Why we need a question semantics*

Ivano Ciardelli

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Abstract

In this paper I discuss the role that question contents should play in an overall account of language, thought, and communication. Based on these considerations, I argue against the Fregean view that analyzes questions as distinguished only at the level of force. Questions, I argue, are associated with specific semantic objects, which play a distinctive role in thought and in compositional semantics, stand in logical relations to one another, and can act as contents of multiple speech acts. In the second part of the paper, I present a recent approach to the semantics of questions—inquisitive semantics—and discuss how the notion of question content it provides can be fruitfully put to use in the different roles we identified.

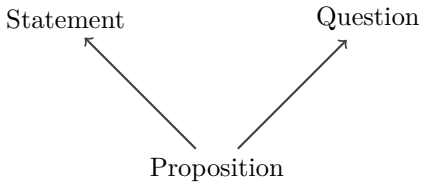
1 Introduction

The title of this contribution can be read in two ways. The first reading is: *for what purposes* do we need a question semantics? What roles should question semantics play in an overall theory of language and thought? One of the aims of asking this is to identify certain desiderata for formal theories of questions, which can then be assessed and compared by asking whether the notion of question content that they yield is suitable for these various roles.[1]

The second reading of our title puts focus on the word 'semantics': why do we need a question *semantics*, and not just a question *pragmatics*? The backdrop for this question is the existence of a tradition, going back to Frege (1918), who analyzed questions as distinguished only at a pragmatic level: questions are characterized by their association with a particular kind of speech act—asking—but not with a particular kind of semantic content. The conceptual picture that these accounts advocate looks like this:

*The final version of this paper will appear in a volume on logical approaches to questions, edited by Moritz Cordes. I am indebted to Moritz for interesting discussions that pushed me to reflect more systematically on the issues discussed in this paper, and for the opportunity to present these ideas at the Asking and Answering conference. Thanks also to the audience of the conference, in particular to Manfred Krifka, David Hitchcock, Jared Millson, Andrzej Wiśniewski, and Floris Roelofsen, for precious feedback in the Q&A after the talk.

[1]Let me emphasize that the set of roles for question contents that I am going to discuss is not supposed to be exhaustive: there may well be other roles for question contents besides the ones we are going to discuss. But I do take the ones below to be especially important.



What we have at the semantic level is just a proposition, which then can be paired at the pragmatic level either with declarative or with interrogative force, resulting in a statement or in a question.

While this view is not popular in linguistics (for reasons that we will discuss) it still has some influence in philosophy. One of my aims in this paper is to argue against it: while questions are indeed conventionally associated with the act of asking—in the sense that, by default, uttering a questions counts as asking it—they also play many roles besides being asked. I will argue that the content-force distinction is just as important for questions as it is for statements: it is crucial to distinguish the content of a question from its asking, for exactly the same reasons why it is important to distinguish a proposition from its assertion. The conceptual picture I favor looks like this:[2]

	Statement	Question
Content type	Proposition	Issue
Default force	Assert	Ask

The arguments in favor of this conceptual picture have been spelled out before: two key references, which are sources of inspiration for the present paper, are Belnap (1990) and Groenendijk and Stokhof (1997). Here, I will present some arguments from these papers in a novel way, and I will add some new ones.

A further aim of this paper is to briefly illustrate how a recent theory of questions, *inquisitive semantics* (Ciardelli, Groenendijk, and Roelofsen, 2018), provides us with a notion of question content that can be put to fruitful use in the various roles that we will discuss.[3]

[2]I should note that in ordinary usage, the term *question* is used ambiguously to refer to an interrogative sentence (a syntactic object, as in (i-a) below), its content (a semantic object, as in (i-b)), or a particular utterance (a speech act token, as in (i-c)):

(i) a. In English, questions require a special word order.
b. The main question we face is whether the project is safe.
c. Her question caught me by surprise.

Here, I will use *question* to refer to the syntactic object, and *issue* to refer to the corresponding semantic object. Other authors, for instance, Groenendijk and Stokhof (1997), use *interrogative* for the syntactic object, reserving the word *question* for the semantic object. This difference is purely terminological, and will not matter for the points we will be making. One reason why the present choice is helpful here is that part of what we want to argue is precisely the need to recognize the kind of object that Groenendijk and Stokhof call *question*.

[3]While my coauthors and I have argued elsewhere that this theory improves on previous theories of questions in several respects, I will not rehearse the arguments here. The interested reader is referred to Ciardelli (2017) and §9 of (Ciardelli *et al.*, 2018).

Here is the plan for the paper. We start in Section 2 by looking at some of the theoretical roles which are standardly played by the notion of proposition. In Section 3, I argue that the notion of *issue*—the sort of object expressed by a question—has parallel roles to play. In Section 4, I discuss the Fregean view that identifies questions with asking acts, arguing against such an identification. In Section 5, I describe the approach to question semantics that I favor—inquisitive semantics—and briefly outline how the notion of question content it delivers can be put to use in the various roles we identified in Section 3. Section 5 concludes.

2 Roles for propositions

In order to discuss what theoretical roles question contents have to play, it is helpful to start out from more familiar territory: the analysis of statements. By *statement* here I mean a declarative sentence in natural language, as in (1-a), an sentential complement headed by the declarative complementizer 'that', as in (1-b), or a formula in a formal language which is meant to formalize a declarative sentence, as in (1-c).

(1) a. Smith stole the jewel.
b. that Smith stole the jewel.
c. $\mathsf{stole}(s, j)$

The semantic content expressed by a statement is normally called a *proposition*. A proposition is the sort of thing that represents the world as being a certain way, and which may be true or false depending on whether the world is in fact that way. In theorizing about language and thought, we use the semantic notion of a proposition, and the notion of truth of a proposition, in at least four ways: (i) to account for semantic composition, i.e., for how the semantics of a sentence is computed recursively from the semantics of its constituent parts; (ii) to define logical relations; (iii) to analyze propositional attitudes, and (iv) to give accounts of how language is used in communication. Let us briefly discuss these roles in turn.

Compositional semantics. One key feature of human languages, both natural and artificial, is that they are *recursive*: they consist of discrete units which can be assembled into larger units by grammatical rules. The semantic value of a complex expression is not conventionally stipulated, but is built up from the semantic values of its constituents according to recursive rules. In both natural and artificial languages, a statement can occur not only as a complete sentence, but also as a constituent part of other, more complex sentences, as the following examples illustrate.

(2) a. Smith stole the jewels.
b. If Smith stole the jewels, he will be out of the country by now.
c. Alice knows that Smith stole the jewels.

When a statement occurs embedded, its semantic value feeds into the compositional process and contributes to determining the semantic value of the larger sentence. Thus, e.g., in (2-b) the proposition that Smith stole the jewels combines with *if* to act as a supposition, and in (2-c) the same proposition is the object argument of the verb *know*.

