MENTION SOME OF ALL*

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Abstract

In the interpretation of natural language one may distinguish three types of dynamics: there are the acts or moves that are made; there are structural relations between subsequent moves; and interlocutors reason about the beliefs and intentions of the participants in a particular language game. Building on some of the formalisms developed to account for the first two types of dynamics, I will generalize and formalize Gricean insights into the third type, and show by means of a case study that such a formalization allows a direct account of an apparent ambiguity: the 'exhaustive' versus the 'mention some' interpretation of questions and their answers. While the principles which I sketch, like those of Grice, are motivated by assumptions of rationality and cooperativity, they do not presuppose these assumptions to be always warranted.

Key words: natural language interpretation, dynamic semantics, semantics-pragmatics interface, Gricean pragmatics, epistemic logic, decision theory.

In the interpretation of natural language one may distinguish three types of dynamics, which, though obviously related, can be studied relatively independently. Firstly, there are the acts or moves that are made, assertions, questions and answers, commands and permissions, etc. The first two categories have been studied by Stalnaker, Groenendijk and Stokhof, Heim and Veltman, to name a few. Secondly, the strict interpretation of these moves are interrelated in that there are structural relations between subsequent moves such as anaphoric dependencies, ellipsis configurations, and discourse relations, all of which have to be resolved. The work on these subjects is so numerous that it is even impossible to mention here only the most important ones. While this second type of dynamics is of an arguably 'local' nature, which can be studied by focusing on move-pairs, or small sequences, I will argue that the third type of dynamics requires one to take a 'global' perspective, which takes into account (assumptions about) the beliefs and intentions of the participants in a language game. I will generalize and formalize Gricean insights into these subjects, and show by means of one case study that such a formalization allows a direct account of an apparent ambiguity: the 'exhaustive' versus the 'mention some' interpretation of questions and their answers. While the principles which I sketch, like those of Grice, are motivated by assumptions of rationality and cooperativity, they do not presuppose these assumptions to be always warranted. In this small paper I will not provide much technical details, but confine myself to sketching and illustrating the main ideas.

I will proceed as follows. In the first two sections I present the basic concepts of the semantics of declaratives and interrogatives, and of the dynamics of questions and their answers. I present

the main ideas only, and only the main concepts to be used later, as they can be deemed quite classical and because they are defined and discussed at length at various other places. In section 3 I present the notion of an 'optimal discourse', a reinterpretation of Grice's conversational maxims which does not serve as a set of categorial imperatives, but as a measure to explain other people's discourse moves, and to motivate those of one's own. In section 4 it is shown how this notion can be used to explain, on the basis of the exhaustive semantics from the first two sections, the non-exhaustive interpretation of questions and answers in specific cases. Section 5 sums up the results and establishes directions for future work.

1   The Semantics of Declaratives and Interrogatives

According to a long and widely respected tradition, the spirit of which can be traced back to the work of Gottlob Frege, the meanings of declarative sentences can be equated with their truth-conditions. As Wittgenstein has put it: "Einen Satz verstehen, heißt, wissen was der Fall ist, wenn er wahr ist." ("To understand a proposition means to know what is the case, if it is true," Tractatus Logico-Philosophicus, Satz 4.024.) Declarative sentences are used to convey information about the world, and if you know what the world ought to be like in order for such a sentence to be true, you grasp what the world is like if someone sincerely asserts such a sentence, and is not misguided. It is important to emphasize that one does not need to know whether such a sentence is true, because then an assertion of it would hardly be informative; the main point of asserting declarative sentences resides in communicating information which has not been established before.

This idea can be fleshed out in a Tarskian fashion by a recursive definition of a satisfaction relation $\models$ which defines truth of a formula relative to a model and/or world, and a number of parameters relevant to the interpretation of the formula, such as those that determine the interpretation of overt or covert pronouns, and that of, slightly more technically, free variables. In the remainder of this paper such a satisfaction relation is taken for granted.

