ground contained ϕ *all along*. (Roberts, 1996, pg. 6, emphasis added)

Roberts’ gloss suggests that it’s insufficient to say that speakers act as if an utterance of q makes its alternatives $Alt(q)$ salient; at least in some cases, speakers act as if the utterance indicates that $Alt(q)$ was salient *before* q was uttered. This is somewhat different from Lewis’ own description of accommodation; he writes, “say something that requires a missing presupposition, and straightway that presupposition springs into existence” (Lewis, 1979b, pg. 339). Lewis does *not* say that straightway it is as if that presupposition had been in existence *all along*.⁶

Nonetheless, it is plausible that this can sometimes happen. On the suggested line of argument, the raising-to-salience of B associated with the utterance “May($A \vee B$)” is *evidential* and not *causal*.⁷ This gives the phenomenon a different temporal profile. It’s not that the actual utterance, at time t , raises the target alternatives to salience at t^+ (since this, as I have argued, cannot ground their salience in worlds that diverged from the actual world *before* t); the suggestion is instead that the utterance functions as *evidence* for the hearer that $\{A, B\}$ were *already* salient before t , hence still salient in worlds that diverged from w before t . Under a sufficiently “backtracking” notion of relevance along these lines, (C2) might be able to capture *all* of the Free Choice data.

While a judgement that (C2) is false is more subtle than a judgement that (C1) is false, I believe we should be skeptical of (C2) as well; we should be skeptical that relevance facts are really accommodated by rational interlocutors to such a degree. On the view under consideration, the listener must ultimately evaluate the plausibility of counterfactual (C1) in light of her overall evidence. Even if it is true that, in some cases, the hearer *will* revise her previous beliefs regarding relevance, there will be cases where the extant relevance of B is independently *im-plausible*—cases where the listener has strong independent reason to believe B was not amongst the relevant alternatives at t . Ultimately, my argument that there is a lacuna in the K&S argument rests on cases of this type.

⁵I am indebted to an anonymous referee for raising the suggestion I pursue (in somewhat adapted form) in this section, and for the reference to Roberts’ work.

⁶This is true throughout Lewis’ use of the “straightway” locution (*op. cit.*, pgs. 340, 341, 347, 349, 351, and 356.)

⁷Lewis was of course himself no stranger to the distinction between conditionals whose truth is supported by evidential vs. causal considerations—see e.g. Lewis (1981).

For example, one can use Free Choice permission-type sentences to *flout* the Maxim of Relation—where I use “flout” here in Grice’s sense. Suppose you have a chronic habit of borrowing my biology and my algebra books, and expect to get permission to borrow them again; you expect me to say

(8) You may borrow the algebra book or the biology book.

Today, however, I do not want to part with my biology books. In a fit of annoyance at you, I might violate expectations by saying things like:

(9) You may borrow the algebra book or take a hike.

(10) You may borrow the algebra book or go fly a kite.

(11) You may borrow the algebra book or get your own books from now on.

Presumably the second disjuncts of (9)-(11) are not very helpful, because they are not relevant to your purposes. But once again, there is little doubt that the Free Choice effect obtains. For example, (9) appears to generate a felt entailment that you may borrow the algebra book. It *also* generates the felt entailment that you may take a hike—it’s just that you’re unlikely to want to do so. Returning to our original:

(3) You may borrow the algebra book or date my sister.

...although you might be puzzled as to why dating my sister was mentioned in the first place, you do not *thereby* doubt that (3) communicates that you may date my sister. If the Free Choice effect survives *bold*, deliberate violations of the Maxim of Relation, it is unlikely to depend on this maxim to generate the felt entailment.⁸

6 Semantics vs. Pragmatics

Free Choice Permission has generated an enormous literature, and the argument here is not directed at approaches rooted in Game theory (Franke, 2011), optimality theory (Aloni, 2007a),

⁸Another worry about a very accommodating notion of relevance is suggested by Grice himself. If we had such a notion, we’d lose the datum Grice made famous with his “lovely weather we’re having” example:

At a genteel party, A says *Mrs. X is an old bag*. There is a moment of appalled silence, and then B says *The weather has been quite delightful this summer, hasn’t it?* B has blatantly refused to make what he says relevant to A’s preceding remark. He thereby implicates that A’s remark should not be discussed and, perhaps more specifically, that A has committed a social gaffe. (Grice, 1975, pg. 54)

In a world governed by an extremely deferential notion of relevance, B’s implicature would be lost. His audience is forced to conclude that the weather was relevant at the time when A said Mrs. X was an old bag. But this is not very conversationally rational.

or epistemic logic (Zimmermann, 2000). It does, however, touch on Kamp’s conception of the original puzzle—in its deontic form—as a testing ground for semantic vs. pragmatic models of explanation. I would like to close by briefly considering some ramifications for this debate.

6.1 Closing the Gap

The K&S explanation is Gricean, but it is also the basic underlying model of many Neo-Gricean and (what we might call) “Post-Gricean”⁹ approaches to Free Choice in the current literature (Aloni & van Rooij, 2004; Alonso-Ovalle, 2006; Chierchia, 2006; Fox, 2007; Geurts, 2010). Most of the work in this vein endorses Kratzer and Shimoyama’s basic explanatory strategy—the strategy that enriches meanings by modus ponens on the counterfactual (C1). An outstanding issue that this ongoing work seeks to address is a perceived gap in the K&S explanation, which I will sketch briefly here.

In §2 I listed two classic reasons why, in keeping with the Quantity Constraint, a speaker who says “ q ” might rationally have refrained from asserting a stronger alternative p . They are:

1. The speaker doesn’t know p .
2. The speaker knows $\neg p$.

To these reasons, as we have seen, Kratzer and Shimoyama add a third:

3. An utterance of “ p ,” while neither false nor un-knowledgeable, would *implicate* a falsehood.

The gap in the explanation is that reasons (1) and (2) appear to preclude the Free Choice effect before (3) has a chance to explain it. For take $q = \diamond(A \vee B)$ and the stronger alternative $p = \diamond A$. If we assume (1) and (2)—the “Standard Implicature Recipe”—then we have the result that the fact that the speaker didn’t utter “ $\diamond A$ ” implicates that the speaker knows $\neg \diamond A$. But this is incompatible with the conclusion of the Free Choice inference, $\diamond A \wedge \diamond B$.

Why don’t considerations (1) and (2) trigger inferences that rule *out* the Free Choice conclusion before the “second order” consideration (3) rules it *in*? The family of publications cited above seek to give a satisfactory answer to this question. Any attempt to give a Gricean explanation of Free Choice within a system of implicature calculation must discharge this burden.

If what I have argued in this paper is correct, there is a larger problem with the explanation. Even if consideration (3) is a real phenomenon, it isn’t the right explanation for Free Choice—at least, not in the general case.

Semantic accounts of the Free Choice effect, such as Simons (2005); Aloni (2007b), or Barker (2010), do not face the task of plugging this gap, because semantic accounts reject the as-

⁹More on Post-Griceanism in the next section.

sumption the implicature approach begins with—namely, that the alternative utterances “ $\diamond A$ ” and “ $\diamond B$ ” express propositions which are truth-conditionally *stronger* than the proposition expressed by the Free Choice premise. Whatever its nature, a semantic account would hold that $\diamond(A \vee B)$ entails $\diamond A \wedge \diamond B$.¹⁰ The relevant alternatives to what was actually asserted, on such an account, do indeed include such utterances as “ $\diamond A$ ” and “ $\diamond B$.” But these utterances are no longer *stronger* relevant alternatives to what was asserted, so there is no pragmatic puzzle about why the speaker didn’t assert them. From the point of view of a *semantic* approach to Free Choice, there is simply no gap to close.

