

Exclamativity in discourse

Exploring the exclamative speech act
from a discourse perspective

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Exclamativity in discourse

Exploring the exclamative speech act
from a discourse perspective

Exclamativiteit in discourse

Een verkenning van de exclamatieve
taalhandeling vanuit een discourseperspectief

(met een samenvatting in het Nederlands)

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Acknowledgements

Have you ever trained for a long distance race in any endurance sport? Say, running a marathon or cycling the Alpe d'Huez mountain 6 times in a row? The process of writing a dissertation is strikingly similar to such training. Curious? Let's go! I'll walk you through the training process for a long distance race in cross-country skiing.

First of all, the most important element in the race preparation is coaching. Your coaches are the people who design the whole training process: they make a plan of workouts, give you advice about how to approach a workout and recovery, including advice about food, rest, stretching; they make sure that your condition is optimal for the key races.

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If you go for a training camp, you actually hardly ever stay training in the same place. Instead, you think: “Since I’m travelling anyway, I should explore a bit.” During my visit to Chicago I “broadened the coverage” by visiting Northwestern University and Ohio State University. At Northwestern I would like to thank Stefan Kaufmann, Elizabeth Smith, and Gregory Ward for giving me the opportunity to talk about my research. At Ohio State – next to actually training in the biggest gym I’ve ever seen – I had the chance to discuss my research with Craig Roberts. Craig, thanks for your constant interest in my work and for all the suggestions and ideas!

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Finally, I am there, at the start of my cross-country skiing race. It’s 50km – quite a long distance that I would not be able to cover optimally without extensive training. This is the moment when I can apply all I learnt in the last years, when I can put the whole training process into practice. Here’s the start shot, and we go! The race starts in nice weather conditions: good temperature, perfect snow, beautiful bright sunshine. The skis glide well, I feel good, what else would one wish? If the whole race goes this way, I’ll get a very good result

without a single problem!

But suddenly the sun disappears, in one moment, and a heavy snowfall starts, together with a strong wind blowing directly into my face. The race track starts going uphill. I keep getting snow in my glasses which I'm desperately trying to remove, but it's only snowing harder and harder. And finally when I'm able to see again, I see the following sign: → 90km to the finish

At first, this discourages me. Does it make sense to ask why I am in this situation? Why did the race get longer? Why did the weather get worse? This is a moment when one faces a choice: to stop or to continue the race? At this moment, I'm physically and mentally exhausted and feel very much like stepping out. Or I could take a break, sit on the side, relax for a moment, cry or shout in pain and pity for myself. My choice is however: "Go!" Just. Go. Forward. Just keep going uphill, keep slowly moving towards the finish line, through all the pain and exhaustion.

When I manage to divert my attention from physical pain and look around, I see people on the side of the slope. People that are not even expected to be here, standing here in cold, cheering for me, smiling, and providing me with their endless patience and support. These people are:

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... And finally I'm crossing the finish line. Falling down on the snow, without any energy, power, exhausted, full of pain, breathing hard. What do I feel? Proud?... Most importantly – thankful to all of you who have been by my side all these years.

CHAPTER 1

Introduction

Bill and Mary are attending a party organised by John. They are standing at a table with desserts and tasting various kinds. After having tasted some of them, Bill exclaims:

(1) Bill: What delicious desserts John baked!

By uttering a sentence like (1), a *wh-exclamative*, Bill expresses that he is impressed with how very delicious the desserts are that John baked. Intuitively, there are two messages conveyed by (1). The first contains Bill's subjective judgement related to John's desserts, namely that they are very delicious. The second concerns an attitude Bill has, which could be, for instance, that he is surprised or amazed at how delicious the desserts are. Beyond this descriptive intuition of what a *wh-exclamative* conveys, this dissertation aims to come to a precise characterisation of *wh-exclamative* content, whilst providing a model of what an utterer, like Bill in (1), does with a *wh-exclamative* in discourse.

In this first chapter, I introduce the foundational background needed for the discussion that follows.

1.1 Wh-exclamatives: between form and speech act

The presence of a *wh-word* in *wh-exclamatives* suggests a link between *exclamative* and *interrogative* sentences. Compare (2-a) and (2-b):

- (2) a. wh-question: What desserts did John bake?
 b. wh-exclamative: What desserts John baked!

The two sentences differ formally in at least two ways. The first difference is *syntactic*: wh-interrogative sentences exhibit subject-auxiliary inversion, whereas wh-exclamative sentences do not.¹ The second difference is *prosodic*: wh-exclamatives are pronounced with an intonation pattern that is different from the intonation for wh-interrogatives (d’Avis 2002, Castroviejo Miró 2008b, Merin and Nikolaeva 2008).² However, the most striking difference between (2-a) and (2-b) is obviously that they have a different *use* in conversation. We use questions like (2-a) to request information; (2-b) has no such use.

The role that a wh-exclamative like (2-b) plays in a conversation is, moreover, quite different from that of a declarative sentence. Consider (3):

- (3) The desserts John baked are very delicious.

This sentence simply states the fact that its speaker finds the desserts John baked very delicious, without necessarily conveying a attitude toward any aspect of this situation. In contrast, the wh-exclamative (2-b) always contributes a speaker’s attitude, in addition to informing the addressee that the speaker finds the desserts very delicious.

To sum up, wh-exclamative sentences play a role in conversation which is different from the contribution of declarative and wh-interrogative sentences. Thus, a discourse participant performs different *speech acts* when using declarative, interrogative and wh-exclamative sentences.

The nature of the relation between what has been called the *sentence type* and speech acts has been much debated in pragmatics (Sadock 1974, Levinson 1983). Usually three sentence types are distinguished: declarative, interrogative and imperative. It is relatively clear what these sentence types *do*: the declarative sentence type is conventionally associated with asserting, the interrogative type with questioning, and the imperative type with requesting. But what are wh-exclamative sentences used to do? And how could we investigate this? One could say that the wh-exclamative sentence type is associated with something that we could call *exclaiming*, or an *exclamative speech act*. However, before we can evaluate such a claim, two points need to be clarified. The first concerns the definition of the wh-exclamative sentence type (and how the notion of the sentence type should be defined in general). The second is the question of what,

¹Note that this point is valid for English, but not always in other languages. For example, in Catalan both wh-exclamative as well as wh-interrogative sentences have subject-auxiliary inversion (Castroviejo Miró 2006), whereas in Russian neither of the two do. Also, there are restrictions on which wh-words can be used to introduce a wh-exclamative (Rett 2008a).

²Most probably, an intonation pattern reserved for exclamatives exists in every language. However, I have not come across such a claim in the literature. Note that there does not seem to be a single exclamative intonation pattern, but rather a set thereof, which is also observed in Merin and Nikolaeva (2008). I am not going to describe exclamative prosodic patterns in any detail in this dissertation (but see, for example, Merin and Nikolaeva (2008) for an attempt to do so).

exactly, “exclaiming” means. Regarding the first question, in the remainder of this section I will explore whether it makes sense to approach the pragmatics of wh-exclamatives by considering a wh-exclamative sentence type. I will answer this question negatively as the relation between form and function is generally too loose to be insightful. As for the second question, defining the notion of “exclaiming” is the topic of this dissertation.

1.1.1 The mapping between syntactic form and speech act

The mapping between a sentence type and the speech act it performs is not one-to-one. On the one hand, sentences of the same syntactic form correspond to various speech acts (Gazdar 1981), and on the other hand, sentences of various forms can perform the same speech act. Many examples of the former are known. Consider example (4):

(4) Could you open the window?

Superficially, (4) has the form of a question. However, it is often used not to *ask* whether the addressee is able to open the window, but rather to politely *request* him to do so. The latter could also be achieved by using an imperative or a declarative sentence in (5):

(5) a. Open the window(, please)!
b. It’s cold in here.

Based on the discrepancy between syntactic form and conversational use of the interrogative sentence (4), such sentences are said to perform *indirect speech acts* (Sadock 1974). Another example of a wh-interrogative sentence performing an indirect speech act is in (6). Here, the same wh-sentence is used in different contexts – as a “default” wh-question in (6-a) and as a rhetorical wh-question in (6-b):

(6) a. (I don’t believe John made all this himself.) Who did he ask for help with his assignment?
b. (John is a very smart guy.) (After all,) who did he ask for help with his assignment?

Taking into account the context set up by the first sentence, we see that the interrogative in (6-a) is used by its speaker to seek information about who helped John with his assignment. In contrast, when the same interrogative sentence is used as in (6-b), it conveys the information that John did not ask anyone for help (perhaps, contrary to the addressee’s expectations, because the assignment might have been very hard). Note also that, in the first case, the speaker is seeking the answer to his question, as he does not know it himself, whereas, in the second case, he already knows the answer. Again, we see from

these examples that the same sentence form corresponds to different speech acts.

A second example concerns the declarative sentence type. As observed in Gunlogson (2001), a declarative sentence can be pronounced with a falling or rising intonation.

- (7) a. [falling intonation] John asked Mary to help him with his assignment.
 b. [rising intonation] John asked Mary to help him with his assignment?

The former intonation pattern is used to make a statement, and a declarative sentence pronounced with a rising intonation is used similarly to a polar question.³

Consider now the opposite direction of the mapping between form and speech act; i.e., when sentences of different syntactic types are used to perform the same speech act. Compare the declarative sentence in (8), pronounced with a falling intonation, to the rhetorical question from (6-b):

- (8) John didn't ask anyone for help with his assignment.

As claimed in many works (see e.g., Borkin 1971, Sadock 1971, Krifka 1995, Banuazizi and Creswell 1999, Han 2002, Ladusaw 2003, Rohde 2006), the effect of uttering a rhetorical question in a conversation is that of assertion. Most commonly, it has been claimed that what is asserted is the proposition of the opposite polarity (e.g., “*John didn't ask anyone for help with his assignment*” for (6-b)). In most contexts, the declarative sentence in (8) is also used to make such an assertion. Therefore, we see that both declarative and interrogative sentence types can perform a speech act of assertion.

To summarise, one cannot unambiguously assign the speech act performed by a sentence based purely on its syntactic form. Could it be that it is the *semantics* and not the *syntax*, of a sentence defines which speech act it performs?

1.1.2 The mapping between semantic denotation and discourse function

Sometimes it is assumed that there is a tight connection between the denotation of a sentence and the speech act it performs (e.g., Sæbø 2006). For some sentence types, this relationship may appear quite straightforward. Consider, for example, the declarative sentence type. It is fairly uncontroversial that declarative sentences denote propositions. Similarly, there is something of a consensus that declarative sentences are typically used to make statements. And this consensus seems well-supported: intuitively, propositions are well-suited both for claiming (inducing a commitment) and for informing.

³See Gunlogson (2001, 2008) for a more comprehensive description of the role of rising declaratives.

However, a proposition p is not suited any better for claiming or informing that p than it is, for example, for raising the question whether p , or expressing a desire for p to be actualised. It is only by *convention* that declarative sentences are associated with the act of claiming or informing (Lauer 2013). Various other things can, in principle, be done with propositions. At the same time, other kinds of denotations could, in principle, be used to claim or inform.