The meanings of interrogative sentences can be understood in a similar fashion. According to the classical doctrine, set out by Hamblin, Karttunen, and Groenendijk and Stokhof, knowing the meaning of an interrogative sentence equals knowing the conditions under which it is answered, so that the meanings of interrogatives can be equated with their answerhood-conditions. Again, one does not need to be taken to know, in order to understand a question, what is the full and true answer to it, what is relevant is that one knows, what, in various circumstances, counts as a full and true answer. A uniform and perspicuous implementation of this idea has been given in (Groenendijk and Stokhof 1984), where a question is conceived of as a function, which in each circumstance or world defines the full and true answer to the question in that world, and effectively this cuts up logical space into a partition in which worlds are grouped together iff they define the same full and true answer; in turn this corresponds to an equivalence relation over the set of possibilities such that two possibilities are taken as equivalent for the question iff the same full and true answer holds there, and relevantly different iff not. Before I illustrate this notion of the meaning of a question, it must be emphasized that it is a purely semantic, if one wants Fregean or Platonic, notion. More pragmatic notions of answerhood have been presented in terms of this notion already in Groenendijk and Stokhof's work, and a more fine-tuned practical interpretation of actual answers given will be discussed below.

Questions can be understood, in general, as querying the values of a (possibly empty) list of variables. In case the list is empty, we are dealing with a polar, or 'yes'/'no'-question like $?p$ ("Does it rain in California now?"). The answers will be the singleton set containing the empty sequence (the truth value $\mathbf{1}$) in case it is indeed raining in California, or the empty set (the truth

value **0**) in case it is not. This cuts up the space of possibilities in two blocks, one block of possibilities in which it rains in California, and one block of those in which it doesn't. More structure is generated by constituent, or *Wh*-questions. Consider the following question, with associated gloss:

(1)   Who will come to the banquet? (*?x Cx*)

A full and true answer specifies, in each possibility, all of those whom come in that possibility, and, moreover, that nobody else comes. Effectively, this renders possibilities equivalent iff exactly the same persons come to the banquet in those possibilities, and if at least one person comes in one possibility and not in another, then they are rendered distinct. If, for the purpose of exposition, we assume the domain contains only two relevant individuals, *a* and *b*, the meaning of the question can be displayed as follows:

$\neg \exists x Cx$	$Ca \wedge \neg Cb$
$\neg Ca \wedge Cb$	$\forall x Cx$

$?Cb :=$ does *b* come?

$?Ca :=$ does *a* come?

The question queries, for each individual, i.e., *a* and *b*, whether that individual comes. The conjunction of the questions whether *a* comes and whether *b* comes cuts up logical space into four parts: one block of possibilities in which both answers are negative (none come), two blocks of possibilities in which only one of them comes (only *a* and only *b*, respectively), and one block of possibilities in which both come. Once one knows in which of these blocks the actual world resides, one knows the full and true answer. This approach generalizes to multiple *Wh*-questions like:

(2)   Who gave what to whom? (*?xyz Gxyz*)

This question asks for a specification of the *give*-relation; in any possibility it will have to specify the full set of triples which stand in the *give*-relation, together with the specification that no other triple stands in that relation.

As may be clear from this exposition, the *semantics* of questions is taken to be an exhaustive one. The various (semantic) answers to a question are exhaustive answers in that they specify the full and exact set of values of a given predicate or relation. (This is the same in case of polar questions, but then there is only one possible value: the empty sequence.) As we will see below, this does not mean that actual answers given need to be understood this way—they can be felicitous when they only partially answer a question, and even questions themselves can be felicitously understood as querying only a partial specification. For now, however, it is more important to observe three things. Firstly, this semantic notion of answerhood underlies a uniform notion of entailment in terms of $\subseteq$, also indicated by means of $\models$, which corresponds to logical entailent if it relates two declaratives, which corresponds to answerhood if it relates a declarative and an interrogative, and which corresponds to question subsumption if it relates two interrogatives. That is, all of the following are valid:

(3) $\forall x C x \models C a$
       $\forall x (C x \leftrightarrow x = a) \models ?x\, C x$
       $?x\, C x \models ?C a$

Secondly, as observed by van Rooij (2003), a partition theory of questions naturally links up with decision theory, both intuitively, as well as technically. That is, an agent's decision problem may also be modeled by a partition of logical space, to the effect that the blocks in the partition correspond one to one to the alternative actions the agent has to choose from. In the example above, our protagonist may be wondering whether or not go to the banquet, and whether or not to advise Kata to go there. If none of a and b come it might be good to go together; if only a comes, I might better go alone and if only b comes Kata might better go alone; if both a and b come, Kata and me might better stay home both of us. Once I have a full answer to the semantic question displayed above, I know in this case what to do.