Logic. The central concern of logic is the study of the validity of inferences. The notion of validity is, at least traditionally, characterized in semantic terms: an inference is valid if the conclusion is true in all interpretations in which the premises are true. Moreover, logic is supposed to give an analysis of specifically "logical" items in language, such as connectives, quantifiers, and modalities. Such an analysis is normally given in semantic terms, by specifying how the truth conditions of a compound involving these items are derived from the truth conditions of the constituents.

Propositional attitudes. Our explanations of the behavior of agents involve reference to mental states such as belief, hope, and desire. For instance, we say that Bob is going to a certain café because he wants to meet Alice and he believes he will find her there. Such states are usually analyzed as propositional attitudes. To appreciate the idea, compare (3-a) and (3-b).

(3) a. Bob admires Alice.
b. Bob hopes that Alice called.

Supposing (3-a) is true, what is the object of Bob's admiration? It is a person, namely Alice. Now supposing (3-b) is true, what is the object of Bob's hope? It is a proposition—the proposition that Alice called (or at least, this is the standard answer). Similarly, (4-a) and (4-b) describe Bob as having certain attitudes towards this proposition.

(4) a. Bob thinks that Alice called.
b. Bob considers it unlikely that Alice called.

Thus, propositions play a central role in the mental life of agents like ourselves: they are things that we consider, belief, disbelieve, hope, want, and so on.

Discourse. Statements are by default associated with the speech act of assertion: if one simply utters (5) in a conversation, they are by default taken to be *asserting* that Smith stole the jewels.

(5) Smith stole the jewels.

Speaker use assertions, among other things, in order to exchange information and coordinate their beliefs. How is that achieved? The standard answer, which comes in many variants, is that by uttering a statement, a speaker expresses a corresponding proposition, which represents the world as being a certain way. The speaker is then taken to present herself as accepting the proposition and as

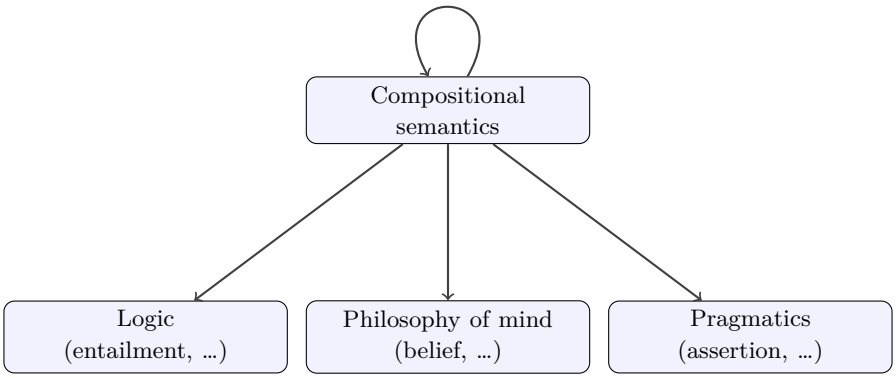
recommending that this proposition be accepted by her interlocutors (see, e.g., Stalnaker, 1978; Farkas and Bruce, 2010; Krifka, 2015, 2020).

In addition to assertion, statements are also involved in other speech acts. For instance, by uttering (6-a) or (6-b), the speaker is not asserting that Smith stole the jewels, but instead supposing it or suggesting it as possible.

(6) a. Let's say Smith stole the jewels.
b. Perhaps Smith stole the jewels.

As in the case of assertion, we would like to have an account of how these other speech acts work. Again, such accounts make crucial reference to the proposition that Smith stole the jewels: they typically say that the speaker is proposing to treat this proposition in a certain way—as true by hypothesis, or as an open possibility (see, e.g., Kaufmann, 2000; Yalcin, 2007; Schnieder, 2010).

Summing up. We can summarize the situation as in the diagram below. Declarative contents are built up compositionally, and they play a role internally to compositional semantics, as they determine the contribution of statements embedded in larger linguistic contexts. Externally to compositional semantics, they feed into logic, where they are used in defining key notions like entailment, philosophy of mind, where they provide the objects of attitudes like belief, and pragmatics, where they are used in characterizing the workings of assertion and other speech acts.



3 Roles for issues

Having identified some important roles played by propositions, which are contents of statements, let us now turn to question. I am using the term *question*, in analogy to *statement*, to refer to an interrogative sentence like (7-a) (also known as a *direct question* in the literature), the corresponding sentential complement (7-b) (also known as an *embedded* or *indirect question*), or to a formula in a formal language which is meant to formalize an interrogative, as in (7-c).

(7) a. Who is the culprit?
b. who the culprit is
c. $?x.\mathsf{culprit}(x)$

I am using the term *issue* to refer to the semantic content of a question. So, what roles are there for issues to play in a theory of language and thought? My claim is that these roles are very much parallel to the ones we just identified for propositions.

Compositional semantics. First, just like statements, questions occur in natural language not just as stand-alone sentences, but also as parts of other sentences, including statements. Here are three examples:

(8) a. If Smith leaves the country, will we manage to get him extradited?
b. Alice knows who stole the jewel.
c. Whether I can go out tonight depends on how much work I get done.

In (8-a), a question is part of a conditional construction which is itself a question. In (8-b), a question is the argument of a knowledge ascription. In (8-c), two questions occur as constituents of a statement that asserts a dependency between them. In each of these cases, the semantics of the embedded question plays a role in determining compositionally the semantics of the entire sentence.

Before moving on to the next topic, let us pause briefly to make two points. First, although we used examples from English, the present point is not restricted to natural languages. Of course, for a formal language, one can freely stipulate what compounds occur, and thus, one can in principle disallow embedded questions. However, when it comes to designing a formal language intended to regiment statements and questions, there is no reason why we should not expect such a language to be able to handle compounds involving questions as constituents, analogous to those in (8). If a given question semantics allows for the construction of formal systems capable of handling embedded questions, that counts as a merit of the approach.

Second, it is worth pausing to discuss the relation between a direct question like 'Who is the culprit?' and its indirect counterpart 'who the culprit is'. As Belnap pointed out, not just questions, but sentences in general have nominalized, embeddable counterparts, as illustrated in the table below, whose "point or function is to permit us to embed in certain larger contexts [...] a form of the stand-alone sentences" (Belnap, 1983, p. 26).

Stand-alone	Embeddable
Did Mary come?	J asked P whether Mary came.
Mary came.	J told P that Mary came.
Come!	J ordered Mary to come.

The claim that the direct question "Who is the culprit?" and its indirect counterpart "who the culprit is" are at some level associated with the same content is

known in the literature as the *equivalence thesis*.[4] It has been explicitly defended as a desideratum for a theory of questions by Belnap (1983) and Groenendijk and Stokhof (1984), and it is a standard assumption in the linguistic literature on questions. Let me mention a couple of observations that support the view. First, the content of a direct question can be appropriately reported by using its indirect counterpart, as in the following dialogue.

(9) A: Did Smith steal the jewels?
B: Sorry, I couldn't hear you. What did you just ask?
A: I asked whether Smith stole the jewels.