This observation affects the ultimate balance of considerations for and against a pragmatic approach to Free Choice Permission (see von Fintel (2012, pg. 7 ff.) for broad commentary on the balance of considerations.¹¹) In light of the difficulties facing the bid to use (3) to generate an explanation for Free Choice, the so-called “gap” in the K&S explanation becomes *an undefeated positive reason* to suspect that Free Choice is a semantic phenomenon, rather than a pragmatic one.¹²

6.2 Is K&S An Error Theory?

A different response to my argument is to accept it, but to maintain that Kratzer and Shimoyama are right anyway. The reasoning they sketch is, in fact, what underlies the felt entailment from $\diamond(A \vee B)$ to $\diamond A \wedge \diamond B$. I have argued that there are serious obstacles to construing this reasoning as *rational*, in the general case. But sometimes agents engage in reasoning that isn’t rational. So the fact that the reasoning is problematic does not mean that it does not bear witness to the psychological processes of speakers and hearers. Perhaps K&S’s pragmatic explanation for Free Choice succeeds—descriptively, rather than normatively.¹³

¹⁰I leave open the nature of such a semantic entailment—whether it is, for example, a relation between sentences, propositions, contents, update functions, etc.

¹¹Von Fintel’s purpose is to defend the classical semantics for deontic modals (in particular, Kratzer semantics: Kratzer (1977, 1981, 1991)) from various objections. The line of attack that touches on Free Choice comes from Cariani (2013), who spotlights Ross’s puzzle (Ross, 1941) as a challenge to the monotonicity of deontic modals. While Ross’s puzzle is the purely *negative* datum that $\Box A$ appears not to entail $\Box(A \vee B)$:

- (i) a. You ought to post the letter. \nRightarrow
- b. So, you ought to post the letter or burn it.

von Fintel notes that Free Choice seems to be the “positive half” of the same datum: there is a clear intuition about *why* (i-b) doesn’t seem to follow from (i-a); the former appears to entail, via a Free Choice inference, that you can post *and* you can burn. He proceeds to suggest that the datum is therefore inadmissible, since the K&S explanation of Free Choice is available (von Fintel, 2012, pg. 11). The observation of the apparent connection between FC and Ross goes back to von Wright himself (von Wright, 1969).

¹²Against this, of course, are other features that give the phenomenon the profile of a implicature, chief amongst which is its apparent suspension in downward-entailing contexts. The fact that this suspension gives Free Choice Permission a signature feature of Quantity Implicatures is emphasized, *inter alia*, by Alonso-Ovalle (2005, 2006), and Kratzer and Shimoyama themselves (Kratzer & Shimoyama, 2002, pg. 14). Aloni confronts the DE data in Aloni (2007b, pg. 80-81).

¹³Perhaps some “middle ground” between the descriptive and the normative will carry the day; the K&S pattern may ultimately be recast as an instance of overgeneralization, default processing, or some other

My perspective on implicatures in this paper has been a classic Gricean one, on which calculating the implicatures of utterances is an exercise of generalized rationality. This classical perspective contrasts with recent work from what I shall call a *Post-Gricean* perspective, glossed by Kai von Stechow as “a new perspective on how implicatures work...a way that is not as post-compositional or pragmatic as assumed by (Neo-)Griceans but rather integrated into the recursive grammar” (von Stechow, 2012, pg. 7). On this perspective, the alternatives that factor into quantity-implicature enriched meanings are part of the *semantic value* of lexical items (Chierchia, 2006; Fox, 2007; Klinder, 2006).

A proponent of the Post-Gricean view of implicature may respond to my argument from (C1) by holding that I have underestimated the radical nature of the new view—may hold, in fact, that my argument shows the *need* for such a view. If a radical version of the semanticized alternatives view is right, then it is the lexicon, not post-semantic processes, that provide the alternatives for strengthening what was said along the lines of counterfactuals like (C1). To put it starkly, it does not *matter* whether the proposed twist on the familiar Gricean moves presents us with plausible instances of the counterfactuals of pragmatics; the alternatives being exploited are part of the “semantic given.” Hence theorists like Kratzer and Shimoyama are free to reverse-engineer the alternatives needed for the derivation to go through—not as a matter of rational reconstruction, but as a matter of semantic analysis. It would seem that the argument I have given from (C1) does not gainsay such a position.