The bottom line is that the *denotation* of a sentence and the *speech act* performed by this sentence are independent to some degree, and we use linguistic conventions to distinguish what certain denotations are used for.

1.1.3 The exclamative sentence type?

As the two sections above showed, no one-to-one correspondence between the set of sentence types and the set of speech acts can be established, even for “uncontroversial” sentence types like declaratives or interrogatives. So should we define a separate sentence type for wh-exclamatives? There are several possible answers to this question considered in the literature. One option would be to treat wh-exclamatives as a separate sentence type defined based on syntactic (Elliott 1974, Grimshaw 1979, Castroviejo Miró 2006) or semantic (Zanuttini and Portner 2003, Beyssade and Marandin 2005, Sæbø 2006) criteria. Another possibility is to treat wh-exclamatives as a subtype of wh-interrogative sentences, as e.g., d’Avis (2002), Castroviejo Miró (2008b) and Sæbø (2010) do. These authors have to give up the assumption that a sentence type is directly related to some conventional speech act, which allows wh-interrogatives and wh-exclamatives to perform supposedly different speech acts. How could one decide what speech act is performed by a certain sentence? I believe it is insightful to follow Beyssade and Marandin (2005) in assuming that one crucial factor in determining the kind of speech act that is performed by an utterance is intonation.

Let us come back to the examples of falling and rising declaratives in (7) on p. 4. The declarative sentences are disambiguated by intonation (Gunlogson 2001). It would be infelicitous to use a declarative sentence with the default falling intonation, like (7-a), for asking any kind of question, as is done by (7-b). Similarly, wh-interrogatives used as information seeking questions, like in (6-a), need to be pronounced with a different intonation pattern from rhetorical questions as in (6-b). In particular, the addressee can infer, based on prosody, whether the speaker knows (or wants to know) the answer.

Consider now the following examples of sentences in French introduced by wh-words “*quel*” and “*combien*” from Beyssade and Marandin (2005):

- (9) a. *Quelle idée il a*
 QUEL idea he has
 ‘What an idea he has!’ or ‘What is his idea?’
 b. *Combien de problèmes a-t-il rencontrés*
 COMBIEN DE problems has-he met

‘How many problems he had!’ or ‘How many problems did he have?’

The sentences in (9-a) and (9-b) are ambiguous: they can both be used either to ask an information-seeking question or to convey that the speaker is impressed. Here, intonation helps the addressee to choose the right speech act. The theories of wh-exclamatives assigning them a separate sentence type could include intonation in the definition of the sentence type, in addition to other syntactic/semantic features, and claim that (9-a) pronounced with the exclamative intonation pattern is an instance of the wh-exclamative (syntactic/semantic) sentence type. The theories including wh-exclamatives in the wh-interrogative sentence type will view the wh-sentences in (9) as ambiguous. The role of intonation will then be to help choose the correct conversational use. Castroviejo Miró (2008b), for example, proposes that a wh-sentence performs the exclamative speech act, rather than functioning as an information seeking question, if it is pronounced with the distinctive exclamative intonation, and its denotation satisfies a certain condition.⁴ Note, however, that intonation does not always help to unambiguously assign the speech act. For the interrogative sentence in (10), for example, the intonation is the same both when it functions as an information seeking question and as a polite request:

(10) Could you open the window?

Here, general knowledge about the speaker, the addressee, and the conversational setting determine the speech act.

As the goal of this dissertation is to define the exclamative speech act, it does not matter for my purposes whether wh-exclamatives constitute a separate sentence type or are a subtype of wh-interrogatives. To pose the question more generally: do we need to define one single exclamative sentence type, covering all the sentences performing the exclamative speech act? There is no consensus in the literature on what kind of sentences perform the exclamative speech act. Although some attempts to address this point have been made (see e.g., Zanuttini and Portner 2003, Castroviejo Miró 2008a), they either arbitrarily include certain types of sentences, without actually formally giving a reason for this, or exclude sentences that, intuitively, do function very similarly to wh-exclamatives. I consider a number of examples below.

The first type I would like to look at is the so-called *declarative exclamative*. Consider the examples in (11) and (12):

(11) John baked very delicious desserts!

(12) These desserts John baked are so delicious!

Intuitively, both (11) and (12) express that the speaker is impressed by the fact that John baked very delicious desserts. In this sense, they are similar to the

⁴The denotation of a wh-exclamative, a set of propositions, must be linearly ordered (Castroviejo Miró 2008b). Such conditions will be an important part of the discussion in Chapter 2, where I will address the content of wh-exclamatives.

wh-exclamative in (13):

(13) What delicious desserts John baked!

Some interrogative sentences can also function as exclamatives. (14) is an example of an *inversion exclamative*, which, on the surface, looks like a yes-no question:

(14) Are John's desserts ever delicious!

Unlike a true yes-no question, (14) is not used to ask if the desserts John baked are delicious or how delicious they are. Instead, it conveys that the speaker is impressed by the desserts.

It is plausible to assume that, in terms of structure, the sentences in (11) and (12) are declarative and (14) is interrogative, but it is also plausible that these sentences all perform the exclamative speech act (at least as a part of their conversational effect), as they all express that the speaker is impressed about how delicious John's desserts are.

To sum up, if we were to define one type of sentence performing the exclamative speech act, it would be oddly heterogeneous, including (at least) wh-, declarative and inversion exclamatives. This is not the road I am going to take. Taking into account the diversity of constructions performing the exclamative speech act, it is important to define this exclamative speech act independently of sentence type. In this dissertation I will concentrate on wh-exclamatives, like (1), as a model example of an exclamative sentence. There are a number of reasons for doing a case study of wh-exclamatives rather than, for example, of declarative exclamatives. First of all, wh-exclamatives are, in some sense, "prototypical exclamatives": they occur most frequently and are always considered in the literature. This is not so for declarative exclamatives. The second reason has to do with the corpus methodology I use in the present study, which will be presented in section 1.2.2. And most importantly, wh-exclamatives are unmistakably exclamative: they are clearly nothing else but exclamatives, whereas, for example, declarative exclamatives perform a combined speech act of assertion and exclamation, as will be shown in Chapter 5. Taking these reasons into account, I will concentrate on wh-exclamatives and, at the end of Chapter 5, I will discuss how my proposal for wh-exclamatives can be extended to other kinds of sentences that involve exclamation.

In this section I showed that the kind of speech act a certain sentence performs depends on many things: not only on the (syntactically or semantically defined) sentence type, but also on intonation and general conversational knowledge. In particular, there are several types of sentences performing the exclamative speech act, of which I choose to consider wh-exclamatives as a prototypical example. But how should we approach the problem of defining the speech act performed by wh-exclamatives? This will be the topic of the next section.

1.2 Defining a speech act

1.2.1 Two perspectives on speech acts

The goal of defining the exclamative speech act can be approached from two different perspectives. One way to introduce a speech act would be by relating it to Searle's (1969) taxonomy of speech acts, which is based on the basic functions of language. He distinguishes five speech acts: assertives, directives, commissives, declarations, and expressives. In Searle's theory speech acts are described in terms of *felicity conditions* which describe what the context must be for a certain speech act to succeed. For example, the speech act of assertion performed by the declarative sentence in (15) has the felicity conditions in (15-a-c):

- (15) [John to Bill:] Mary is ill.
- a. *Preparatory conditions*:
 1. John has evidence for the truth of (or reasons to believe) the proposition p = "*Mary is ill*"
 2. It is not obvious to John and Bill that Bill already knows that Mary is ill
 - b. *Sincerity condition*: John believes that Mary is ill
 - c. *Essential condition*: An assertion of (15) "counts as undertaking to the effect that p represents an actual state of affairs" (Searle 1969)

However, I will take a route that is different from Searle's philosophical description of speech acts. Instead, the focus will be on the linguistic aspects of the taxonomy (and the exclamative speech act in particular). I will take a *context-change* (or *dialogue*) *approach* to speech acts, which aims at modelling the effect that performing a speech act has on the context. A context here is a complex notion subsuming individual and shared beliefs of the discourse participants (individual commitments and common ground), as well as components related to the conversation itself, such as the current question under discussion. Speech acts are viewed as *operations on contexts*, or, in other words, as *speech-act operators*. This perspective is closely related to Stalnaker's (1978) work on the speech act of assertion. I will use the notions "*speech act* performed by an utterance", "*context-change effect* of an utterance", and "*discourse effect* of an utterance" interchangeably. Discourse behaviour of sentences will be studied by looking at the "dialogue environments" in which these sentences occur. I will assume that discourse behaviour of a sentence gives us useful information about the speech act the utterance performs.⁵ This kind of information cannot

⁵ Of course, in addition to information about the discourse behaviour of a certain type of sentence, we still need something Searle-like, too. For example, the sincerity condition for asserting the proposition p , i.e., that the speaker believes p , cannot be seen in the discourse behaviour of the sentence.

always be found in Searle's taxonomy. However, I will leave open to what extent discourse behaviour *fully determines* or characterises the speech act.

Let me give a couple of examples to illustrate that the discourse behaviour of a certain type of sentence can give us information about the speech act it performs that is not directly encoded in Searle's felicity conditions. The first example concerns the speech act of assertion made by a declarative sentence. We can observe that, in a conversation, assertions can be challenged or confirmed by the audience using challenge or confirmation markers like "No" or "Yes", which is illustrated in (16-a) and (16-b), respectively:

- (16) A: John invited Mary to his birthday party.
 a. B: No, that's not true. He invited Sue.
 b. B: Yes, and he also invited Sue.

In addition, something that has just been asserted by a discourse participant cannot be denied by that same person in the subsequent discourse:

- (17) A: John invited Mary to his birthday party. #In fact, he didn't invite her.

As we will see below, the discourse behaviour illustrated in (16) is prototypically assertive, while the property in (17) is common for assertive and exclamative speech acts.

In Searle (1969), an assertion of the proposition p "counts as an undertaking to the effect that p represents an actual state of affairs" and is felicitous only if, among other conditions, one of the preparatory conditions is satisfied. It says that A must have evidence for the truth of p . So for the continuation in (17) to be felicitous, A must have evidence both for John inviting and not inviting Mary to the party, which is contradictory.⁶ However, the behaviour of A's utterance in (16) with respect to B's challenge and confirmation does not directly follow from Searle's view.

The conclusion to draw from the discussion above is that an accurate description of the discourse behaviour of declarative sentences helps us to give a context-change-based definition of the assertion speech act. In particular, the fact that assertions can be challenged by the addressee led Stalnaker (1978) to suggest that an assertion is a *proposal* to update the common ground with p that the speaker makes, rather than the *update* itself not leaving the addressee any possibility to reject p . This proposal can be (verbally) rejected or accepted by the audience, as is done in (16).

Another example of discourse behaviour providing information about a speech act comes from information-seeking questions. Consider, for instance,

⁶Here, I use "contradictory evidence" in a strong sense: when one presents evidence for a proposition p followed by evidence for its negation, as in example (17), it is contradictory. There is also a weak sense of contradictory evidence: for instance, police might have evidence for John killing Bill, together with having evidence that it was *not* John who killed Bill. (Thanks to Cleo Condoravdi for raising this point.)

the yes-no question in (18):

(18) A: Is Susan at home?