This is hard to explain if the two versions of the question do not share the same content. Second, and most strikingly, in an embedded context, an indirect question makes exactly the same contribution as an anaphoric particle that refers back to the direct question, as the following examples illustrate.

(10) A: Who is the culprit?
B: Nobody knows [that/who the culprit is].
B: The police will reveal [that/who the culprit is] in tonight's press conference.

For further discussion, see Belnap (1983) and Groenendijk and Stokhof (1984).[5]

Logic. Like statements, questions are linked by interesting logical relations. Let me give just one example. Assume as a premise that:

- A = For every x, x is a bachelor iff x is an unmarried man.

Then there is an obvious sense in which the question Q below is logically determined by the questions Q' and Q'':

- Q = Who are the bachelors?
- Q' = Who are the men?
- Q'' = Who is married?

This relation is semantic in nature: it holds because, on the basis of A, the contents of the relevant questions are bound to be related in a certain way.

Let us refer to the sort of logical relation illustrated by the previous example as a *dependency*. Dependency is a logical notion of great interest. For instance,

[4]The qualification "at some level" is needed because what we say below is compatible with the hypothesis that the direct question contains something *in addition to* the issue that it shares with its indirect form, something that gives it its particular force (thanks to Manfred Krifka for raising this possibility to my attention). What matters for our purposes is that there is a single semantic object, an issue, which is associated with both forms of a question.

[5]In the pre-read for the Asking and Answering conference, Krifka (2020) develops an account which invalidates the equivalence thesis, at least for polar questions. The observations concerning examples (9) and (10) can be seen as raising two challenges for this account.

the *predictive power* of a (scientific) theory can be taken to consist in the dependencies that it puts in place. One may say that a theory T is predictive of Q given $Q_1, \ldots, Q_n$ if on the basis of T, Q is logically determined by $Q_1, \ldots, Q_n$ (see Ciardelli, 2016b, for further discussion). Moreover, dependency is also the pattern that underlies the notion of *supervenience*, which plays such a central role in modern analytic philosophy. For instance, to ask if the mental state of an agent supervenes on the physical state of her brain is to ask if the question *what the agent's mental state is* is determined, over a relevant space of possibilities, by the question *what the agent's neurological state is*.

A theory of questions should provide us with the means to characterize the relation of dependency, as well as other logical relations involving questions, and to build formal systems that allow us to study these relations and regiment reasoning about them. Question semantics is bound to play a crucial role in this enterprise, just like truth-conditional semantics plays a crucial role in studying logical relations among statements.

Attitudes. Propositional attitudes are mental states with propositional content. But there are also mental states with a different kind of content. Consider:

(11) Alice $\left\{ \begin{array}{l} \text{wonders} \\ \text{is curious about} \\ \text{doesn't care} \end{array} \right\}$ who stole the jewels.

What is the object of Alice's curiosity or indifference? Intuitively, Alice's curiosity is not directed to a proposition, which represents the world as being in a particular way, but rather to an object that represents multiple alternative ways for the world to be. It seems very plausible that the object of the relevant attitudes is nothing but the content of the complement 'who stole the jewels'. And this is indeed the view that has been taken by philosophers of mind who have considered this sort of attitudes (Friedman, 2013; Carruthers, 2018). We may say that wondering, curiosity, and indifference are *issue-directed attitudes*.

Besides issue-directed attitudes, we also find issue-directed activities, such as those reported by the following sentences.

(12) Alice $\left\{ \begin{array}{l} \text{is investigating} \\ \text{discussed with Bob} \end{array} \right\}$ who stole the jewels.

It seems plausible that, in the situation described by such sentences, the object of the activities of investigating and discussing is nothing but the issue expressed by the complement 'who stole the jewels'.

Issue-directed attitudes and activities are central to our life as agents engaged in inquiry, who have to entertain multiple competing hypotheses and to actively seek information to adjudicate between them: a detective's search for clues is oriented by specific issues (how did the murderer get in? what was the murder weapon?) and the beliefs she may eventually reach arise by engaging and deliberating on these issues. Like propositions, issues thus play an important cognitive role: they are objects that we entertain, engage with, investigate,

discuss, form opinions about, or suspend judgment on.[6]

Discourse. Finally, questions obviously play a major role in linguistic information exchange. By default, questions are associated with the act of *asking*. If a speaker utters (13), they are normally taken to be asking who stole the jewels.

(13) Who stole the jewels?

However, like propositions are involved in other speech acts besides assertion, issues are involved in other speech acts besides asking. I will illustrate this with two examples. The first is from Italian:

(14) Chissà chi ha rubato i gioielli.
Chissà who stole the jewels.

(15) I wonder who stole the jewels.

By uttering (14), one does not *ask* the question who stole the jewels, but merely expresses one's state of wondering about this question, making the question salient in the conversation, but without asking it. Such an utterance is appropriate in a situation in which the speaker presupposes that the question cannot be settled in the current exchange.[7] This sentence could be translated in English as (15). The reason why I offer (14) as an example instead of (15) is that in the case of (14) there is no doubt that it is not an assertion about the speaker's state, as the sentence is not even declarative and cannot be judged true or false. Just like the sentences in (6) can be used to perform a non-canonical speech act with a statement, so (14) can be used to perform a non-canonical speech act with a question. I will refer to this speech act as *wondering aloud*.[8]

As a second example, take:

(16) Let's set aside who did it for now. [Let's focus on how they came in.]

By uttering (16), one aims to effect a change to the context which involves the conversational status of the issue expressed by the question 'who did it', removing it as the current question under discussion (using the terminology now standard in formal pragmatics; see Roberts, 2012).

Many more examples could be given, but hopefully these suffice to illustrate that the situation for questions is analogous to the one for statements: questions are by default associated with a certain speech act, *asking*; but the issue

[6] On the role of questions in cognition, see, among others, Koralus and Mascarenhas (2013); Hoek (2021).

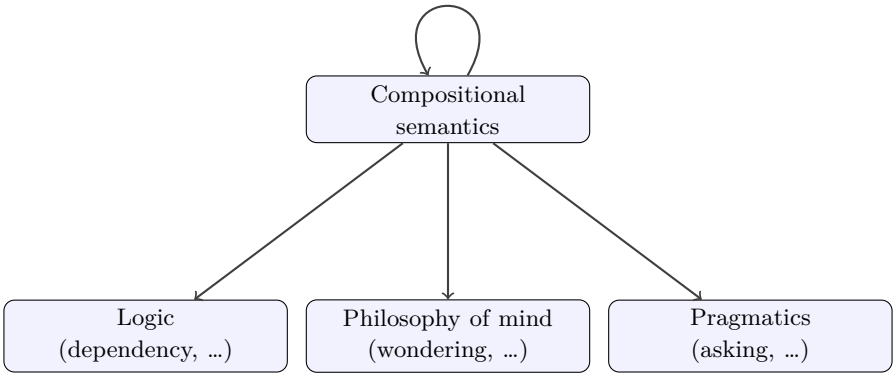
[7] This might be similar to the effect of the German "deliberative questions" discussed by Krifka (2020) (pre-read for the Asking and Answering conference), exemplified by (i):

(i) Ob Max schon angekommen ist?