The very same situation can be used to make the third and final point. If my question indeed is whether or not to go to the banquet, and whether Kata should go there, the relation between the question meaning and my decision problem is mediated by a number of assumptions, for instance that it is fine for me to go there with a only, and not for Kata, and that it is no good for me to be there with only b, while this is no problem for Kata, etc. My predicament therefore better be displayed as follows:

$?Ca :=$ does a come?
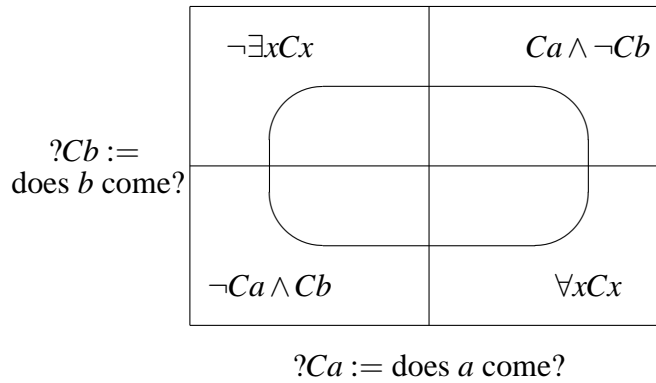
where the oval distinguishes the possibilities I conceive of as maybe actual from those I have already excluded. If it so happens that the actual world lies, say, in the left bottom block outside of the oval, and you know it, you might truly and rightfully answer that only b comes; however, this might not appropriately solve my decision problem, because this might be one of these worlds I have mistakenly excluded because it is one in which indeed it is a problem for Kata to be with only b and not for me. For the remainder it is important that questions faced ("Will I go the banquet? Should Kata go as well?") are not literally the same as those posed ("Who come to the banquet?"); yet, against the background of my information, it is assumed that the latter entails the first, according to the notion of $\models$ sketched above.

2   The Dynamics of Questions and Answers

Stalnaker (1978) presents it as two of four 'truisms' that the content of an assertion can be dependent on the context in which it occurs, and that assertions affect, and are intended to affect, this context. The interpretation of pronouns, for instance depends on the specific contexts in which they are used, and certain presuppositions may or may not be acceptable as a consequence of the information available in the context in which they are triggered. The context next, will be altered to the effect that the interlocutors can take it for granted that a certain assertion has been made, and, if no objections are made, that its contents are added to the stock of com-

mon knowledge. Although, it seems, Stalnaker regards these as observations belonging to the realm of pragmatics (Stalnaker 1998), they have been taken up in indeed quite of few formal systems of interpretation: Kamp's discourse representation theory, Heim's file change semantics, Groenendijk and Stokhof's dynamic predicate logic, and Veltman's update semantics, to name but a few. Whereas in each of the mentioned systems the concept of a context is adapted to their various purposes, they all implement the idea that the interpretation of discourse resides in a step-wise update of information.

Interrogatives have been accommodated into this picture as well, in various ways. The idea is that, while it is assumed that indicatives are used to add information to the context, interrogatives are used to add questions, in the semantic sense described in the previous section (Ginzburg 1996, Groenendijk 1999, Hulstijn 2000, Jäger 1996, Roberts 1996). The general idea, the first type of dynamics sketched above, thus consists of conceiving of the interpretation of a discourse as a step-wise update of a 'common scoreboard' (Lewis) with information and questions, and under the assumption that, in general, the information provided resolves the questions asked.

The second type of dynamics is of an, arguably, more instrumental nature. Questions and their subsequent answers may hang together in a more structural manner than one can account for according to the platonistic view sketched in the previous section. This already holds for two assertions by the way. Most of the mentioned dynamic theories of interpretation expand upon the fact that the use of a certain type of term (a name, a definite or indefinite description) may be associated with a witness as its value which can be referred back to by means of a pronoun in a subsequent assertion—while this does not (need to) hold for a truth-conditionally equivalent assertion which does not employ such a term. One of the arguments of a structured meanings approach to questions (von Stechow 1991, Krifka 1991), as against the propositional one sketched above, is that something similar holds for question-answer pairs.

Consider the following two questions:

(4)   Is it raining?

(5)   Is it not raining?

Besides some clearly pragmatic overtones, these questions are equivalent on the propositional approach, since their propositional answers are "It is raining." and "It is not raining." They are not fully equivalent, though, since an elliptical answer like "Yes." ("No.") to the first may mean something different than when it answers the second. Similarly:

(1)   Who is coming to the banquet?