The conversation started by A's utterance in (18) is most often continued by answering his question with "Yes" or "No". In Searle's (1969) speech act taxonomy a question "*whether p*" "counts as an attempt to elicit this information" from the addressee. It is difficult to conclude from this informal description that yes/no answers are a default way to react to a yes-no question. The context-change approach to speech acts formalises the effect of such a question on the dialogue and reactions to it. For example, in Farkas and Bruce (2009), performing the speech act of question affects a specific contextual component that keeps track of issues that currently need to be resolved in the conversation – the question under discussion component. This notion is used to register the need to answer the question in a dialogue.

To sum up, some features of the speech acts of assertion and question have a discourse aspect, and can be learnt from how declarative and interrogative sentences function in a dialogue.

1.2.2 The exclamative speech act?

Recall the discussion in section 1.1.3 about whether it makes sense to define a separate sentence type for wh-exclamatives. The same question can be asked at the speech act level: do we actually need a separate exclamative speech act?

At the very beginning of this chapter, I claimed that the intuition for a wh-exclamative like (1), repeated below, is that it conveys two things: that the desserts are very delicious, and Bill is impressed with it. The content of (1) is informally spelled out in (1-a):

- (1) Bill: What delicious desserts John baked!
- a. The speaker, Bill, is impressed by the delicious desserts that John baked

Given this content of a wh-exclamative, we could wonder whether we need to assume the existence of a separate exclamative speech act. Why couldn't we just say that wh-exclamative content is asserted? If a discourse perspective on speech acts is to make sense, then using a wh-exclamative in conversation will need to differ from simply asserting wh-exclamative contents. And this is, indeed, the case, as was already noted in the literature. For example, for answering questions one would usually use an assertion. But, as Grimshaw (1979) pointed out, wh-exclamatives cannot be used to answer questions, which would show that wh-exclamatives do not assert. Similarly, Rett (2011) reaches the conclusion that wh-exclamatives do not perform assertions based on the claim that they cannot be challenged by the addressee, which *is* possible for assertions. The question whether wh-exclamatives and assertions function similarly in a dialogue has thus been already considered in the literature. However, the

argumentation usually boils down to considering just one or two discourse properties differentiating between assertive and exclamative speech acts, and those are supported only by constructed examples. To my knowledge, only Castroviejo Miró (2008a) explores a wider set of criteria differentiating between the discourse effects of declarative and wh-exclamative sentences.

My goal in this dissertation with respect to a discourse perspective on speech acts is twofold. First of all, I aim at providing a more complete and systematic overview of the discourse properties of wh-exclamatives than is done in earlier literature. In addition, I will illustrate the properties with naturally occurring examples taken from the Corpus of Contemporary American English (COCA). For practical reasons, I concentrate on the study of discourse properties of *what a*-exclamatives, rather than any other kind of exclamative sentences. One could easily search for the strings “*what a*” or “*what an*” in the COCA corpus, and some of the results will be wh-exclamatives. The same strategy is hardly applicable, for example, to declarative exclamatives. *How*-exclamatives, like “*How tall John is!*”, which are often considered in the literature, have very few occurrences in the corpus. However, my ultimate goal is not just to *describe* or *list* the properties of wh-exclamatives, but to define the exclamative speech act in a formal model of discourse. From this definition, I expect to be able to derive the discourse properties of wh-exclamatives. This step has not been explicitly taken in the literature before.

1.3 Plan of the dissertation

This dissertation presents a case study of the relation between speech acts and discourse properties. Its main goal is to define the exclamative speech act in terms of a context-change approach, based on the example of wh-exclamatives.

An alternative to the context-change perspective on defining the exclamative speech act is relating it to Searle’s taxonomy of speech acts. There, exclamation is an *expressive speech act* and, according to Searle (1979), the point of using an expressive speech act is to “express the psychological state specified in the sincerity condition about a state of affairs specified in the propositional content”. But what does it mean “*to express*” a psychological state? This is the central question I will attempt to answer in this dissertation.

By “defining the exclamative speech act”, I mean a formalisation of context-change effects of exclamative sentences in a particular model of context and inspired by the discourse properties of wh-exclamatives. In other words, I am interested in speech acts as discourse moves. Recall the point I made for assertion and question speech acts in section 1.2.1: the description of discourse behaviour of sentences performing these speech acts provides additional information to Searle’s philosophical view of assertion and question. I will generalise this point for wh-exclamatives and suggest a definition of the exclamative speech act inspired by the discourse properties of wh-exclamatives.

The structure of the dissertation is as follows:

Chapter 2 introduces the necessary background for my own research. In order to answer the question about the context-change effect of wh-exclamatives, we first need to look at what propositional content they convey. Chapter 2 poses two questions about wh-exclamatives, the *what-question*: What propositional content do wh-exclamatives convey?, and the *how-question*: How do wh-exclamatives convey their content? The latter concerns how wh-exclamative content(s) functions in discourse.

First, I consider answers to both questions as they have been given in the background literature. Wh-exclamatives are often taken to convey two types of contents: one conveying information about the situation towards which the wh-exclamative is directed, and another carrying information about a speaker's attitude directed towards this situation. These two contents are taken to function in discourse in different ways (options include: the contents are presupposed, taken for granted, conventionally implicated). Next, I identify problems and issues with the answers to the what- and how-questions given in the literature on which I am going to improve. Finally, I also suggest my answer for the what-question, following the work in Chernilovskaya and Nouwen (2012). I will claim that wh-exclamatives convey a single content, and the key idea behind this proposal is that wh-exclamatives express a noteworthiness evaluation by the speaker.

In *Chapter 3*, I provide a systematic discussion of the discourse behaviour of wh-exclamatives based on naturally-occurring corpus examples. Two main questions are addressed here. The first one concerns the status of wh-exclamative content: should it be considered as asserted, presupposed or conventionally implicated, based on discourse behaviour? The second question is methodological: Which discourse properties can be used as rigorous empirical characteristics of the exclamative speech act? I will show that some discourse properties that are straightforward, for example, for assertions, are not directly applicable to wh-exclamatives. To give a brief example, assertions can nearly always be used to answer questions, whereas wh-exclamatives are much more restricted in this respect.

Also in Chapter 3, I will systematically consider a number of the discourse properties of wh-exclamatives. Some of these properties have been noticed before in the literature, others are new. For example, it has already been noted in Rett (2011) that wh-exclamatives cannot be challenged by the addressee with “*No, that's not true*”. I will consider addressee's challenges of wh-exclamatives in more detail, based on corpus examples, and discover a new feature of challenges with “*No*”, namely that “*No*” can follow a wh-exclamative, but it reacts to the utterance preceding the exclamative. As for new discourse properties of wh-exclamatives, I will discuss their confirmation and acceptance – properties that were considered only in my joint research with Cleo Condoravdi and Sven Lauer (Chernilovskaya, Condoravdi and Lauer 2012b).

For each property, the contrast between different types of contents – e.g., asserted, appositive, and wh-exclamative contents – is highlighted. The main

point made in this chapter about the discourse status of wh-exclamative content is that it is not asserted, but is not distinguishable in its discourse behaviour from other non-asserted contents (for example, presupposed and conventionally-implicated contents). In addition, some of the discourse properties will turn out to be inconclusive for wh-exclamatives or not formulated well enough to be directly used for a formally definition of the exclamative speech act.

Chapter 4 introduces a model of context from Farkas and Bruce (2009) that represents the interaction between conversational participants. This model will serve as a basis for defining context-change effects of various speech acts. Farkas and Bruce's (2009) analysis of the assertion speech-act operator is described in this chapter. The idea is that assertion of a proposition represents a proposal to update the common ground of the conversation. This context-change effect is inspired by patterns in the discourse behaviour of assertions, in particular, by the fact that assertions can be accepted or challenged. Other discourse properties of asserted content discussed in Chapter 3 also follow from Farkas and Bruce's (2009) proposal.

After having discussed asserted content, I turn to non-asserted content and its effect on context. Considering examples of appositive clauses and their discourse properties, we learn from Chapter 3 that appositive content cannot be challenged directly or accepted. This leads to the proposal that appositive content does not make part of the proposal to update the common ground, but goes to the common ground directly. This notion of the direct Common Ground update is going to play a crucial role in Chapter 5.

With the model of context from Chapter 4, in *Chapter 5* I formulate the context-change effect of the exclamative speech-act operator, which constitutes my answer to the how-question asked in Chapter 2. I will claim that a wh-exclamative performs a direct update of the Common Ground with its content expressing a speaker's noteworthiness evaluation. I will also suggest that wh-exclamatives are conventionally associated with showing that the speaker is undergoing an emotive event of evaluating something as noteworthy. My hypothesis is that this is the nature of exclaiming. This is what all types of utterances that *exclaim* have in common. Finally, I will pose some questions for future research.

2.1 Introduction

My main goal in this dissertation is to define the exclamative speech act from the context-change, or dialogue, perspective. To see *how* exclamatives affect the context, I first need to look at *what* propositional contents they convey. I will focus on the following two questions as applied to wh-exclamatives:

- (1) a. What-question: *What type(s) of propositional content do wh-exclamatives convey?*
- b. How-question: *How do wh-exclamatives convey their content?*

Starting with the what-question, one possible answer is given in the work of Castroviejo Miró (2008a): she suggests that wh-exclamatives convey two types of propositional content – *descriptive* and *expressive*. Consider example (2) for illustration. Here, the descriptive content contains the speaker’s evaluation of the dessert as delicious, and the expressive content conveys an attitude of the speaker:

- (2) A: What a delicious dessert John baked!
 - a. descriptive content: The dessert John baked is very delicious
 - b. expressive content: The speaker is impressed by the dessert being very delicious

The how-question from (1-b) concerns the role of certain propositional content in discourse. In some sense, it is a question about the *pragmatic* status of *seman-*

tic content defined in the what-question. In the literature, there are several ways to answer the how-question for wh-exclamatives, which are not completely independent of each other. One approach would be to characterise a certain propositional content of an exclamative as being asserted/presupposed/conventionally implicated. Another option is to consider a proposition as a condition which must be satisfied in order for the utterance of a sentence to be felicitous – i.e., as a felicity condition (Searle 1969).

The goal of this chapter is twofold. The first goal is to describe answers to the what- and how-questions for wh-exclamatives as they have been given in the literature. In section 2.2, I will discuss and critically evaluate three works, namely Rett (2011), Zanuttini and Portner (2003) and Castroviejo Miró (2008a). These are, of course, not the only analyses of wh-exclamatives, but they are representative semantic and pragmatic theories of wh-exclamatives.