[8] It seems plausible that, in most circumstances, an utterance of (15) in English is not construed as an assertion, but as an act of wondering aloud: by means of such an utterance, one does not mean to describe oneself as wondering, but rather to voice one's wondering and to make the question salient. Krifka (2020) argues for a similar analysis.

expressed by a question may also serve as the content of different speech acts, such as acts of wondering aloud or context management act that aim to change the question under discussion. We want to use question semantics to provide detailed account of how these speech acts work, in terms of their preconditions and the effects they bring about.

Summing up. We saw that issues, i.e., question contents, have the same theoretical roles to play as propositions: we want to use them internally to compositional semantics to account for the contribution of embedded questions to larger compounds; in logic, to characterize the relation of dependency and other logical relations involving questions; in philosophy of mind, as contents of attitudes like curiosity or indifference; and in pragmatics, to give accounts of speech acts like asking and wondering aloud. This is summarized by the following picture, parallel to the one we gave above for propositions.



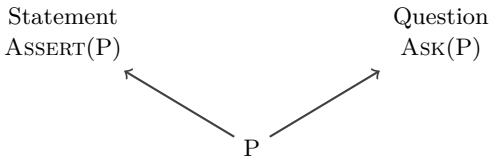
As mentioned in the introduction, I do not pretend that the roles we identified exhaust the range of roles to be played by issues. However, these roles do seem to be especially important; a satifactory theory of questions should, I submit, provide us with a notion of content that can play these roles.

4 Questions without question semantics?

According to the conceptual picture I presented so far, statements and questions are sentences of different syntactic categories, which are associated with different kinds of semantic contents (propositions vs. issues) and different default speech acts (asserting vs. asking).

As mentioned in the introduction, however, there is an alternative view which has enjoyed some popularity in philosophy. This view goes back to Frege (1918), and has been taken up multiple times in the literature, for instance by Stenius (1967) and Searle and Vanderveken (1985). According to it, statements and questions are not distinguished at the semantic level—where they both have propositions as contents—but only at the level of force: whereas a statement

presents a propositional content with an assertive force, a question presents a propositional content with an asking force. Thus, the picture that this sort of account presents is the following.



This kind of view recognizes just one type of content—propositions—and views questions as distinguished only at the pragmatic level. What is specific to a question is that it indicates a certain force, namely, asking force.[9]

On the importance of distinguishing questions from their asking. Building on the discussion in the previous section, I now want to argue that the view I just outlined is not quite right: the asking force is not everything there is to a question; questions play distinctive roles in many contexts where no speech act of asking is involved—in fact, where no *speech* is involved.

Firstly, as we saw, questions play a role in compositional semantics: they occur embedded within other sentences. When they do, it is not plausible to maintain, in general, that their contribution has to do with asking. In the following examples, for instance, the embedded polar questions are not *asked* in any reasonable sense.

(17) a. I don't care whether you come into the office.
b. John knows of most employees whether they came into the office.

The role of an embedded question is not to contribute a certain force, but to contribute a semantic content. Moreover, as we will argue below, this content is not a proposition.

Second, we saw above that questions are linked by interesting logical relations. Such relations are not relations between speech acts—they do not concern speech at all. They pertain to the same realm as the usual relation of entailment investigated in logic. In standard logic, whether an entailment holds is a matter of whether the relevant sentences are semantically related in a certain way. The same holds for the above dependency relation. For instance, who is a bachelor is logically determined by (i) who is a man and (ii) who is married. This is not a fact about discourse: it is a semantic fact. Questions are logically related to

[9]In a pre-read paper for the Asking and Answering conference, Cordes (2020) proposes a formalization of questions which shares some key features of the Fregean view. In particular, in this formalization questions are only distinguished at the level of force. For instance, a polar question is analyzed as having the form WHETHER(p) and as being on a par with performative formulas like ASSERT(p) or SUPPOSE(p). The main points in this section apply to this approach as well, although at some points the discussion might have to be reformulated slightly.

each other on the basis of their semantics. A logical system to study the relation of dependency, as well as other logical relations involving questions, should come with a language containing question formulas which are not force-imbued.

Third, as we pointed out, questions are part of our mental life: we entertain them, investigate them, set them aside, suspend judgment on them, and so on. When we investigate whether Smith stole the jewels, what we are investigating is not a speech act: it is an abstract content that we can grasp in thought. It is the sort of content that *can* be asked, but whose reality is independent of asking—indeed, independent of linguistic interaction altogether. This is parallel to the case of statements: when we believe that Smith stole the jewels, what we believe is not an act of assertion, but a certain content—the sort of content that *can* be asserted. Once more, we find that the identification of questions with asking acts is too narrow: questions are primarily associated with certain contents, which play a specific role not just in discourse, but also in thought.

Lastly, questions are indeed tied to asking by default, like statements are by default tied to asserting. However, we saw in the previous section that issues, like propositions, are not in fact tied to a single speech act. For instance, consider someone uttering one of the following:

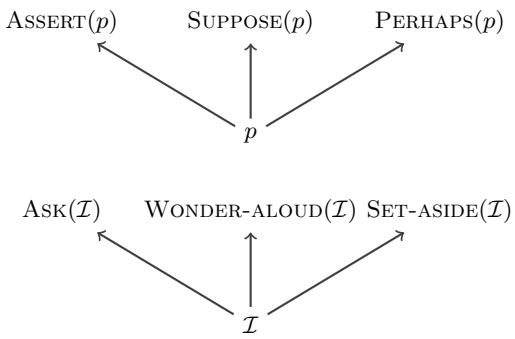
(18) a. Did Smith steal the jewels?
b. I wonder whether Smith stole the jewels.
c. Let's set aside whether Smith stole the jewels.

The same issue is at stake in each case, but the speech act is different.[10] Again, identifying a question with its asking is too narrow: there can be many speech acts sharing the same question content but differing in force, just like there are many speech acts sharing the same propositional content but differing in force. We need a force-neutral content for the question that can be recognized as being common to sentences with different force. Here is Belnap (1990) making this point:

> I understand that there are many speech acts that share a propositional content but differ in illocutionary force; good. And there are many other speech acts that share an interrogative content but differ in illocutionary force, and others that share an imperative content but differ in illocutionary force. So the program [of speech act theory] is a healthy one; the only—but serious—mistake is to suppose that you can identify the content of all speech acts with propositional content, i.e., with the content of declarative speech acts. […]
>
> [Avoiding] the declarative fallacy requires the recognition that interrogatives and imperatives are not just marked differently from declaratives, but possess fundamentally different underlying content structures.

[10] If you think the second sentence should be viewed as an assertion, feel free to use the Italian example in Section 3, which as we discussed is definitely not an assertion.