(6)   Who is not coming to the banquet?

can both be taken to ask for a full specification of who is, and who is not coming to the banquet. Yet, a constituent reply like "Susanne and Wilfrid." will be interpreted differently in response to these two questions. These facts have also been observed by Groenendijk and Stokhof and they already submitted that, for a proper interpretation of these questions and their elliptical answers, one needs to have access to the *abstracts* associated with these questions, precisely the moral advocated on the structured meanings approach. Roughly, the idea is that example (1) queries that set of individuals coming, and example (6) the set of individuals not coming. Even though either set determines the extension of the other, they are obviously not the same, and thus they can help to characterize the relevant difference between the above two pairs of examples.

These observations have been implemented in an update semantics in (Aloni, Beaver and Clark 1999) and (Dekker 2003). While the papers only provide for a minor structural extension of the semantics of questions, they allow one to deal with the dynamics of question-answer pairs as indicated above, and in principle also of a kind of topical restriction like we find in the following examples. As Jäger (Jäger 1996) observed, an answer like:

(7)   Only Socrates is wise.

means something different as a reply to the following two questions:

(8)   Who is wise?

(9)   Which Athenian is wise?

In reply to the first, it asserts that Socrates is the only wise *person*, while in reply to the second it only asserts that Socrates is the only wise *Athenian*. Also, if *A* asks:

(10)   Which students join the trip?

then *B*'s counter question:

(11)   Who *want* to join?

can be taken to mean which *students* want to join. And we can also identify a difference between the following assertions with 'embedded questions':

(12)   Mary was surprised who came.

(13)   Mary was surpised who did not come.

Finally, using a technique deriving from (Zeevat 1994),

(14)   Who gave what to whom?
          John a book to Mary.
          Jane a funny hat to some hippie.
          Somebody else all her recordings of "Friends" to Denise.
          And nobody anything to anybody else.

can be interpreted totally compositionally. While the underlying notion of a question is exhaustive, the various answers can be interpreted as partial answers, while the closing statement is eventually interpreted as telling us that the full exhaustive answer has by now been given. See (Dekker 2003) for details.

3   The Pragmatics of Questions and Answers

The two types of dynamics discussed in the previous section will be assumed in the explanation of the third type, in this section, but they are not sufficient to motivate it. The fact that certain questions are asked, and certain assertions are made, nor structural relations between the two, may help explain what is the intended or interpreted relevance of the two. So, while it is obvious

that *John comes to the banquet, and no other students do.* can be relevant in response to a question *Who will come to the banquet?*, almost any other utterance (indicative or interrogative) can be relevant as well. This has already been noticed in (Groenendijk and Stokhof 1984), and (van Rooij 2003) gives a decision-theoretic explanation of the facts, in quantitative terms. In (Dekker 2004) I have argued that an intuitive, qualitative explanation along the lines of Grice can be furthered as well, as long as we do not give an imperative interpretation to these maxims, and formalize them sufficiently generally.

What is the point of posing questions and making assertions? There can be many such points, including that of keeping the conversation running, testing agreement, establishing face, making fun, etc. Focusing on inquisitive discourse, or games of information exchange, we may assume that the interlocutors come with their own questions (in relation to decision problems, or just out of interest) which they seek to be answered in a reliable and comfortable way. Bearing this in mind, we can say that a discourse is optimal iff the participants' questions are answered, to the best of the knowledge of all of the participants, and indeed in an efficient or otherwise convenient way.

Before I make this idea relatively precise, it is important to identify one difference with Grice's statement of the facts or principles. Grice's maxims are formulated as imperatives about how to behave in a rational and cooperative dialogue; I only want to state a notion of what would be an optimal dialogue, a notion against which actual dialogue facts can be evaluated. Even when we are engaged in an inquisitive discourse, facts of life have it that things need not be optimal: we can fail relevant information, we can fail the means to query the right type of information, and we can misjudge what is the most efficient or convenient way to achieve the intended result; besides, we may be right or wrong in assuming that our interlocutors are rational and cooperative. When engaged in a conversation, we may have to be well aware of all these possibilities. (See, however, work of Alexandru Baltag, Anton Benz, Robert Stalnaker and Ede Zimmermann for some of the philosophical and technical pitfalls in playing with notions of uncooperativity and irrationality.)