The second goal of this chapter is to introduce my own proposal for answering the what-question, following Chernilovskaya and Nouwen (2012) and Nouwen and Chernilovskaya (submitted), which will serve as a basis for my how-proposal, presented in Chapter 5. The initial what-proposal will be made in section 2.3, the essence of which is that wh-exclamatives express a noteworthiness evaluation. I am going to propose that a wh-exclamative like (3) conveys, roughly, the content as in (3-a):

- (3) A: What a delicious dessert John baked!
 a. A finds the delicious dessert John baked noteworthy

“*Noteworthy*” in (3-a) is used as a generic term covering all possible ways in which an entity can stand out. For example, A could use the exclamative in (3) to convey that the dessert is particularly delicious or has an extraordinary shape. Noteworthiness is at the heart of exclamation: if something is noteworthy, it is exclamation-worthy. In addition, section 2.3 will present motivation for my proposal, as well as discussing issues with the previous analyses and how my proposal improves on them. At the end of this chapter, in section 2.3.5, I will raise a point about the perspective of noteworthiness evaluation expressed by wh-exclamatives, which is also an influence on the what-proposal. The final answer to the what-question will be that wh-exclamatives express a *speaker’s* noteworthiness evaluation, along the lines of (3) for the wh-exclamative in (2). This will be presented in Chapter 5. In the concluding section 2.4, I return to answers for the how-question in the literature and give an overview of main issues that I am going to address in Chapter 5, where my proposal for answering the how-question will be made.

2.2 Overview of background literature

2.2.1 Rett (2011)

Description

Rett (2011) proposes that the semantics of wh-exclamatives involves degree intensification (see Castroviejo Miró 2006, Castroviejo Miró 2008a, Rett 2008b, for related approaches). In Rett’s theory, the denotation of (4-a) is the degree predicate in (4-b), and an utterance of (4-a) expresses the speaker’s surprise/the unexpectedness of the beauty of the song that John wrote. (See Rett (2011) for more details of the derivation of (4-b).)

- (4) a. What a beautiful song John wrote!
 b. $\lambda d.\exists x \left(\text{song}(x) \wedge \text{wrote}(j, x) \wedge \text{beautiful}(x, d) \right)$

If a wh-exclamative does not contain an overt gradable adjective, such as “*beautiful*” in (4-a), a measurement operator $M - Op$ is inserted, which is defined in (5):

- (5) $M - Op: \lambda d.\lambda x.\mu_\alpha(x) = d$, where μ_α is a measurement function with the contextually defined dimension α

Rett’s idea is that $M - Op$ is a function from (measurable) entities to degrees which can be freely inserted in a wh-exclamative. Basically, the measurement operator plays the role of a silent adjective. This way, (6-a), for instance, ends up expressing how α John’s song was. This is the predicate in (6-b):

- (6) a. What a song John wrote!
 b. $\lambda d.\exists x[\text{song}(x) \wedge \text{wrote}(j, x) \wedge \mu_\alpha(x) = d]$

Since α in (6-b) is determined contextually, possible interpretations of (6-a) include:

- (7) a. What a *beautiful* song John wrote!
 b. What a *weird* song John wrote!
 c. What a *complex* song John wrote!
 d. etc.

So, in Rett’s theory, wh-exclamatives are taken to denote (derived) degree properties, which are the descriptive contents of wh-exclamatives. Let us now see how this denotation relates to the attitudes that exclamatives express, or, in other words, try to find what the expressive content of wh-exclamatives looks like. Rett’s proposal for the exclamative speech act looks as follows, assuming that the context C includes the speaker s_C , and the world w_C :

- (8) $E - Force(p)$, uttered by s_C , is *appropriate* in a context C if p is salient

and true in w_C . When appropriate, $E-Force(p)$ counts as an expression that s_C had not expected that p . (Rett 2011)

From (8) we see that the expressive content of wh-exclamatives conveys the *unexpectedness* attitude of the speaker. Note that the exclamative illocutionary force operator $E-Force$ applies to a *proposition*, whereas the denotation (descriptive content) of a wh-exclamative is a *degree property*. In fact, Rett assumes that the context provides an argument instantiating the degree property, which results in a proposition with an unbound variable. For (4-a), for instance, the denotation is in (9-a), which results in the open proposition in (9-b) when the degree argument is filled:

- (9) a. $D = \lambda d. \exists x [song(x) \wedge wrote(j, x) \wedge beautiful(x, d)]$
 b. $p = D(d') = \exists x [song(x) \wedge wrote(j, x) \wedge beautiful(x, d')]$

The proposition from (9-b) then serves as an input to the exclamative illocutionary force, and the unbound variable d' is bound via existential closure:

- (10) $E-Force(p)$ counts as an expression that $\exists d'$ such that s_C had not expected that $D(d')$ (cf. Rett (2011), ex. (42), p. 431)

To sum up the discussion above, in Rett's theory, we can see the distinction between Castroviejo Miró's (2008a) descriptive and expressive content. The compositionally-derived denotation of a wh-exclamative is a degree property which then gets converted to an open proposition via the process in (9). This proposition corresponds to the descriptive content of a wh-exclamative. The expressive content is, intuitively, a proposition related to the expression of a speaker's attitude. For Rett, it would be the proposition expressing that the speaker had not expected that the descriptive content would be true. This is, in sum, Rett's answer to the what-question for wh-exclamatives.

Let us now have a closer look at *how* Rett's wh-exclamative content types function in discourse. As we see from (10), the descriptive content p serves as a condition on an *appropriate utterance* of a wh-exclamative, i.e., a *felicity condition*: p must be true in the world where the wh-exclamative is uttered. As for the expressive content, it is viewed as the *essential effect* of uttering a wh-exclamative (using Searle's (1969) terminology). As suggested in Rett's (2011) (10), an utterance of a wh-exclamative "counts as an expression" of surprise/unexpectedness.

Note that Rett's analysis of the exclamative speech-act operator can also be formulated in slightly different terms. In his influential paper on expressive meaning, Kaplan (1999/2004) introduces the notion of *expressive correctness* as a counterpart to *descriptive correctness* of an utterance (i.e. truth of descriptive statements). Extrapolating from his treatment of expressives like "*Ouch*" and "*Oops*", I assume that he would describe the use of wh-exclamatives as follows: An utterance of an exclamative with the descriptive content p is *expressively correct* if its speaker did not expect that p would be true. This is also how Rett

(2008a) describes the use of wh-exclamatives: using the notion of expressive correctness.

Evaluation

In Rett's theory, wh-exclamatives are necessarily scalar: their denotation is a (derived) degree property. (4-a), for instance, is associated with a gradable predicate "*beautiful*", and (6) with some contextually determined gradable adjective. I will take this as a limitation of Rett's approach. The reason for this is that, in some languages other than English, there exist wh-exclamatives that are not scalar in nature. They would not be covered by theories like Rett (2011). (In fact, as we will see below, Zanuttini and Portner's (2003) and Castroviejo Miró's (2008a) theories encounter the same problem.) Consider a Dutch example of a who-exclamative in (11):

- (11) *Wie ik net gezien heb!*
 who I just seen have

(11) is used to express that its speaker has just seen someone who he did not expect to see. This wh-exclamative, however, is not associated with a gradable predicate: the person does not have to be exceptionally tall or beautiful; instead, *the fact that the speaker saw this person* must be noteworthy. Section 2.3 contains a more detailed discussion of non-scalar wh-exclamatives. There I will also suggest a generic theory that is applicable to both scalar and non-scalar exclamatives.

With respect to the how-question in Rett's (2011) proposal, there are two further main issues that I see as problematic. One is an argument against considering the descriptive content of a wh-exclamative as a felicity/appropriateness condition, and it has to do with insincere uses of wh-exclamatives. If the speaker utters a wh-exclamative without believing that the descriptive content is true, an attitude conveyed in his use of a wh-exclamative is insincere, but the utterance is still appropriate/felicitous. Consider an example of a polite use of a wh-exclamative:

- (12) [Bill to John; Bill, in fact, does not think that the dessert John baked is delicious]
 What a delicious dessert you've baked!

Clearly, Bill does not believe the descriptive content of the wh-exclamative in (12). Therefore, Rett's theory predicts the utterance of (12) to be inappropriate/infelicitous. My view is that the discourse update happens anyway, even if the utterance is insincere. By uttering (12), Bill is willing to create an impression that he does find the dessert delicious and is impressed with it (to take one attitude as an example). My theory will aim at describing the discourse update made by an exclamative utterance, rather than considering conditions that the context of the exclamative must satisfy. An exclamative whose speaker

is insincere makes the same update as other exclamatives.

Characterising the descriptive content as a condition on *expressive correctness* of a wh-exclamative runs into the same kind of problem. It seems wrong to say that someone who uses a wh-exclamative strategically, without actually having any kind of attitude, has acted “incorrectly”. For example, the speaker of (12) was insincere when he used the wh-exclamative, but we cannot say that he does not know what a wh-exclamative means or how it should be used correctly (Chernilovskaya, Condoravdi and Lauer 2012a).¹

This does not mean to say that the notion of correctness *never* plays a role in language. Kaplan himself gives an example of “*Goodbye!*” whose “meaning” is exhausted by the rules for governing its use (Kaplan 1999/2004). Suppose that someone uses “*Goodbye!*” as a greeting, or as an interjection in the middle of a conversation. In that case, it seems right to say that the speaker has used “*Goodbye!*” incorrectly, and if he does not notice his mistake, we would say he does not know what “*Goodbye!*” means (or at least, how “*Goodbye!*” is used).

The second problem, or rather a limitation, of Rett’s how-proposal is common to all Searle-like approaches to speech acts and has already been mentioned above. Rett essentially views the expressive content of a wh-exclamative as an essential condition for the exclamative speech act. She says that an utterance of a wh-exclamative “*counts as an expression*” of surprise/unexpectedness (Rett 2011, p. 429). Merin and Nikolaeva (2008, p. 1) make a proposal in a similar vein. What they say, in the spirit of Searle, is that exclamatives communicate “*an ostensible drastic change in speaker’s expectation*”. But I would like to go further than merely saying that an utterance of a wh-exclamative counts as an expression of surprise. In Chapter 5, I aim at *spelling out* what this means in terms of a discourse model.

Related to the previous point, a Searle-like perspective cannot straightforwardly be used to make predictions about discourse behaviour, precisely because what “expressing” means is not clearly defined. For example, it is difficult to provide intuitions on whether the addressee of a wh-exclamative can accept or challenge the speaker’s “*expression of surprise*”. (See also examples in section 1.2.1 of Chapter 1, for speech acts of assertion and question.) For the proposal I am going to make in Chapter 5, I will show how the discourse properties can be derived.

¹Merin and Nikolaeva (2008) take Kaplan’s notion of expressive correctness to be the same as Searle’s (1969) sincerity condition. This might seem true for expressives like “*Ouch!*” and “*Oops!*”, but, in general, this claim is questionable. Consider again “*Goodbye!*”: following Kaplan, if A used “*Goodbye!*” as a greeting, this use is not correct. However, we cannot make any claim about whether A was sincere in greeting the audience in this way.

2.2.2 Zanuttini and Portner (2003)

Description

As the denotation of a wh-exclamative clause, Zanuttini and Portner (2003) use Karttunen’s (1977) proposal for wh-questions: the underlying wh-clause denotes the set of true answers to the question. Consider the wh-exclamative in (13):

(13) How tall John is!