On the view Belnap and I are advocating, one and the same propositional content p can feed into several force operators, and so can one and the same issue $\mathcal{I}$.



We can sum up the discussion as follows. Question contents—issues—bear exactly the same relation to asking that propositions bear to asserting. They are the things we ask—they provide the contents of asking acts. But they have a rich life independent of asking: they play a role in compositional semantics, they bear interesting logical relations to each other, they are the objects of a variety of mental attitudes and intensional activities, and they act as contents of other speech acts besides asking, with their own specific discourse effects. The reasons why it is crucial to distinguish propositions from their assertion are exactly the same reasons why it is crucial to distinguish issues from their asking.

Against propositions as contents of polar questions. Besides linking questions too tightly to asking, thereby failing to appreciate their multiple roles, another problematic aspect of the view presented above is that it assigns to questions the same sort of content that statements have: a proposition.

As Frege himself realized, this strategy is not viable in general. It was intended for polar questions like (19-a), but it is a non-starter for other classes of questions, including alternative questions like (19-b) (on its most salient reading, with falling intonation on the last disjunct) and *wh*-questions like (19-c). To ask one of these questions is not to inquire into the truth or falsity of a proposition, but rather to inquire into which among several propositions is true.

(19) a. Is Max Austrian?
b. Is Max Austrian, German, or Swiss?
c. Where is Max from?

This, by itself, does not mean that the view is wrong insofar as polar questions are concerned: perhaps polar questions do indeed have propositional contents, while non-polar questions have other types of contents. However, once it is granted that the content of an asking act is at least sometimes not a proposition, it becomes much less appealing to hold that it is *sometimes* a proposition; it seems more natural to assume that the content of a question is always a semantic

object of the same kind, just like the content of a statement is generally a proposition, regardless of the specific form of the statement.

Moreover, if polar questions and non-polar questions really have different types of content, we would expect this to be reflected in their ability to embed in various syntactic environments. Polar questions should be acceptable in syntactic environments which expect a proposition, in analogy to declarative clauses and in contrast to alternative and *wh*-questions. But this is not what we find: polar questions pattern with other kinds of questions, and differently from declaratives, in their embedding behavior, as the following examples show.

(20) Alice believes/hopes
- that Max is Austrian.
- *whether Max is Austrian.
- *whether Max is Austrian or German.
- *where Max is from.

(21) It is possible/true
- that Max is Austrian.
- *whether Max is Austrian.
- *whether Max is Austrian or German.
- *where Max is from.

(22) Alice wonders/is investigating
- *that Max is Austrian.
- whether Max is Austrian.
- whether Max is Austrian or German.
- where Max is from.

(23) Whether Max can apply depends on
- *that he is Austrian.
- whether he is Austrian.
- whether he is Austrian or German.
- what his nationality is.

The most natural explanation for these patterns is that linguistic environments have selectional restrictions: some expect a proposition as their argument, other expect an issue. If this is right, then we should conclude from the above observations that the contents of polar questions are issues, not propositions. Moreover, as was argued explicitly by Karttunen (1977), the fact that different kinds of questions embed in the same linguistic environments speaks in favor of a uniform semantic type for question contents.[11]

[11] As Karttunen (1977) himself observed (p. 5), there are a few sporadic cases of environments in which polar and *wh*-questions come apart. However, these cases do not support the Fregean hypothesis either: in some cases, like (i), statements pattern with polar questions, but in other cases, like (ii), they pattern with *wh*-questions.

(i) I doubt
- that they serve breakfast.
- whether they serve breakfast.
- *what they serve for breakfast.

(ii) It is amazing
- that he ran so fast.
- *whether he ran so fast.
- how fast he ran.

Finally, one can argue against the view that the content of a polar interrogative is a proposition on the basis of the compositional contribution of such interrogatives. The following argument was, to my knowledge, first given by Groenendijk and Stokhof (1997). Consider the following sentences:

(24) a. Alice knows that Smith stole the jewels.
b. Alice knows whether Smith stole the jewels.

These sentences express different propositions: for instance, suppose Smith is innocent and Alice knows this; then (24-b) is true while (24-a) is not. Since these sentences only differ in the complement of *know*, the principle of compositionality requires the two complements 'that Smith stole the jewels' and 'whether Smith stole the jewels' to differ in semantic value. It is standardly assumed that the content of 'that Smith stole the jewels' is the proposition that Smith stole the jewels; and this seems right, since (24-a) ascribes to Alice knowledge of this proposition. It follows, then, that the content of the polar question 'whether Smith stole the jewels' is not the proposition that Smith stole the jewels.

In fact, this content must not be a proposition at all, since (24-b) does not describe Alice as knowing a specific proposition, but as knowing either one of two propositions—either that Smith stole the jewels, or that Smith didn't steal the jewels—whichever of these happens to be true.[12]

Could one grant that the content of the indirect polar question 'whether Smith stole the jewels' is not a proposition, yet insist that the content of the corresponding direct question, 'Did Smith steal the jewels?', is a proposition?

This move amounts to denying the *equivalence thesis*. This seems undesirable since, as we saw in Section 3, there is much to be said in favor of the equivalence thesis. Even setting this worry aside, we can reproduce the problem without relying on the indirect form of a question, and by using propositional anaphora instead. First, note that the anaphoric particle *that* can be used to refer to salient discourse referents, including the content of a previous utterance. Consider the following dialogue:

(25) A: Smith stole the jewels.
B: I wish Charlie knew that.

What B is saying is that he wishes Charlie knew that Smith stole the jewels. This reading comes about because the word *that* in the second sentence can refer to the proposition expressed by the previous sentence, which is available as a salient discourse antecedent after A's assertion. Now consider:

(26) A: Did Smith steal the jewels?
B: I wish I knew that.

[12]This is not necessarily to deny that the argument of *know* in (24-b) is a proposition. For instance, Groenendijk and Stokhof (1984) take the content of 'whether Smith stole the jewels' to be a function from possible worlds to propositions: the function that maps a world w to the true answer to the question whether Smith stole the jewels. In their analysis, the argument of *know* in (24-b) is the value of this function at the world of evaluation, which is a proposition.

If A's question in (26) expresses the same content as A's statement in (25), we would expect the anaphora *that* to pick out the same content. In that case, B's sentence would mean that he wishes he knew that Smith stole the jewels. That is not what B is saying. What B is saying is that he wishes he knew *whether* Smith stole the jewels. In order to explain how this reading comes about, we have to suppose that the word *that* can pick out the same semantic object that would be overtly expressed by 'whether Bob stole the jewels'. So, this object must be available as a discourse referent after A asked her question. Why is it available? The natural explanation seems to be that this object is precisely the content expressed by A, in accordance with the equivalence thesis.[13]

5 Inquisitive semantics

In this section, I briefly outline my preferred approach to questions, namely, inquisitive semantics (Ciardelli, Groenendijk, and Roelofsen, 2018), and discuss how the notion of question content that it yields can be used to play the four roles we identified above.