With the previous comments in mind, I have proposed the following notion of an 'optimal discourse' in (Dekker 2004), which is modeled after Grice's division into four maxims:

Definition 1 (Optimal Inquiry) *Given a set of interlocutors A with states $(\sigma)_{i \in A}$ a discourse $\Phi = \phi_1, \ldots, \phi_n$ is optimal iff:*

- $\forall i \in A: D(\llbracket \Phi \rrbracket) \cap D(\sigma_i) \models \sigma_i$ *(relation)*
  $\bigcap_{i \in A} D(\sigma_i) \models D(\llbracket \Phi \rrbracket)$ *(quality)*
  Φ *is minimal*   *(quantity)*
  Φ *is well-behaved*   *(manner)*

The requirement of relation requires an optimal discourse to answer all questions of all interlocutors. The information provided by Φ is hoped to answer the questions in any state σ_i. That of quality requires these answers to be supported by the data which the interlocutors had to begin with. These two requirements are defined in full formal rigour in (Dekker 2004). The requirements of quantity and manner are deliberately left underspecified, but they ought to come with some intuitive understanding.

When agents engage in a cooperative conversation, it is reasonable that they make clear what questions they have, and that they provide information which they have support for. The above notion of an optimal inquiry accounts for this, but it also serves to guide agents in a dialogue in which the conditions are not guaranteed to be optimal.

Let us first look at an optimal situation. Suppose A wishes to know whether Sue comes to the banquet ($?s$), and B wants to know whether Tim comes to the banquet ($?t$), and assume that B knows that Sue will come, and that A knows that Tim will not come if Sue comes. The following dialogue is optimal then:

(15)   *A:* Will Sue come?
        B: Yes.
            Will Tim come?
        A: No, not if Sue comes.

Both questions are answered, by information which was initially there distributed over the two original information states. The discourse is also quite minimal, and, depending on one's standards, well-behaved.

Example (15) can be used to show that some standard felicity requirements (like informativity, non-redundancy, consistency, and congruence of answers with questions) can be derived from the notion of an optimal discourse. More interestingly, it can also be used to explain why certain dialogues are perfectly reasonable also if certain contributions are not direct replies to questions posed just before, or if questions posed differ from questions faced. Information management may need more sophistication because understanding actual discourse requires reasoning about beliefs and intentions (epistemic logic and decision theory).

Even if we do not take into account any suspicions about irrationality or uncooperativity, the following situation must be telling. Suppose I am wondering whether or not to go to the banquet tonight. Being an academic, I don't say to myself: "Go there and have fun," but I count my blessings. I'd like to talk to professors A and C, but there are some complications. If, besides professor A, professor B is there as well she will absorb A, if B doesn't absorb professor C, that is, if C is not absorbed by professor D; furthermore, if neither B and C are present, D will absorb A. This is not an abnormal academic situation. The following table lists the configurations under which it is appropriate for me to go (given that my assumptions about A, B, C and D are right, of course):

	$C\&D$	$C\&\neg D$	$\neg C\&D$	$\neg C\&\neg D$
$A\&\ B$	-	+	-	-
$A\&\neg B$	+	+	-	+
$\neg A\&\ B$	-	-	-	-
$\neg A\&\neg B$	-	+	-	-

All I want to know is if I am living in a $+$ or $-$ world, which corresponds to a positive or negative decision about going to the party, and which basically is a polar (*Yes/No*-) question. I could ask:

(16)   Will I go to the party? ($?Ci$)

which, normally, is a stupid thing to ask, of course, in an academic environment. The question I face is a polar one so, in order to characterize my question I have to ask you whether I am in one of the $+$ or $-$ worlds. This is somewhat awkward. One of the most minimal 'linguistic' means to distinguish the $+$ from the $-$ worlds that I could find is rendered by the following formula:

(17) $(A \text{ AND } [(\neg B \text{ AND } (D \rightarrow C)) \text{ OR } (B \text{ AND } C \text{ AND } \neg D)]) \text{ OR}(C \text{ AND } \neg B \text{ AND } \neg D)$?

Nobody will be happy answering (or even interpreting) a natural language analogue of this. Instead, I could ask:

(18)   Who come? (?$x\, Cx$)

Formally, and semantically speaking, this asks for more than I need to know: not just whether I am in a $+$ or $-$ configuration; rather, it asks in which of the 16 possible situations I am in the configuration displayed above. Even so, any answer to this question entails an answer to the question I face (the publicly posed question formally entailing the first one I really face), so the question makes sense, and, as we can see, question (18) is much more convenient than question (17).