The denotation of (13), $\llbracket S \rrbracket_w$, is a singleton set including the proposition that expresses what John’s height is. For instance, in a situation when John’s height is 1.9m, the true answer to the underlying question “*How tall is John?*” is the proposition “*John is 1.9m tall*”. In Zanuttini and Portner’s (2003) there are two interacting mechanisms that, together, account for the meaning of a wh-exclamative. Those are *domain widening* and *factivity*. Let me start with introducing domain widening (denoted as *DW*). First of all, the wh-clause underlying a wh-exclamative is related to a certain *domain of quantification* D which must be ordered. For (13), for example, the relevant domain of quantification is made up of degrees of height, and the natural order on this domain is the one that is associated to the gradable adjective “*tall*”. The domain D is interpreted as consisting of “normal” entities, or entities that are usually under consideration with respect to the ordering on D . The denotation of a wh-clause related to the domain of quantification D with the order $<$ on it is denoted as $\llbracket S \rrbracket_{w,D',<}$.

Domain widening is introduced in Zanuttini and Portner (2003) in the following way:

(14) Suppose D is the initial domain of quantification with the ordering $<$ on it. If a clause S contains *DW*, then the domain D is widened to D' in such a way that:

- a. $\llbracket S \rrbracket_{w,D',<} \setminus \llbracket S \rrbracket_{w,D,<} \neq \emptyset$
- b. $\forall x, \forall y \left((x \in D \wedge y \in D' \setminus D) \rightarrow x < y \right)$
(Zanuttini and Portner 2003, cf. ex. (32) on p. 52)

The (a)-clause in (14) shows the effect of widening the domain of quantification, and the (b)-clause states that all the entities in the widened part of the domain ($D' \setminus D$) outrank all the entities in D with respect to the order $<$. Coming back to the example in (13), the original domain of heights including “normal” heights could consist, for example, of all heights up to 1.8m. This domain is then extended to include heights up to 1.9m.

I turn now to factivity (denoted as *FACT*), which is defined by Zanuttini and Portner (2003) as follows:

(15) Suppose S is a wh-clause containing *FACT* and *DW*, D is the domain

of quantification which is widened to D' . Then S presupposes that:

$$\forall p \in \llbracket S \rrbracket_{w,D',<} \setminus \llbracket S \rrbracket_{w,D,<} : p \text{ is true}$$

(Zanuttini and Portner 2003, cf. ex. (36) on p. 54)

(15) says that any proposition that involves entities from the widened part of the domain is presupposed to be true. In our example (13) the combination of *FACT* and *DW* says that John's actual height must be in the widened part of the domain; in other words, it is a height that would not normally be considered. To reformulate, John's height must be *off the scale*.

I will take Zanuttini and Portner's answer to the what-question to be the following: wh-exclamatives convey one content, namely the descriptive content – the set of true answers to the underlying question. As for *how* the wh-exclamative (descriptive) content is conveyed, Zanuttini and Portner's claim is that it is presupposed.

What would correspond to the expressive content is not explicitly identified in Zanuttini and Portner's (2003) theory. They give two reasons for this. Firstly, they claim that wh-exclamatives do not necessarily express a speaker's strong feelings. For instance, they take the exclamative "*What a cool day it was yesterday in New Delhi!*" to "simply indicate something surprising" rather than to convey any emotional reaction of the speaker. Secondly, the concepts behind the "emotive" part of the exclamative meaning – like "unexpectedness", "extreme degree", "speaker's strong feelings", and so on – are vague, and Zanuttini and Portner (2003) do not want to build their theory on such concepts. Instead, they suggest the formal mechanisms of domain widening and factivity. In case a wh-exclamative does express a speaker's feelings, the attitude can be derived from factivity and widening, based on world knowledge. Domain widening brings additional "abnormal" possibilities to the original domain including only "normal" entities, and learning that original expectations of the speaker are not met can sometimes cause an emotional reaction of the speaker. In other words, what would be called the expressive content of a wh-exclamative is, in this theory, a side effect of uttering a wh-exclamative.

Evaluation

First of all, note that Zanuttini and Portner's analysis of wh-exclamatives is scalar, just as Rett's (2011) analysis. Although Zanuttini and Portner do not insert a gradable predicate directly into a wh-exclamative, the assumption is that the domain of quantification with respect to which the wh-clause is interpreted must be ordered. This means that entities under consideration are necessarily located on some contextually defined *scale*. As will be discussed in section 2.3.3, not all wh-exclamatives are scalar, and those which are not cannot be covered in this approach.

Another aspect of Zanuttini and Portner's (2003) analysis that I see as problematic is the discourse status of the descriptive content of a wh-exclamative. It is labelled as presupposed, which is the effect of factivity of wh-exclamatives.

Following Zanuttini and Portner (2003), factivity of wh-exclamatives is derived from the fact that wh-exclamatives can be embedded only under factive predicates, as can be seen from the examples in (16):

- (16) Mary is amazed at /*thinks/*wonders how very cute he is.

As already done in Rett (2011), I assume that embedded wh-exclamatives constitute an entirely different phenomenon from matrix wh-exclamatives. First of all, the declarative sentence in (17) involving a so-called “embedded wh-exclamative” performs the speech act of assertion, rather than the exclamative speech act:

- (17) Mary is amazed at how very cute he is.

In particular, (17) can be reacted to with “*No, that’s not true*”, whereas the respective how-exclamative cannot:²

- (18) a. A: Mary is amazed at how very cute he is.
 B: No, that’s not true.
 b. A: How very cute he is!
 B: #No, that’s not true.

Another argument supporting that embedded wh-exclamatives are different from matrix wh-exclamatives comes from the fact that any wh-clause can be embedded under “*to be amazed at*”, whereas only some form grammatical matrix wh-exclamatives. Consider examples of matrix and embedded *who*-clauses:

- (19) a. *Who I saw yesterday!
 b. Mary is amazed at who I saw yesterday.

As shown in (19), *who*-exclamatives are ungrammatical in English. At the same time, such a clause can be embedded. The conclusion that can be drawn from this discussion, which is also one of the drawbacks of Zanuttini and Portner’s theory, is that embedded and matrix wh-exclamatives constitute different phenomena. (See also Rett (2011) for more arguments against assimilating wh-exclamatives to sentences embedding (exclamative) wh-clauses.) I will come back to and describe consequences of this claim in the next section.

Another point where my theory will differ from Zanuttini and Portner (2003) is in regards to information about attitudes expressed by wh-exclamatives as derived via a contextual inference. In my proposal, I will explore another possibility; namely, directly including an attitude into the content conveyed by a wh-exclamative.

²Chapter 3 will present more discourse properties distinguishing speech acts of assertion and exclamatives.

2.2.3 Castroviejo Miró (2008)

Description

As mentioned at the beginning of this chapter, Castroviejo Miró (2008a) suggested a distinction between descriptive and expressive content. Consider example (20), which is the English translation of one of her examples in Catalan. The two content types are in (20-a) and (b):³

- (20) What an entertaining movie I saw!
- a. descriptive content:
 $\exists x \left(movie(x) \wedge TAN(entertaining(x))(d_i) \wedge saw(Speaker, x) \right)$,
 where:
 (i) $TAN(d_S)(d_R) = 1$ iff $d_S \geq d_R$
 (ii) $d_S = d_i$
 (iii) d_i is a degree recovered from the context that is high
- b. expressive content:
 The speaker experiences an attitude towards the fact that
 $\wedge TAN(entertaining(x))(d_i)$
 (Castroviejo Miró 2008a, cf. ex. (30) on p. 57)

In words, the descriptive content of the wh-exclamative in (20) is the proposition that the speaker saw a very entertaining movie, and the expressive content is that he has some attitude towards the fact that this movie is very entertaining. This constitutes Castroviejo Miró's (2008a) answer to the what-question.

As for the how-question, in Castroviejo Miró's (2008a) theory the descriptive content is taken for granted, and the expressive content is a conventional implicature (CI)/expressive presupposition associated with the wh-exclamative construction. That the expressive content is a CI is shown based on a set of properties from Potts (2005). Then, following Schlenker (2007), Castroviejo Miró labels the status of the expressive content as an "expressive presupposition".

Evaluation

Just as was the case for Rett's and Zanuttini and Portner's analyses, Castroviejo Miró associates wh-exclamatives with scalarity. Her theory would not cover non-scalar wh-exclamatives. This issue will be covered in section 2.3.3.

My first objection against Castroviejo Miró's answer to the how-question is that the descriptive content of wh-exclamatives cannot be taken for granted. For a proposition p to be *taken for granted* means that the speaker assumes that the addressee already knows that p is true. For a wh-exclamative in (21),

³In Castroviejo Miró's analysis "*entertaining*" is a relation between individuals and degrees.

for example, A would have to assume that p – already before the utterance – is taken to be true by the addressee:

- (21) A: What a delicious dessert John baked!
 descriptive content: $p = \text{“the dessert John baked is very delicious”}$

This is, however, not necessary. The addressee B does not need to share the generic evaluation of the dessert. Moreover, B can overtly challenge it, for example, as in (22):

- (22) B: It is not delicious at all!

Also, B does not even need to have any opinion about the dessert before the wh-exclamative is uttered: B could take A’s utterance as conveying information which is new to him. Merin and Nikolaeva (2008), for instance, give the following example to show that the addressee does not necessarily need to know the descriptive content, which is clear from the situation described in (23-a):

- (23) a. [I look on the street outside, through the closed, soundproofed window. You are in bed, with the blanket drawn over your head. A Mercedes passes by. I utter:]
 b. What a beautiful Mercedes!

In this example the addressee has no chance even to see the Mercedes, let alone to have any judgment about how beautiful it is. This kind of example shows that the descriptive content of a wh-exclamative is not taken for granted by the speaker of the wh-exclamative.

Turning to the status of the expressive content of a wh-exclamative, Castroviejo Miró labels it as an “expressive presupposition”, following Schlenker (2007). She first shows that the expressive content is a CI, based on Potts’ (2005) tests identifying CIs. However, as Castroviejo Miró herself also admits, it is not true that all the tests can be applied to wh-exclamatives. Furthermore, Castroviejo Miró discusses the tests in passing, without going into too much detail. For instance, the fact that the expressive content of wh-exclamatives is non-deniable is shown on a single constructed example (24):

- (24) A: What a nice girl Allison is!
 B: #That is not true. You’re not emotional.

In Chapter 3, I will show that this property, among others, is much more subtle than just saying “the expressive content of wh-exclamatives cannot be denied”. In fact, *any* kind of content can be denied, but the ways to do so differ for different kinds of contents. In addition, I provide corpus examples to support this claim.

Castroviejo Miró suggests that, in order not to multiply concepts without necessity, we should say that the expressive content of a wh-exclamative is an *expressive presupposition*, rather than a *conventional implicature*. However,

the difference between labels like “presupposition” and “CI” lies in scopal behaviour: CIs project even in contexts where presuppositions do not. Consider, for example, so-called *presupposition plugs*: when conventionally implicated content is embedded under a verb like “believe”, the speaker of the sentence is committed to the content, independently of what the subject of the sentence is (Potts 2007, Abels 2010). In (25) “*that bastard Kresge*” conventionally implicates that Kresge is bad, in the speaker’s opinion. Therefore, the continuation in (25) is infelicitous:

- (25) Sue believes that that bastard Kresge should be fired. #I think he’s a good guy. (Potts 2007)

Presupposed content does not project in the same way. In (26), for instance, the presupposition of “*realize*” is satisfied if Sue believes that ultraviolet rays invigorate the mind. In other words, the speaker of (26) does not have to share this belief:

- (26) Sue believes that Ed realizes that ultraviolet rays invigorate the mind. (Potts 2007)

The point is that tests distinguishing between presuppositions and conventional implicatures all involve embedding content under various semantic operators, and this is exactly what cannot be tested for (matrix) exclamatives.⁴ As mentioned in the previous section, *embedded* wh-exclamatives constitute a different phenomenon from *matrix* wh-exclamatives.