While I think this is correct, to leave it at that—that is, at the idea that the K&S explanation is descriptive and not normative—is in one respect too optimistic, and in another respect too pessimistic. Let me try to indicate why.

It is too *optimistic* because recent experimental results cast doubt on the descriptive adequacy of the solution as well. As Chemla & Bott (2014) report, the Free Choice effect does not pattern experimentally as a Kratzer and Shimoyama-style explanation would seem to predict. Since the K&S explanation is, in a sense that can be made fairly precise, a *second-order* implicature—relying, as it does, on second-order versions of the Gricean maxims—it appears to make a prediction that can be tested in a lab. This would be that processing Free Choice inferences is slower than processing *first-order* quantity implicatures, of which scalar implicatures are the paradigm case. But Chemla and Bott’s results indicate that the reverse is true: Free Choice processing is *faster* than scalar implicature processing (Chemla & Bott (2014, pg. 386); see also Chemla (2009)).

While there is reason to be cautious about drawing a direct line between empirical processing times and the puzzle we face here, the result weighs against the second-order aspect of the K&S explanation, according to which the Free Choice effect depends on our ability to calculate the first-order exhaustivity implicature of a different utterance (“ $\diamond A$,” relative to the salient set $\{A, B\}$) *first*. In light of Chemla and Bott’s results, the second-order hypothesis would seem to suggest that the reasoning is characteristically faster than one of its proper

pattern studied in theories of cognitive bias (Kahneman & Tversky, 1982). I take it that such routes are partially descriptive and partially normative. Thanks to an anonymous reviewer for emphasizing possible autonomy of such an approach.

parts.¹⁴

Finally, the idea that the K&S explanation is descriptive and not normative is also too *pessimistic*, because any descriptively adequate explanation may have a claim to being rational as well, given the goals and nature of communication. It is not, many think, rational to cooperate in a Prisoner’s Dilemma, but we can agree that, *if* both players are irrational in the same way (viz., cooperative), then both are better off. Likewise, it is not rational in a case of Lewisian coordination (Lewis, 1969) to be blind to the fact that there are multiple equally good equilibria. But if both players are so blinded *in the same way*, then they are more likely to choose the *same* equilibrium (the one they think is the unique one) and both will be better off. A conservative view on rationality holds the line: one cannot *know* that x is the unique coordination equilibrium, because it isn’t; one cannot know that the dominant strategy in the Prisoner’s Dilemma is to cooperate, because it’s not. But perhaps a less conservative view can hold that what is beneficial for communicators *is* what is rational, in these unusual cases.

If the K&S explanation is descriptively correct, then in some contexts (like the one relevant to my (3)), the belief that B (viz., dating my sister) is salient is similar to the belief that cooperation is rational in a Prisoner’s Dilemma, or that x is the unique coordination equilibrium (for some particular x): not rationally justified, but useful, *if* accepted by both interlocutors, to transmit some information. A conservative line holds that because B wasn’t salient in the context, and the interlocutors are in a position to know this, then the belief that B is salient, however useful, cannot issue in *knowledge*—much less common knowledge. Yet a less conservative line on rationality may disagree.

How much depends on the label “rational”? Gennaro Chierchia (Chierchia, 2004, 2006), writing from the Post-Gricean point of view, frames the idea of lexicalized implicatures as an instance of the “spontaneous logicity of language” (Chierchia, 2006, pg. 548-549). This is the most dramatic version of the Post-Gricean view, on which semantics, and even syntax itself, are influenced by Gricean mechanisms that ultimately descend from Quantity implicatures. Chierchia’s use of the term “logicity” is a hat-tip to Grice’s use of the term in “Logic and Conversation”: it is a reference to the *cooperative rationality* of speakers. In his (Chierchia, 2006) Chierchia presents the Free Choice Inference, and a generalization of the K&S explanation of it, as just such an example of the logicity of language. But if the argument in this paper is correct, there remains a challenge to construing the reasoning underlying the K&S gloss as logical (in Grice and Chierchia’s sense of the term); that is, to construing it as rational.