The upshot of this discussion is that we can ask for more information than we actually need, formally speaking. This observation can be strengthened by means of the sequence that possibly follows an utterance of (18). A partial answer to (18) may be:

(19)   Arms will not come, but Baker does.. . .

In the situation sketched this would already be sufficient to resolve my decision problem. All possibilities in which Arms does not come but in which Baker does, are ones in which it does not make sense, I think, to go to the banquet. (Inspect the third row of the table, which contains only $-$'s.) So, even though you are not aware of my predicament, and do not know how to sort out to fulfill the purpose of giving a full exhaustive answer to my question (18), I can stop you by saying: "I know enough, thanks, I will not go myself; but let this not stop you from going there yourself." (Kind, and irrelevant, as I am.)

The upshot of this discussion is twofold. Again, as in section 2, we face a question actually posed which does not exactly match a question actually faced. This time, however, a pragmatically partial answer to a question posed may serve to definitely settle a question actually faced. What is more, such a resolving partial answer may be anticipated, and this fact brings to bear on a quite theoretical issue, that of the exhaustive versus mention-some understanding of questions and answers in general. If a partial answer to a question, semantically understood exhaustively, can be reasonably interpreted as being settling, pragmatically, then both the semantic ('exhaustive') interpretation can be saved, as well as its pragmatic ('mention some') interpretation.

4   An Application: "Mention Some"

In the academic debate there is extensive discussion about the issue whether or not an 'exhaustive' or a 'mention some' meaning of interrogatives should be taken as basic, even though this issue is not represented by polemics in the standard journals. The issue is 'academic' in that, in general, both approaches are intertranslatable to a certain firm degree. Exhaustive interpretations of questions entail mention-some ones, and exhaustive sets of mention-some replies to questions equal their exhaustive answers. In this paper I have taken an exhaustive semantic interpretation as basic, and allowed for a natural pragmatic interpretation of partial, or 'mention some' answers, basically, like Groenendijk and Stokhof (1984) did. Before we evaluate this proposal, it makes sense to inspect some examples that have been put forward to argue for the opposite approach.

The following examples typically have a 'mention some' interpretation:

(20)   Who's got a lighter?

(21)   How can I open a .gzip file?

(22)   How do I get to the station?

(23)   Where do they serve Thai food?

Intuitively, one instantiation of the queried variable (*Wh-term*, *How-* or *Where*-phrase) may serve to answer these question satisfactorily. They don't seem to be used, in general, to query all of their possible values. One light is enough to light a cigarette; nobody seems to be interested in all possible ways to open .gzip files; certainly nobody needs an explanation of the infinite number of ways in which one can reach the station; and one good Thai restaurant nearby will serve my purpose, not necessarily knowing all of the ones around.

Do these examples speak against an exhaustive semantics of questions? I don't think so. Two observations are in place first. All of the above questions can be used to ask for exhaustive specifications in the first place, and one really needs little imagination to see so. If there has been a big fire, and lighter owners are suspect, then the inspector asking (20) is most probably interested in the whole set of lighter owners, not just an occasional one who can light Kojak's cigar. Similarly for the other examples. In the second place, any exhaustive answer to these questions entails one or more of the possibly required mention some replies. This is simply so by definition.

The only question seems to be, then, why to raise an issue ("Who's got a lighter?") while a semantically more simple issue ("Has anybody got a lighter?") is at stake? Any smoker with some linguistic interest, and any linguist with some interest in her smoking colleagues, can figure out the answer.

I do not believe there are hard and fast arguments against or in favor of exhaustive readings of questions and their supposed answers. I do have qualms, however, like Grice, against positing ambiguities though. One line of explaining the facts is advocated here: a speaker can expect the hearer to realize that her decision problem is more difficult to formulate than the question actually posed and that *the latter entails the first*. This part of the show can be adequately formalized, as has been done before. I have doubts about the other way around, but, of course, my doubts by themselves don't constitute an argument.

To round up this paper, I would like to discuss in some detail a typical 'mention some' example. Consider again example (23):

(23)   Where do they serve Thai food?

Just to be sure, this example can naturally be used on an exhaustive interpretation, and any exhaustive reply will satisfy any 'mention some' demands of the questioner. Even so, it seems, people tend to think it is typically used with a 'mention some' interpretation.