In sum, I consider exclamativity to constitute a matrix phenomenon, and my goal is to define the exclamative speech-act operator, rather than suggest a theory of wh-clauses embedded under “exclamative-like” verbs. This is why, in my theory, I would like to avoid tests involving embedding of wh-exclamatives, contrary to Zanuttini and Portner’s (2003) and Castroviejo Miró’s (2008a) methods.

2.3 Proposal for the what-question

In the previous section, I reviewed answers to the what- and how-questions given in the literature. My main point of interest in the dissertation is the *how*-question, i.e. investigating how wh-exclamatives convey their contents. But, of course, the how-question cannot be answered without defining what the contents of wh-exclamatives are, i.e. without answering the *what*-question.

All the answers to the what-question I considered in the previous section have one common problem: they are all committed to scalarity of wh-exclamatives. They cover wh-exclamatives like (1) in English, which can be associated with a gradable property (“*deliciousness*” in (1)):

⁴Abels (2010) tests for embedded wh-exclamative clauses and comes to the conclusion that what we would call the descriptive content is a presupposition of such a clause.

(1) What a delicious dessert John baked!

In some languages other than English we find *wh*-constructions that play a very similar role in discourse to *wh*-exclamatives, such as Dutch (27) and Russian (28):

(27) *Wie ik net gezien heb!*
Who I just seen have

(28) *Kogo ja tolko chto videl!*
Who I just saw

In English, *who*-exclamatives like (29), which would be the literal translation of (27) and (28), are ungrammatical:

(29) *Who I just saw!

In contrast to *wh*-exclamatives like (1) repeated above, (27) and (28) have different readings: the former is *scalar*, whereas the latter are *non-scalar*. Compare the last two to the (English) *wh*-exclamative in (30):

(30) What a person I just saw!

(30) is felicitous in a situation where the speaker has just seen a particularly tall or particularly beautiful person. In other words, the exclamative is associated with some scalar dimension. In contrast, (27) in Dutch and (28) in Russian cannot express that the speaker saw a particularly tall or particularly beautiful person; i.e., they are *not* directly associated with a scale. Instead, they are felicitous in a situation when the speaker saw someone who he did not expect to see, for instance, when the speaker saw someone who is supposed to be away on vacation. In this case, it is not *the person* that the speaker met who is noteworthy, but *the fact that he met this person*.

In Rett's (2011) and Castroviejo Miró's (2008a) approaches, *wh*-exclamatives denote degree properties, and in Zanuttini and Portner's (2003) theory, the domain of quantification must be ordered. Therefore, all three theories would assign a "wrong" scalar meaning to Dutch and Russian *who*-exclamatives like (27) and (28). The analysis I am going to suggest in this section, following Chernilovskaya and Nouwen (2012) and Nouwen and Chernilovskaya (submitted), is not restricted to scalar *wh*-exclamatives. As my ultimate aim for the answer to the *how*-question is that it would be applicable to all sorts of exclamatives, scalar and non-scalar, I choose a *what*-proposal that has broader cross-linguistic applications.

In this section devoted to the *what*-question for *wh*-exclamatives I would like to proceed as follows: first, in section 2.3.1, I present my preliminary proposal that *wh*-exclamatives express noteworthiness evaluation. This proposal is different from the literature I reviewed in section 2.2 in several respects. First of all, as opposed to Rett (2011) and Castroviejo Miró (2008a), who define sep-

arate descriptive and expressive contents of a wh-exclamative, I would like to investigate another option; namely, that wh-exclamatives have just *one* content type. In my proposal, exclamative content subsumes both the descriptive and expressive components and is thus simpler. This discussion is in section 2.3.2. Second, as mentioned above, my analysis can be applied to non-scalar wh-exclamatives, which will be shown in section 2.3.3. Finally, the noteworthiness evaluation that will be in the core of my proposal covers various attitudes that have been suggested for wh-exclamatives (like surprise, amazingness, unexpectedness, etc.). This issue is discussed in section 2.3.4.

2.3.1 Preliminary proposal

Following Chernilovskaya and Nouwen (2012), I will say that exclamatives express a *noteworthiness evaluation*. Consider the example in (31):

(31) Bill: What a dessert John baked!

I suggest that the content conveyed by (31) is in (32):

(32) $\exists x \left(\text{dessert}(x) \wedge \text{baked}(j, x) \wedge \text{noteworthy}(x) \right)$

(32) is what I will refer to as the *wh-exclamative content*: it conveys that the dessert John baked is noteworthy. But what does it mean for an entity to be noteworthy? I admit that it is probably impossible to give a precise semantic definition of noteworthiness, in the same sense as it is difficult to describe precise truth conditions of the sentences like (33):

- (33) a. The achievements of Sir Alex Ferguson are noteworthy.
 b. It's noteworthy that Sir Alex Ferguson is still the manager of ManU.

(Chernilovskaya and Nouwen 2012)

In Chernilovskaya and Nouwen (2012) we gave the following intuition behind the notion of *noteworthy*:⁵

- (34) an entity is *noteworthy* iff its intrinsic characteristics *stand out considerably* with respect to a comparison class of entities

For example, if Bill just tasted a dessert baked by John and was stricken by its taste, his use of the wh-exclamative (31) would convey that the dessert under

⁵I consider an entity as an object of type *e* here. In general, as I will show in section 2.3.3, noteworthiness is also applicable to propositions. This flexibility with respect to argument types is motivated by examples like (33) and is the same as flexibility of predicates such as “*remarkable*” in (i) below:

- (i) a. John saw a remarkable car yesterday.
 b. It is remarkable that John saw a car yesterday.

discussion is noteworthy because it is particularly delicious. Similarly, if Bill just saw a dessert baked by John and was stricken by its very involved shape of a ship, his utterance of exactly the same wh-exclamative would express that the dessert under discussion is noteworthy, because of its particularly weird shape. Finally, a dessert can be noteworthy just because it is unusual: for instance, a blackberry, chicken liver and cauliflower cake is noteworthy. Noteworthiness evaluation will be discussed later in this chapter in more detail.

In case a wh-exclamative contains an overt adjective, like (35-a), it conveys a similar content including the adjective, as in (35-b):

- (35) a. Bill: What a delicious dessert John baked!
 b. $\exists x(\textit{dessert}(x) \wedge \textit{delicious}(x) \wedge \textit{baked}(j, x) \wedge \textit{noteworthy}(x))$

Of course, the most natural reason for the dessert in (35-a) to be noteworthy is because it is exceptionally delicious. But the wh-exclamative in (35-a) can also be used in situations when the dessert is noteworthy for some other reason:

- (36) Mary: Did John bake a delicious dessert?
 Bill: Yes, and what a delicious dessert he baked! It looks so weird!

Admittedly, Bill's exclamative in (36) requires an intonation pattern different from (35-a). But it shows that the noteworthiness of the dessert can be associated with its weird look, rather than with its being delicious.

In the next sections I will compare the proposal I made in this section to those from the literature that I discussed in section 2.2.

2.3.2 One or two exclamative contents?

Recall that Castroviejo Miró (2008a) suggested that there is a distinction between the descriptive and expressive content of wh-exclamatives. In other theories, a.o. in Rett (2011), the two content types can also be distinguished. In contrast to these theories, the approach I suggested in the previous section assigns a single content to a wh-exclamative and is therefore simpler than the analyses mentioned above. Is the distinction between the descriptive and expressive content types well-grounded? What is the reason to claim that wh-exclamatives have *two* propositional contents, rather than *one* that combines all the information that a wh-exclamative conveys into one proposition? Castroviejo Miró (2008a), who explicitly argues for two types of contents, does not explicitly provide such a reason.

One possibility would be to claim that the two content types differ in their discourse behaviour. If there were two distinct types of content, one would expect to find a discourse property that would distinguish between them. However, as I will show in Chapter 3, there is no such distinguishing property. In this respect, even if wh-exclamatives have two types of content, we cannot identify them based on discourse behaviour. This is an empirical argument in

favour of one wh-exclamative content type.

In the literature, the discourse status of the two exclamative content types is taken to be different. In the work of Castroviejo Miró (2008a), for example, the descriptive content of a wh-exclamative is taken for granted, whereas the expressive content is an expressive presupposition. Similarly, in Rett's analysis, the descriptive content is an appropriateness condition, whereas the expressive content is an essential effect of uttering a wh-exclamative. From this, we could conclude that, for Castroviejo Miró and Rett, the two types of content are conveyed in fundamentally different ways. However, I will show in Chapter 3 that the discourse behaviour of wh-exclamatives is indistinguishable from other non-asserted contents (like presupposed or appositive content). My how-proposal that is going to be presented in Chapter 5 will be built on this similarity and suggest the same context change effect for wh-exclamative and appositive contents. In other words, if we look at wh-exclamatives from a discourse perspective, the ways in which the descriptive and expressive types of content are conveyed are actually not different.

Note, in addition, that, in my approach, the descriptive and expressive contents of a wh-exclamative are brought together one content. For wh-exclamatives like (35-a) both evaluations of the dessert as delicious and noteworthy are expressed in one content, whereas in the works of Rett (2011), Zanuttini and Portner (2003) and Castroviejo Miró (2008a) a speaker's attitude and its object are conveyed in two different contents.

2.3.3 Scalar and non-scalar wh-exclamatives

Recall that, in Rett's theory, wh-exclamatives are taken to denote degree properties. In fact, she argues that the denotation of wh-exclamatives could be nothing else. In one of the versions of her paper (Rett 2011), she does so on the basis of scenarios like (37):

- (37) **Card scenario:** Imagine that Bill picks out two cards out of a pack of cards, for example, $3\heartsuit \oplus 6\spadesuit$. Then he reshuffles the cards and picks out again the same two cards. John sees this happening, and now sees Bill picking out the same two cards for the third time in a row.

Rett observes that in this scenario it is infelicitous for John to utter the wh-exclamative (38):

- (38) What cards Bill picked!

What is important in the scenario (37), in Rett's view, is that there is nothing special about the two cards that are being picked out: they are not exceptionally beautiful, weird-looking, or highly valued. That means that there is no dimension α such that the measurement operator μ_α would return a particularly high value for the cards $3\heartsuit \oplus 6\spadesuit$. According to Rett, this shows why the wh-exclamative in (38) is infelicitous. Rett formulates this in terms of *degree*

restriction (Rett 2008a):

- (39) Wh-exclamatives *must* receive degree interpretations.
(Rett 2008a, p. 603)

The fact that wh-exclamatives necessarily denote degree properties was already noted earlier in Castroviejo Miró (2006). In fact, the observation in (39) says that wh-exclamatives always involve some kind of a scalar mechanism. Contrary to Rett’s own claim, Zanuttini and Portner (2003) can also exclude the wh-exclamative in (38) from being used in the card scenario. The trick is that the domain of quantification for a wh-exclamative must be ordered, which for (38) means that the two cards must be located high on some scale. However, the context in (37) does not provide such a scale. In sum, all three approaches I considered in section 2.2 successfully explain the infelicity of (38) in the scenario (37).