¹⁴The editor raises the point that Chemla and Bott’s processing prediction does not obviously apply to a recursive pragmatic approaches to Free Choice, since on such a view the derivation is implicated in the compositional semantic rules applied to the Free Choice premise. I agree that recursive pragmatics views are not, in general, committed to slower processing times for Gricean inferences than for corresponding “literal” inferences. The issue at hand, however, is the K&S derivation itself, which must exploit the idea that if the speaker had said “ $\diamond A$ ”, she would have implicated $\neg \diamond B$.

References

- Aloni, Maria (2007a). “Expressing Ignorance or Indifference.” In *Logic, Language, and Computation*, Springer Berlin Heidelberg.
- Aloni, Maria (2007b). “Free Choice, Modals, and Imperatives.” *Natural Language Semantics*, 15: pp. 65–94.
- Aloni, Maria, and Robert van Rooij (2004). “Free Choice Items and Alternatives.” *Proceedings of the KNAW Academy Colloquium: Cognitive Foundations of Interpretation*, pp. 5–26.
- Alonso-Ovalle, Luis (2005). “Distributing the Disjuncts over the Modal Space.” In L. Bateman, and C. Ussery (eds.) *Proceedings of the North East Linguistics Society 35*.
- Alonso-Ovalle, Luis (2006). *Disjunction in Alternative Semantics*. Ph.D. thesis, University of Massachusetts at Amherst.
- Barker, Chris (2010). “Free choice permission as resource-sensitive reasoning.” *Semantics and Pragmatics*, 3: pp. 1–38.
- Benz, Anton, Gerhard Jäger, and Robert van Rooij (2006). *Game Theory and Pragmatics*. Palgrave MacMillan.
- Cariani, Fabrizio (2013). “‘Ought’ and Resolution Semantics.” *Noûs*, 47(3): pp. 534–558.
- Chemla, Emmanuel (2009). “Universal Implicatures and Free Choice Effects: Experimental data.” *Semantics and Pragmatics*, 2: pp. 1–33.
- Chemla, Emmanuel, and Lewis Bott (2014). “Processing inferences at the semantics/pragmatics frontier: disjunctions and free choice.” *Cognition*, 3: pp. 380–396.
- Chierchia, Gennaro (2004). “Scalar Implicatures, Polarity Phenomena, and the Syntax/Pragmatics Interface.” In A. Belletti (ed.) *Structures and Beyond*, Oxford University Press.
- Chierchia, Gennaro (2006). “Broaden Your Views: Implicatures of Domain Widening and the ‘Logicity’ of Language.” *Linguistic Inquiry*, 37(4).
- Fine, Kit (1975). “Review of Lewis (1973).” *Mind*, 84: pp. 451–458.
- von Fintel, Kai (2012). “The best we can (expect to) get?: Challenges to the classic semantics for deontic modals.” Central APA session on Deontic Modals.
- Fox, Danny (2007). “Free Choice Disjunction and the Theory of Scalar Implicatures.” In U. Sauerland, and P. Stateva (eds.) *Presupposition and Implicature in Compositional Semantics*, New York, Palgrave Macmillan.
- Franke, Michael (2011). “Quantity implicatures, exhaustive interpretation, and rational conversation.” *Semantics and Pragmatics*, 4: pp. 1–28.