Foundations. In a slogan, the inquisitive semantics approach to questions can be put as follows: to understand a question is to know what information is needed to resolve it. Thus, the idea is that just like the semantics of a statement is traditionally captured in terms of its *truth conditions*, the semantics of a question can be captured in terms of its *resolution conditions*.

[13]Note that, after the question 'Did Smith steal the jewels?' is asked, the proposition that Smith stole the jewels is also available as an anaphoric antecedent, as the following dialogue illustrates:

(i) A: Did Smith steal the jewels?
B: That is very unlikely.

Here, *that* refers to the proposition that Smith stole the jewels. To explain why this is possible, observe that *that* need not pick up the content of an entire sentence, but can also pick up the content of a constituent. This is illustrated by the following dialogue:

(ii) A: Charlie thinks that Smith stole the jewels.
B: Well, he can't know that for sure.

Here, the word *that* in the second sentence does not refer to the proposition expressed by A, but to the proposition expressed by the constituent clause 'that Smith stole the jewels'.

We can account for the anaphora in (i) if we suppose that the content of a syntactic constituent of our polar question is a proposition. This is very natural: most existing theories about the compositional semantics of questions assume that the derivation of the meaning of a polar question involves a syntactic constituent whose semantic value is a proposition p, to which an operator '?' applies to yield a question content $?p$ (cf. Karttunen, 1977; Groenendijk and Stokhof, 1984; Ciardelli *et al.*, 2018). By contrast, if one wanted to maintain that the content of the direct question 'Did Smith steal the jewels?' is the proposition that Smith stole the jewels, in order to account for the anaphora in (26) one would have to assume that the compositional derivation of this proposition involves a constituent whose semantic value is the issue whether Smith stole the jewels. But this seems to get things backwards—surely the issue whether p is derived from the proposition p, and not the other way around—and I know of no compositional account on which this is the case.

What are the objects relative to which a question may or may not be resolved? They are bodies of information, which we call *information states*. Inquisitive semantics is formulated within the general framework of intensional semantics, where a model comes with a universe W of possible worlds, representing different states of affairs. An information state s is modeled formally as a set of possible worlds: intuitively, the worlds $w \in s$ are those that are compatible with the information encoded by s, while the worlds $w \notin s$ are those that are ruled out by this information.

Thus, the semantics is given by a relation called *support* between information states s and questions Q,

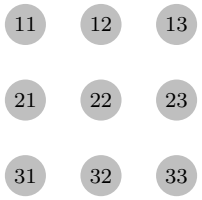
$$s \models Q$$

that holds if the information available in s resolves Q. The issue expressed by Q, denoted $[Q]$, can be identified with the set of information states that support Q:

$$[Q] = \{s \subseteq W \mid s \models Q\}$$

This object captures the content of the question Q (in the model at hand). The maximal elements in $[Q]$ in terms of inclusion are called the *alternatives* for Q.[14]

Illustration. To illustrate these ideas, consider a scenario involving a two-digit secret code, where each digit is either 1, 2, or 3. So there are in total 9 possibilities for the code. Each of these possibilities is a way things might be, and thus a possible world in a model that captures this scenario. So, the universe W of our model is represented by the following picture:



Now consider three questions about the code:

(27) Q_1 Is the first digit 1?
Q_2 What is the first digit?
Q_3 What is the code?

A state s resolves Q_1 if the information in s determines whether the first digit is 1. This can happen if the information in s implies that the first digit is 1 ($s \subseteq \{11, 12, 13\}$), or if it implies that the first digit is not 1 ($s \cap \{11, 12, 13\} = \emptyset$).

A state s resolves Q_2 if the information in s determines what the first digit is; in our model, this means that either the information in s implies that the first

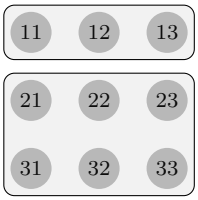
[14] The framework can be refined in a natural way to take into account the role of context in fixing the reference of indexical expressions. See van Gessel (2020).

digit is 1 ($s \subseteq \{11, 12, 13\}$) or it implies that the first digit is 2 ($s \subseteq \{21, 22, 23\}$), or it implies that the first digit is three ($s \subseteq \{31, 32, 33\}$).

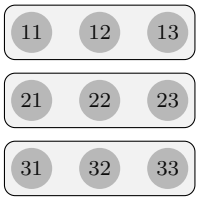
As for Q_3, this question is resolved only if s determines what the code is; in our model, this means that s must determine exactly which world is the actual one, and so s must be a singleton (or the empty, inconsistent state, which only plays a trivial role in the semantics). Summing up, the support conditions for the above questions in our model are:

$$\begin{aligned} s \models Q_1 &\iff s \subseteq \{11, 12, 13\} \text{ or } s \cap \{11, 12, 13\} = \emptyset \\ s \models Q_2 &\iff s \subseteq \{11, 12, 13\} \text{ or } s \subseteq \{21, 22, 23\} \text{ or } s \subseteq \{31, 32, 33\} \\ s \models Q_3 &\iff s \subseteq \{ij\} \text{ for some singleton state } \{ij\} \end{aligned}$$

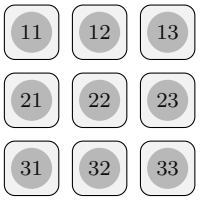
The corresponding alternatives are visualized in the following pictures:



Is the first digit 1?



What is the first digit?



What is the code?

Extension to statements. We may take statements to be endowed, as usual, with truth conditions relative to possible worlds. As usual, we write

$$w \models S$$

to mean that statement S is true at world w. Once support semantics is in place, it is natural to extend support to statements as well. In the case of a statement, however, its support conditions need not be viewed as primitive, but can be seen as derived from its truth conditions via the following bridge principle: a state s supports a statement S iff s implies that the world is one where S is true. In symbols:

Truth-support bridge: $s \models S \iff \forall w \in s : w \models S$

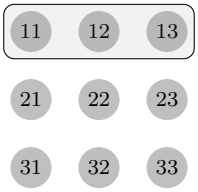
For instance, take the following statement:

(28) S_1 The first digit is 1.

This statement will be supported in a state s iff it is true at every world in s:

$$s \models S_1 \iff s \subseteq \{11, 12, 13\}$$

As illustrated by the following picture, the unique alternative for a statement always coincides with the proposition expressed by the statement, i.e., the set of worlds where the statement is true.



The first digit is 1.

Compositional semantics. To illustrate how the notion of content given by inquisitive semantics can be put to use in compositional semantics, consider the verb *know*. Inquisitive semantics leads to a smooth uniform account of knowledge ascriptions, in which the complement may be declarative or interrogative.

Following the standard Hintikkan account, with an agent x we can associate an epistemic accessibility relation R_x. The idea is, as usual, that wR_xv holds just in case v is compatible with everything that x knows at w. This means that the set of worlds $R_x[w] = \{v \in W \mid wR_xv\}$ is an information state, which captures the epistemic state of x at w.