Rett claims that, for her approach to be successful in accounting for the infelicity of (38) in the card-picking scenario (37), one needs to exclude certain dimensions from the range of α . In particular, it should not be possible to insert a degree predicate like “*surprising*” or “*unexpected*”, otherwise the exclamative in (38) would become felicitous.⁶ However, as we already noted in Chernilovskaya and Nouwen (2012), the exclusion of these predicates is not necessary. Recall that, in the scenario from (37), there is nothing special about the cards themselves: $3\heartsuit \oplus 6\heartsuit$ are just two ordinary cards, not any different from, say, $10\heartsuit \oplus A\spadesuit$, except the fact that they are being picked three times in a row. Even if we insert a silent adjective “*unexpected*” into the exclamative in (38), it would remain infelicitous, because the cards that were picked are not unexpected.

We concluded in Chernilovskaya and Nouwen (2012) that examples like (38) in scenarios like (37) do not show that wh-exclamatives are necessarily subject to the degree restriction in (39). Rather, infelicity of this kind of examples shows that the noteworthiness evaluation that wh-exclamatives like (38) express is directed to the *referent of the wh-phrase* – i.e., the two cards, for the case of (38). Similarly to (32), the denotation of (38) is:

$$(40) \quad \exists x \left(\text{cards}(x) \wedge \text{picked}(b, x) \wedge \text{noteworthy}(x) \right),$$

expressing the noteworthiness evaluation of the cards that Bill picked. The wh-exclamative (38) is thus correctly predicted to be infelicitous in the card-picking scenario (37), as the last conjunct in (40) does not hold.

Let us now look at how the analysis I suggested in section 2.3.1 can be applied to non-scalar wh-exclamatives introduced earlier in this section. I will take the Dutch example (27), repeated below:

⁶A similar restriction can be imposed in Castroviejo Miró’s (2008a) theory. In Zanuttini and Portner (2003) this would mean excluding such predicates from possible domain orders.

- (27) *Wie ik net gezien heb!*
Who I just seen have

Recall that wh-exclamatives like (27) do not involve noteworthiness of the referent corresponding to the wh-phrase, but noteworthiness of a fact (in the case of (27), the fact that the speaker saw a certain person). What (27) conveys is thus in (41):

- (41) $\exists x \left(\text{noteworthy}(\wedge \text{saw}(\text{speaker}, x)) \right)$

The denotation in (41) rightly predicts that (27) is felicitous only in situations where *the fact* that the speaker of the wh-exclamative met a particular person is noteworthy. If the speaker wants to convey the noteworthiness of *the person* he met, the exclamative in (27) is infelicitous.⁷

In sum, the innovativeness of our theory from Chernilovskaya and Nouwen (2012) is in its broad empirical coverage: it is applicable to the “usually-considered” scalar wh-exclamatives, as well as to non-scalar wh-exclamatives.

2.3.4 Attitudes expressed by wh-exclamatives

Some authors (Elliott 1974, Castroviejo Miró 2006, Castroviejo Miró 2008a, Rett 2011, a.o.) claim that wh-exclamatives express unexpectedness or surprise. For instance, Rett argues that a wh-exclamative like “*What a delicious dessert John baked!*” conveys that the dessert baked by John is more delicious than the speaker had expected. Others, like Zanuttini and Portner (2003), note that exclamatives are associated with a broader range of attitudes including, for example, amazement or awe. As I suggested in section 2.3.1, wh-exclamatives express *noteworthiness*. Below I will argue that wh-exclamatives express a wide range of attitudes, and not just unexpectedness, as has been suggested in many works. I side with the approaches like Zanuttini and Portner (2003) and use this term “noteworthiness” as a generic term to cover a broader range of exclamative attitudes.

⁷ In addition to the reading involving noteworthiness of propositions, who-exclamatives can have quantity readings. Consider the following examples from Dutch in (i-a), Russian in (i-b), and Hebrew in (i-c) (thanks to Yoad Winter for mentioning the last example):

- (i) a. *Wie ik allemaal (niet) gezien heb!*
who I everybody (NEG) seen have
b. *Kogo ja tol'ko ne videl!*
who-ACC I only NEG saw
c. *Et mi lo ra'iti!*
ACC who NEG I-saw

These who-exclamatives convey that the speaker considers the fact that he saw many people as noteworthy. Note also that in all three languages who-exclamatives with the quantity reading (optionally) contain negation. I will leave further investigation of this quantity reading of wh-exclamatives for future research.

Consider the wh-exclamative in (42), which could convey that its speaker Bill is *surprised* that the dessert John baked is very delicious (for example, because the speaker thinks John is a bad cook).

(42) Bill: What a delicious dessert John baked!

But (42) could be used just as well when Bill knows perfectly that John bakes very well, in other words, already *expects* the desserts he bakes to be very delicious. In this situation, the utterance of (42) could be used simply to indicate that he is stricken by this thought when tasting the desserts John baked.⁸ (43) is an example from Chernilovskaya, Condoravdi and Lauer (2012a) showing a wh-exclamative expressing an attitude distinct from surprise/unexpectedness:

(43) [A and B are sitting in A's beautiful garden, which B knows well, and it is commonly known that he greatly admires the garden. Suddenly:]
B: How beautiful your garden is!

An occurrence of a thought (that A's garden is very beautiful, for (43)) can trigger a wh-exclamative, although the fact that A's garden is very beautiful is already known to B.⁹

From the examples above, we see that exactly which attitude is conveyed is underspecified, as the same wh-exclamative could be used in various contexts to express various attitudes. An exclamative shows that its speaker undergoes an emotive event, which can be the feeling of *surprise*, *amazement*, *awe*, etc.

Let us look at Zanuttini and Portner's arguments about attitudes expressed by wh-exclamatives. A crucial role in their argumentation is played by polite uses of wh-exclamatives like (44):

(44) What a nice house you've got!

The speaker of (44) does not intend to convey that he did not expect the

⁸This is related to the discussion of triggering of wh-exclamatives in Chapter 3.

⁹In Dutch, the use of certain particles in wh-exclamatives indicates an attitude different from surprise (H. de Swart, p.c.). Consider examples (i-a)/(ii-a) with and (i-b)/(ii-b) without particles:

- (i) a. *Wat een heerlijk dessert heb je weer gemaakt!*
What a delicious dessert have you PART made
b. *Wat een heerlijk dessert heb je gemaakt!*
What a delicious dessert have you made
- (ii) a. *Wat een mooie tuin heb je toch!*
What a nice garden have you PART
b. *Wat een mooie tuin heb je!*
What a nice garden have you

The particles in (i-a) and (ii-a) suggest that the speaker of the exclamatives knows that the addressee made a delicious dessert/has a nice garden, and these wh-exclamatives thus cannot be used to express surprise. In contrast, (i-b) and (ii-b) are compatible with surprise as well as with the expression of other attitudes.

addressee's house to be nice. Rather he implies that the house is nicer than houses usually are. Similarly, when Bill utters (42) already knowing that John bakes very well, or B utters (43) knowing that A's garden is very beautiful, they may intend to express *amazement* at the degree of the dessert's deliciousness/garden's beauty, and not that they expected the dessert to be less delicious or the garden to be less beautiful. Zanuttini and Portner conclude from this that wh-exclamatives convey a much broader set of attitudes than simply surprise or unexpectedness.

However, Rett (2011) shows that polite uses of wh-exclamatives could also be explained based on unexpectedness. For example, (44) in Rett's (2011) theory conveys that *the house in question is (even) nicer than expected*. This interpretation is applicable to polite uses of wh-exclamatives, as the reasoning does not imply that the speaker did not expect the house to be nice.

The whole area of discussion about which attitude is conveyed by wh-exclamatives is very vague. It is difficult to make precise judgements about attitudes, as notions like *unexpectedness* and *amazement* are interrelated (Nouwen and Chernilovskaya submitted): what is expected is usually not amazing, and the other way around: what is unexpected is usually amazing. This concept of being amazing/surprising/unexpected/. . . is exactly what is behind the notion of domain widening in Zanuttini and Portner (2003): the widened domain includes entities that are normally not under consideration with respect to some contextually provided scale. Entities that are *off the scale* are likely to be, but not necessarily, evaluated as *unexpected* or *amazing*.

The notion of *noteworthiness* described in (34) that I adopted from Chernilovskaya and Nouwen (2012) abstracts away from subtle differences between attitudes that have been claimed to be expressed by wh-exclamatives. For example, if an entity stands out with respect to some of its properties, it is likely (but not necessarily) to be evaluated as *amazing*, *surprising*, or *unexpected*. I thus intend to use *noteworthy* as an umbrella term for all these predicates that underly exclamative attitudes.

To sum up, the last three sections showed that my proposal for the what-question is simpler and better-motivated than other analyses from the literature that I considered earlier in this chapter. In the next section I will look at one more feature of analyses of wh-exclamatives suggested in the literature. It has to do with the perspective from which wh-exclamative contents are evaluated. This issue was not considered earlier in the literature, and it is going to be of considerable importance to my how-proposal that will be made in Chapter 5.

2.3.5 A judge of evaluation in wh-exclamative content

Consider the wh-exclamative in (45) with its descriptive content as suggested by Castroviejo Miró (2008a):

- (45) Bill: What a delicious dessert John baked!
 a. descriptive content: The dessert is very delicious

The descriptive content of (45) in (45-a) involves a *predicate of personal taste* (PPT) “*delicious*”. Assertions with such predicates, like the one in (46), convey a subjective judgement about the taste. (46), in particular, conveys Bill’s judgement of the dessert:

(46) Bill: This dessert John baked is delicious.

The assertion in (46) is different from (47):

(47) Bill: This dessert is made by John.

If Mary reacts with “*No, it is not*” to the assertion in (47), either Bill or Mary is saying something false. This is not so for the dialogue in (48) involving the assertion with a PPT from (46):

(48) Bill: This dessert is delicious.
Mary: No, it is not. I think it is disgusting.

The dialogue in (48) involves disagreement between Bill and Mary about whether the dessert under discussion is delicious. However, an external observer of this dialogue would not be able to decide who is right, because both discourse participants seem to be telling the truth. This is so because Bill claims that the dessert is delicious *for him*, and Mary that it is not delicious *for her*. But how could they disagree if both of them are making a statement about their own taste? Dialogues like (48) involve so-called *faultless disagreement*. The occurrence of such disagreements is the hallmark of PPTs (Köbel 2004, Lasersohn 2005, Stojanovic 2007).

When the judge of the PPT is specified overtly, faultless disagreement does not arise. Consider the example in (49):

(49) Bill: I find this dessert delicious.
Mary: #No, you don’t.