- Franke, Michael (2013). “Game Theoretic Pragmatics.” *Philosophy Compass*, 8(3): pp. 269–284.
- Gamut, L. T. F. (1991). *Logic, Language, and Meaning*, vol. 1. University of Chicago Press.
- Geurts, Bart (2009). “Scalar Implicature and Local Pragmatics.” *Mind and Language*, 24.
- Geurts, Bart (2010). *Quantity Implicatures*. Cambridge University Press. ISBN 978-0521769136.
- Glick, Ephraim (2009). “A Modal Approach to Intentional Identity.”
- Grice, H. P. (1975). “Logic and Conversation.” In P. Cole, and J. Morgan (eds.) *Syntax and Semantics*, Academic Press, vol. 3.
- Jäger, Gerhard (2008). “Applications of Game Theory in Linguistics.” *Language and Linguistics Compass*, pp. 406–421.
- Kahneman, Daniel, and Amos Tversky (1982). *Judgment under Uncertainty: Heuristics and Biases*. Cambridge University Press.
- Kamp, Hans (1973). “Free Choice Permission.” *Proceedings of the Aristotelian Society, New Series*, 74: pp. 57–74.
- Klinedinst, Nathan (2006). *Plurality and Possibility*. Ph.D. thesis, UCLA.
- Kratzer, Angelika (1977). “What *must* and *can* must and can mean.” *Linguistics and Philosophy*, 1(3): pp. 337–355.
- Kratzer, Angelika (1981). “The Notional Category of Modality.” In H.-J. Eikmeyer, and H. Rieser (eds.) *Words, Worlds, and Context*, de Gruyter, pp. 38–74.
- Kratzer, Angelika (1991). “Modality.” In A. von Stechow, and D. Wunderlich (eds.) *Semantics: An International Handbook for Contemporary Research*, Berlin: de Gruyter.
- Kratzer, Angelika, and Junko Shimoyama (2002). “Indeterminate Pronouns: The view from Japanese.” *Proceedings of the Third Tokyo Conference on Psycholinguistics*.
- Lewis, David (1969). *Convention: A Philosophical Study*. Harvard University Press.
- Lewis, David (1973). *Counterfactuals*. Oxford: Blackwell.
- Lewis, David (1979a). “Counterfactual Dependence and Time’s Arrow.” *Noûs*, 13(4): pp. 455–476.
- Lewis, David (1979b). “Scorekeeping in a Language Game.” *Journal of Philosophical Logic*, 8(1): pp. 339–359.
- Lewis, David (1981). “Causal Decision Theory.” *Australasian Journal of Philosophy*, 59: pp. 5–30.

- Parikh, Prashant (1991). “Communication and Strategic Inference.” *Linguistics and Philosophy*, pp. 473–514.
- Parikh, Prashant (1992). “A Game-Theoretic Account of Implicature.”, pp. 85–94. TARK '92: Proceedings of the 4th Conference on Theoretical aspects of reasoning about knowledge, Morgan Kaufmann Publishers Inc.
- Parikh, Prashant (2001). *The Use of Language*. CSLI Publications. ISBN 1575863545.
- Roberts, Craige (1996). “Information Structure: Towards an intergrated formal theory of pragmatics.” In *OSUWPL Volume 49: Papers in Semantics*, Ohio State University Department of Linguistics.
- Ross, Alf (1941). “Imperatives in Logic.” *Theoria*, 7.
- Rothschild, Daniel (2011). “Game Theory and Scalar Implicatures.” Manuscript, Oxford University.
- Sauerland, Uli (2004). “Scalar Implicatures in Complex Sentences.” *Linguistics and Philosophy*.
- Simons, Mandy (2005). “Dividing Things Up: The Semantics of *Or* and the Modal/*Or* Interaction.” *Natural Language Semantics*, 13: pp. 271–316.
- Stalnaker, Robert (1999). “On the Representation of Context.” In *Context and Content*, Oxford University Press.
- Tichý, Pavel (1976). “A Counterexample to the Stalnaker-Lewis Analysis of Counterfactuals.” *Philosophical Studies*, 29: pp. 271–273.
- von Wright, G. H. (1969). *An Essay on Deontic Logic and the General Theory of Action*. North Holland: Amsterdam.
- Zimmermann, Thomas Ede (2000). “Free Choice Disjunction and Epistemic Possibility.” *Natural Language Semantics*, 8: pp. 255–290.