A knowledge ascription is a statement, so we specify its truth conditions (which then determine its support conditions in accordance with the truth-support bridge above). These truth conditions are very simple: to say that an agent x knows φ is to say that their epistemic state $R_x[w]$ supports φ. Here is the formal clause:

$$w \models x \text{ knows } \varphi \iff R_x[w] \models \varphi$$

On the left-hand side, '$\models$' stands for truth; on the right-hand side, '$\models$' stands for support. Since support is well-defined regardless of whether φ is a statement or a question, this clause allows us to interpret in exactly the same way ascriptions involving a declarative complement and ascriptions involving an interrogative complement. Thus, the analysis is uniform.

Now let us check that this gives the intuitively correct truth conditions for both cases. Consider two different ascriptions:

(29) a. Alice knows that the first digit is 1.
b. Alice knows what the first digit is.

The complements of these knowledge ascriptions are the embedded forms of the statement S_1 and the question Q_2 discussed above. Recall that the support conditions for these sentences are as follows:

- $s \models S_1 \iff s \subseteq \{11, 12, 13\}$
- $s \models Q_2 \iff s \subseteq \{11, 12, 13\}$ or $s \subseteq \{21, 22, 23\}$ or $s \subseteq \{31, 32, 33\}$

Combining the clause for *know* with these support conditions, we get the following truth conditions for the sentences in (29):

- $w \models a \text{ knows } S_1 \iff R_a[w] \subseteq \{11, 12, 13\}$

- $w \models a$ knows $Q_2 \iff R_a[w] \subseteq \{11, 12, 13\}$ or
  $R_a[w] \subseteq \{21, 22, 23\}$ or
  $R_a[w] \subseteq \{31, 32, 33\}$

For (29-a), where the complement is a statement, we retrieve the predictions of the standard Hintikkan account of knowledge: Alice knows that the first digit is 1 if her knowledge state is only compatible with worlds where the first digit is 1. In fact, holds in general that when the complement is a statement, our inquisitive account coincides with the Hintikkan one. Using the truth-support bridge, for any statement S we have:

$$\begin{aligned} w \models x \text{ knows } S \quad &\iff \quad R_x[w] \models S \\ &\iff \quad \forall v \in R_x[w] : v \models S \end{aligned}$$

Thus, our clause above can be seen as a generalization of the Hintikkan account.

For (29-b), where the complement is a question, the account predicts that, in our setting, Alice knows what the first digit is just in case she knows that the first digit is 1, or she knows that the first digit is 2, or she knows that the first digit is 3. This is the intuitively correct result. More generally, the account predicts that when the argument of *know* is a question, the knowledge ascription is true in case the agent has sufficient knowledge to resolve the question.

This is just an example, but hopefully it suffices to illustrate how the notion of content of a question given by inquisitive semantics can be put to work in giving a compositional semantics for both natural and formal languages.[15]

Logic. In the case of statements, semantics is given in terms of truth conditions. The central logical notion of entailment is then defined in terms of preservation of truth in every model. In the inquisitive setting, semantics is given in terms of support conditions. It is then natural to define entailment in terms of preservation of support in every model:

$$\begin{aligned} \varphi_1, \ldots, \varphi_n \models \psi \quad \iff \quad &\text{for every model } M \text{ and information state } s \text{ in } M : \\ &\text{if } s \models \varphi_i \text{ for every } i \leq n \text{ then } s \models \psi \end{aligned}$$

As we saw, the support relation is naturally defined for both statements and questions. As a consequence, the above definition yields a relation of entailment in which the premises and the conclusion may be either statements or questions.

In the case of statements, truth and support are linked by the truth-support bridge given on page 18. It is easy to see that this relation guarantees that, for statements, our support-based construal of logical entailment coincides with the standard truth-based construal. This means that the relation defined above is a conservative extension of the standard notion of logical entailment to questions.

[15] For further literature on questions embedded in different environments in inquisitive semantics, see Ciardelli and Roelofsen (2015, 2018); Ciardelli (2016a); Ciardelli, Groenendijk, and Roelofsen (2018); Theiler, Roelofsen, and Aloni (2018).

On the other hand, entailment relations involving question premises and a question conclusion capture precisely the relation of logical dependency discussed in Section 3. For instance, the example of dependency we gave on page 7 amounts to the validity of the following entailment:

$$\left\{\begin{array}{l}\forall x(\text{bachelor}(x) \leftrightarrow \text{man}(x) \wedge \text{married}(x)),\\ \text{what } x.\text{man}(x),\\ \text{what } x.\text{married}(x)\end{array}\right\} \models \text{what } x.\text{bachelor}(x)$$

This entailment is valid because for any information state that establishes (i) that the set of bachelors is the intersection of the set of married people and the set of men, (ii) what the set of men is, and (iii) what the set of married people is, that state must also establish what the set of bachelors is. And this is exactly what the logical dependency discussed on page 7 amounts to.

This illustrates how inquisitive semantics provides a suitable foundation for the study of logical relations involving questions. The approach comes with a naturally defined notion of logical entailment, which extends the standard notion of entailment to questions. Interesting logical notions such as dependency turn out to be cases of entailment involving questions.

Moreover, this notion of entailment determines a natural treatment of logical operators (connectives and quantifiers) motivated by algebraic considerations (Roelofsen, 2013), which yields well-behaved logical systems in which connectives and quantifiers operate on questions and on statements in a uniform way.

As an example of such a system, consider inquisitive first-order predicate logic, InqBQ. In that system, we have all standard first-order formulas, which receive the usual reading. For instance, the formula $\forall x(Px \leftrightarrow \neg Qx)$ expresses, as usual, the fact that the extension of Q is the complement of the extension of P. But we also have new formulas, which are read as questions. For instance, we have a formula $\forall x?Px$ that formalizes the question 'which objects are P?', or alternatively, 'what is the extension of P?'. This formula is supported in an information state s if the information available in s determines exactly which objects are P; that is, if the extension of P at each world $w \in s$ is the same.

Now, here is an example of a logical fact: under the assumption that P is the complement of Q, the extension of P determines the extension of Q. This logical fact is captured by the following entailment in InqBQ:

$$\forall x(Px \leftrightarrow \neg Qx), \forall x?Px \models \forall x?Qx$$

Being a valid entailment, this dependency can, in fact, be *proved* in a natural deduction system for (a fragment of) InqBQ. Here is what a proof looks like:

$$\dfrac{\dfrac{\forall x?Px}{?Py}\,\forall\mathsf{e} \qquad \dfrac{\dfrac{\dfrac{\forall x(Px \leftrightarrow \neg Qx)}{Py \leftrightarrow \neg Qy}\,\forall\mathsf{e} \qquad [Py] \quad \dfrac{Py \leftrightarrow \neg Qy}{Py \to \neg Qy}\,\wedge\mathsf{e}}{\neg Qy}\,\to\mathsf{e}}{?Qy}\,?\mathsf{i} \qquad \dfrac{\dfrac{\dfrac{\dfrac{\forall x(Px \leftrightarrow \neg Qx)}{Py \leftrightarrow \neg Qy}\,\forall\mathsf{e} \qquad \dfrac{[\neg Qy] \quad \neg Qy \to Py}{Py}\,\to\mathsf{e} \qquad [\neg Py]}{\bot}\,\to\mathsf{i}}{\neg\neg Qy}\,\neg\neg}{Qy}\,?\mathsf{i}}{?Qy}\,?\mathsf{e}}{\forall x?Qx}\,\forall\mathsf{i}$$

This is not the place to get into the details, but I included the proof to illustrate that in inquisitive logic, questions can be handled within a rather standard proof system, where connectives are introduced and eliminated in ordinary ways.