But now wonder what will be the predicament of someone who comes up with such a question with such an interpretation. Simplifying matters, we can imagine you on a junction where you can go North, East, South and West; your intention is to have good Thai food. Your decision problem resides in choosing one of the four directions, but the chosen one must be taken to lead to a nice Thai restaurant. The question you face, and which does not make much sense to pose, is "Where do I go?" If we translate this question into a relevant one about the facts of the matter, it could be something like the conjunction of the following four:

(24)   Will I go North and find a nice Thai restaurant?
          Will I go East and find a nice Thai restaurant?
          Will I go South and find a nice Thai restaurant?
          Will I go West and find a nice Thai restaurant?

The four questions are mutually exclusive, as is required on a partition approach. All four of them are also based on the assumption that you do find a nice Thai restaurant, a presupposition which can be cancelled of course. (Like we saw before in our discussion of example (18), it may be acutely relevant to dismiss such presuppositions if they are not obviously satisfied.)

Let us assume that there is indeed a nice Thai restaurant around, even in all of the four possible directions. Still the conjunction in (24) is quite laborious and even oppresive. Instead, you might ask (23) and you and I will be sensible enough to figure out that question (24) is what you aim to find out.

A pragmatic explanation of 'mention some' interpretations of questions which are assumed to be exhaustive semantically, of course does not suffice to explain 'mention some' interpretations of embedded questions (Beck and Rullmann 1999). On a first score, this is as we want it to be. Consider:

(25)   Mildred knows who come to the banquet.

We don't want to render this qualification of Mildred true if she knows of only one person that he or she will come to the banquet. Asserting (25) implies that Mildred has exhaustive knowledge about who come, among the relevant persons, of course. The following example might cast some doubt on this conclusion:

(26)   George knows where they serve Thai food.

Asserting (26) seems to be well motivated if George knows one place where they serve Thai food and where to find it. I am not sure whether this can be taken as an argument against an exhaustive interpretation of questions. My own intuitions do not decide on the evaluation of (26) in case various good places serve Thai food; besides, arguments from attitudinal contexts like those presented by 'know,' 'believe,' and the like, are suspect anyway. My interpretation of Kripke's puzzle about belief is that there is a bigger problem about belief ascriptions in general than about the rigid semantics of proper names, and I get similar conclusions from Stalnaker's work. Indeed all of this may imply that an autonomous semantic enterprise is eventually doomed to failure, and maybe this is even Martin Stokhof's conclusion in (Stokhof 2002). Nevertheless, as long as we do not bring semantics to the grave, and do not prematurely cremate formal pragmatics, there is hope for a very well established line of exhaustive research.

5   Conclusions

In this paper I aimed to focus on a Gricean type of dynamic interpretation which, I claim, is different from two other types of dynamics extensively studied in the literature. I have suggested that this type of dynamics stands in need of both motivation and formalization. A motivation has been given in terms of a notion of an optimal discourse, which is based upon principles of rationality and cooperativity, but which does not presuppose them. The formalization has been partial, because some of it is crucially social, cultural, or otherwise underdetermined.

I have focused on the use of declaratives and interrogatives in what are called inquisitive dialogues. The semantics of these types of sentences has been assumed to be classical: satisfaction conditions, and, in case of interrogatives, (exhaustive) answerhood conditions. Not for the purposes of this paper, but for a general semantic program in the long run, I have assumed a more structured approach along the lines of Krifka, as has also been suggested by Groenendijk and Stokhof themselves.

One of the main observations is that questions posed and questions faced, although logically related, may diverge. Thinking of it, this is not a very surprising observation. I could ask you whether Sue comes to the banquet, not because I want to know, but because I know that if she comes, Tim comes as well, and because I do not want you to know that I am interested in the question whether Tim is coming. Theoretically, the observation has some impact. It allows us to explain that we may ask for more information than we actually need, and, properly understood, our respondents may act accordingly. A 'mention some' interpretation of questions and answers, even on an 'exhaustive' semantic evaluation, can thus be rapidly explained.

As appears from the lack of definitions in this paper, it is by and large programmatic. The real work has to be done by means of some epistemic logic and decision theoretic reasoning. I hope to have shown, however, that this can be neatly based on a classical semantic understanding of declarative and interrogative sentences.

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