In sum, inquisitive semantics provides a solid foundation on which to build logics of questions. This foundation makes the logic of questions contiguous with the logic of statements, and deeply intertwined with it. This is made possible by two features of the approach: first, the fact that inquisitive semantics is similar to truth-conditional semantics in that it is based on a satisfaction relation, which is preserved by entailment; and second, the fact that statements and questions can be interpreted uniformly, which makes it possible to have a single general notion of entailment, and a uniform account of connectives and quantifiers.

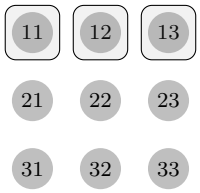
Attitudes. Next, consider attitudes. When we say that Alice wonders, or doesn't care, what the first digit is, we can take these to be attitudes Alice has towards the issue $[Q_2]$ expressed by the question Q_2 = 'what is the first digit?', modeled formally as the set of information states where Q_2 is supported. Similarly, if Alice is investigating what the first digit is, then we can take the object of her investigation to be the issue $[Q_2]$. Thus, the semantics associates to a question a semantic object which we may take to be the intensional content of question-directed attitudes and activities.

We can also give a purely semantic notion of an issue, as a certain kind of family of information states (see §2 of Ciardelli *et al.*, 2018, for discussion). This makes room for the natural possibility that an agent entertains or investigates issues which are not expressible in the relevant language.

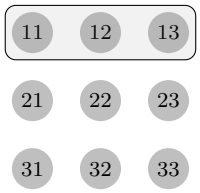
Issues in inquisitive semantics are intensional objects, modeled in the framework of possible world semantics, so the account does face the same problems that are often raised towards intensional accounts of propositional attitudes, and which have led many towards *hyper-intensional* contents. But here, we will be content if we can have an approach to question contents that does as well as the standard intensional approach to propositional contents.

We can also do something more. Just like in the Hintikkan tradition we use sets of worlds to model the information state of an agent, here we can use issues to model what we might call the *inquisitive state* of an agent, reflecting both what the agent knows and what they are interested in, or curious about. For

instance, the two pictures below represent two agents with the same knowledge but with different interests: in both cases, what the agent knows is that the first digit is one; however, the first agent is also interested in what the second digit is, whereas the second agent is indifferent to that.



A curious agent



An indifferent agent

Using this formal representation of inquisitive state of an agent, we can provide a logical analysis of the verb *wonder*, in the spirit of the Hintikkan analysis of *know* and *believe*. This yields a "logic of wondering" that accounts, e.g., for the validity of the following inference:

Alice knows that the code is 11 or 12.
Alice wonders what the code is.

Alice wonders whether the code is 11, or 12.

The reader is referred to Ciardelli and Roelofsen (2015, 2018) for the details.

Discourse. Finally, the fact that inquisitive semantics gives us issues that do not bake in a specific force makes it possible to use these issues as contents of a variety of speech acts, including asking, but not limited to it.

For instance, just for the sake of illustration, we could characterize the difference between asking and wondering aloud in terms of the following discourse effects. Suppose $\mathcal{I}$ is an issue. Then we may propose that:

- by performing $\textsc{Ask}(\mathcal{I})$ a speaker commits to believing the proposition $\bigcup\mathcal{I}$ (the presupposition of the issue $\mathcal{I}$) and proposes that some resolving information $s \in \mathcal{I}$ be established in the conversation;
- by performing $\textsc{Wonder-aloud}(\mathcal{I})$ a speaker commits to believing the proposition $\bigcup\mathcal{I}$ and to wondering about $\mathcal{I}$.

In both cases, the speaker is putting the same issue $\mathcal{I}$ on the table, but the move they are making is different: in the first case, they are inviting a resolution of the issue in the conversation, whereas in the second case, they are merely expressing their wondering.[16] And one can see how such a story could be extended with accounts of other discourse moves that have an issue as their content.[17]

[16] Of course, in some cases one may express one's wondering with the intention of inviting the interlocutor to resolve the issue; but in this case, the request for information is not part of the conventional effect of the speech act. Rather, it is natural to assume that it comes about as a secondary effect through the hearer's recognition of the speaker's intention.

[17] For an account of discourse effects based on inquisitive semantics, see Farkas and Roelof-

6 Conclusion

Contents of statements and contents of questions have largely parallel theoretical roles to play: (i) they are involved in the recursive process of meaning composition; (ii) they bear logical relations to each other; (iii) they play a role in our mental life, as contents of our thoughts and activities; (iv) they play a role in communication, acting as contents for a range of different speech acts. A desideratum for theories of questions is that they provide us with question contents that can account for these roles.

A line of thought in philosophy interprets questions only at the discourse level, as asking acts. However, some of the roles above do not involve discourse at all, or they involve discourse but not asking. The upshot of our discussion is that the content-force distinction is just as important for interrogative language as it is for declarative language: the content expressed by a question and the act of asking this content should be carefully distinguished.

In the final part of the paper, we focused on a recent approach to questions, namely, inquisitive semantics. This theory interprets questions by means of a notion of *support* that lays out what information is needed for a question to be resolved. The notion of support extends in a natural way to statements. In inquisitive semantics, statements and questions still express different kinds of semantic objects, but the difference is not one of semantic type.

We discussed how inquisitive semantics can be put to use in the four roles we identified. In compositional semantics, it facilitates uniform theories of environments that embed both statements and questions. In logic, it allows us to generalize the standard notion of entailment to questions, in such a way that logical dependency comes out as a facet of entailment, and can be studied with standard logical tools. The semantics can be put to use to give formal analyses of question-directed attitudes such as *wondering*. And finally, it gives us force-neutral question contents that can be used in formulating accounts of the discourse effects of different speech acts involving questions.

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sen (2017). As Farkas and Roelofsen discuss, the uniform notion of semantic content provided by inquisitive semantics may also help to simplify the discourse component of a theory, allowing one to assume that a single default force underlies both asserting and asking. Note that this simplification is *allowed* by the theory, but not *required*: inquisitive semantics is straightforwardly compatible with the view I outlined above, according to which statements and questions differ in the sort of content they express *as well as* in their conventional force.

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