In fact, the dialogue in (49) rarely makes sense. Bill’s assertion in (49) involves *speaker-privileged information*; i.e., information to which the speaker, Bill, has privileged access: it makes a statement about Bill’s taste. So Mary’s utterance in (49) could be used only in very few situations. The first example is when Mary doubts Bill’s sincerity about expressing his own attitude. For instance, she could go on with “*I saw you pushing the pieces around on your plate*” (Crespo and Fernández 2011). It is also possible that, together with Bill, Mary has access to Bill’s taste, say, via some advanced neurological device. In this case, she has enough evidence to directly contradict Bill.¹⁰

Many proposals about the semantics of PPTs explaining the puzzle of faultless disagreement have been made in the literature. I do not aim at an extensive overview of all the proposals. I will follow analyses that give generic meaning to

¹⁰I refer the reader to Chapter 3 for a more detailed discussion of this kind of dialogue.

PPTs (Moltmann 2006, Anand ms., Crespo and Fernández 2011, Pearson 2012). In particular, Pearson (2012) makes the following proposal:

PPTs such as “*tasty*” are used to make statements about whether something is tasty to people in general, based on first person experience.

(Pearson 2012, p.19)

Let me show how to apply this idea to the assertion in (46). First of all, when Bill asserts “*This dessert is delicious*”, he is conveying that he is committed to the fact that he finds the dessert delicious. But it works the other way around as well: when Bill tastes the dessert and finds it delicious, he will most probably generalise his judgment to all people. I will assume that PPTs are relations between an experiencer and some object (Bylina 2014).¹¹ For example, *delicious(b, des)* will be taken to convey that Bill, *b*, finds the dessert *des* delicious. The generic statement that the dessert *des* is delicious for any person who is able to undergo a phenomenological experience of taste will be expressed using a quantifier Gen_x binding a variable *x*:

(50) $Gen_x \textit{delicious}(x, des)$

where *des* is the individual constant which is the referent of the expression “*this dessert*”. Compare now assertions about “generic taste” like (46) to assertions specifying an overt judge of an evaluation, such as (49) or (51):

(51) Bill: This dessert is delicious for me/to me.

The experiencer argument of the PPT is filled overtly in cases like (49) and (51), so these assertions express the proposition:

(52) $\textit{delicious}(b, des)$

Now we can explain why the illusion of disagreement arises in dialogues like (48) with assertions involving a generic judge. In this example Bill asserts that the dessert in question is delicious to people in general, based on his own experience, whereas Mary asserts that it is *not* delicious to people in general, based on her own experience. Bill and Mary, therefore, disagree on their evaluations of the dessert as being delicious to people in general, but both tell the truth about their own experience. In the dialogue in (49) no faultless disagreement arises, as Bill asserts *delicious(b, des)*, and Mary says $\neg \textit{delicious}(b, des)$, and these two propositions simply contradict each other.

How are the two types of assertions with PPTs – conveying a generic judgement without a specified judge, and a judgement with an overtly-specified judge – relevant for wh-exclamative content? Let me first consider this question from the viewpoint of theories assigning two contents to a wh-exclamative. (Later

¹¹For discussion about the relation between subjectivity, PPTs and experiencer arguments see Bylina (2014).

in this section I will evaluate my own proposal made earlier.) In these theories the *descriptive* content of wh-exclamatives often contains a PPT. Consider (45), repeated below for illustration, whose descriptive content contains a PPT “*delicious*”:

- (45) Bill: What a delicious dessert John baked!
 descriptive content: The dessert is very delicious

As for the *expressive* content of wh-exclamatives, it conveys information about an attitude the speaker has. Attitudes expressed by wh-exclamatives – like surprise, unexpectedness, amazement, joy, being stricken, as has been suggested in the literature, or noteworthiness, as the attitude I proposed – are all PPTs. The reason to think so is because they are “predicates of scalar variation” (Anand ms.). People differ, not only in *whether* we find some object surprising, but also in ordering objects with respect to their “surprising-ness”. In other words, not only the positive form “*surprising*”, but also the comparative form “*more surprising*” is judge-dependent. This is not so for “ordinary” gradable adjectives like “*tall*”.

Although both descriptive and expressive contents of wh-exclamatives often involve PPTs, wh-exclamative contents are formulated in the literature in a very specific way: the expressive content is taken to express the *speaker’s* attitude, whereas the descriptive content is standardly assumed to convey a *generic* judgement (Castroviejo Miró 2008a, Rett 2011), although these assumptions are never made explicit. Therefore, not all possibilities regarding the perspective of wh-exclamative content are considered. Terminologically, I suggest subdividing wh-exclamative content into what I will call *internal* and *external*, or *i-content* and *e-content*. E-content involves generic evaluation, and i-content involves evaluation related to a certain judge – the speaker of the wh-exclamative, in our case. Let me illustrate the difference between e- and i-content on the wh-exclamative using (53). The *descriptive* content of (53), the proposition “*The dessert is very delicious*”, can be interpreted as conveying a generic evaluation in (53-a) – the external content, or as conveying a judge-related evaluation in (53-b) – the internal content:

- (53) Bill: What a delicious dessert John baked!
 a. e-descriptive content: The dessert John baked is very delicious
 to people in general
 b. i-descriptive content: The dessert John baked is very delicious
 to Bill

Similarly, the attitude in the *expressive* content could be evaluated generically or with respect to the speaker of the wh-exclamative. Suppose, following, e.g., Rett (2011), that the wh-exclamative in (53) expresses unexpectedness. Then the two expressive content types are in (54):

- (54) a. e-expressive content: It is unexpected for people in general that

- the dessert John baked is very delicious
- b. i-expressive content: It is unexpected for Bill that the dessert John baked is very delicious

In the proposal that I made in section 2.3.1, the judge of evaluation is not explicitly specified either. For (55-a), for example, wh-exclamative content is taken to be (55-b), where the perspective for neither deliciousness nor noteworthy is specified:

- (55) a. What a delicious dessert John baked!
- b. $\exists x(\text{dessert}(x) \wedge \text{delicious}(x) \wedge \text{baked}(j, x) \wedge \text{noteworthy}(x))$

For wh-exclamative content in (55-b) there are also two possibilities for the *external* and *internal* perspective. The first perspective is spelled out in (56-a), which is related to the generic judge, and the second in (56-b) specifying the speaker as a judge”.¹² (In addition, there are of course also two mixed contents.)

- (56) Bill: What a delicious dessert John baked!
- a. external content:
 $\exists x(\text{dessert}(x) \wedge \text{Gen}_y \text{delicious}(y, x) \wedge \text{baked}(j, x) \wedge \text{Gen}_y \text{noteworthy}(y, x))$
- b. internal content:
 $\exists x(\text{dessert}(x) \wedge \text{delicious}(b, x) \wedge \text{baked}(j, x) \wedge \text{noteworthy}(b, x))$

The question is now: Is there a way to decide whether wh-exclamatives convey speaker-related or generic evaluation? This question can be approached from two perspectives. The first one is from the viewpoint of discourse behaviour. In the next chapter, I will look at what discourse behaviour can tell us about the perspective that is taken in wh-exclamative content. I will consider four potential kinds wh-exclamative content – descriptive and expressive, external and internal – and show that no discourse property reveals a difference between the perspectives in content. In other words, the conclusion will be the same as for the split between descriptive and expressive content: if there are external and internal wh-exclamative contents, we cannot spot them in discourse. The second perspective on the question above is theoretical: the choice of whether wh-exclamative content is taken to be presupposed, conventionally implicated, taken for granted, or, as I will propose in Chapter 5, directly updating the common ground of the conversation, may put restrictions on the perspective from which the content is evaluated. In particular, what is going to play a role for the choice of wh-exclamative content is the fact that speaker-related content, but not generic content can be easily accommodated by conversational participants. In Chapter 5, I will present my final proposal for the what-question, which will involve the speaker’s perspective in wh-exclamative

¹²Note that the predicate “*noteworthy*” has an extra judge argument.

content. For the exclamative in (56) this means that I will argue for (56-b), rather than (56-a), as its content.¹³

2.4 Conclusion

This chapter posed two questions that form the basis of my approach in this dissertation: *what* do wh-exclamatives convey?, and *how* do they convey what they do? The first goal of this chapter was to give an overview of the answers given in the literature to the two questions. I considered the works of Rett (2011), Zanuttini and Portner (2003) and Castroviejo Miró (2008a) as examples illustrating the most important trends in the literature. The second goal was to describe how I am going to answer the what-question, following the works of Chernilovskaya and Nouwen (2012) and Nouwen and Chernilovskaya (submitted). The proposal, in short, is that wh-exclamatives have one kind of content, expressing noteworthiness evaluation. The main limitation of the analyses in the literature with respect to the what-question is that they are all scalar. This limitation is overcome in my proposal.

All the theories I considered treat an attitude of the speaker expressed with a wh-exclamative differently from the goal of this attitude (in the terminology adopted from Castroviejo Miró (2008a), the *expressive* and *descriptive* content, respectively). By contrast, in my proposal I suggest *one* wh-exclamative content. In this sense, my analysis is simpler. The generic term *noteworthiness evaluation* is chosen to cover the range of attitudes expressed by wh-exclamatives.

At the end of Chapter 2, I also raised an important issue concerning the perspective of wh-exclamative evaluation: is it generic or related to a certain judge, which would be, in the case of wh-exclamatives, the speaker? With respect to this parameter wh-exclamative content can be split into *external* and *internal*. In sum, a possible answer to the what-question involves four potential types of content in wh-exclamatives.

To see whether the split of wh-exclamative content along the descriptive/expressive and external/internal dimensions is well-motivated, I will take a discourse perspective in the next chapter. Chapter 3 will show that there is no discourse property where descriptive and expressive/external and internal contents of wh-exclamatives would show different behaviour. I take the lack of such a property as lack of evidence for splitting the contents. The preliminary proposal I made in this chapter involves one content, and in Chapter 5 I am

¹³The split of wh-exclamative content with respect to the perspective of evaluation raises the question about how to present the content of subjective utterances more generally. (I would like to thank Ted Sanders for pointing this out to me.) Assertions of the form “*This is a delicious dessert*” convey a generic as well as a speaker-related evaluation. These are interconnected in the way described in this section. I believe that the method used in this thesis, viz. of examining the discourse properties of utterances, could be fruitfully used to ascertain to what extent the two evaluations associated to such assertions constitute two separate contents. However, I leave such a project to further research.

going to argue that the content we are dealing with is *internal*, rather than *external*.

Turning our attention now to the how-question, as the overview of works in section 2.2 illustrated, there are two main trends of how to answer the how-question in the literature.

Searle-like approaches to speech acts, an example of which is Rett (2011), provide an informal description of when exclamatives should be used and what their effect is. There are two main issues with this kind of approach. First, the effect of exclamatives on the context is described using the word “*express*” (see e.g. Rett’s (10)). I want to improve on this by spelling out in a model of context what this means. Second, it is difficult for Searle-like approaches to make predictions about the discourse behaviour of wh-exclamatives. The wh-exclamative “*What a delicious dessert John baked!*” expresses the speaker’s surprise that the dessert is very delicious, but one cannot derive from this, for instance, whether such an exclamative can be challenged by the addressee.

I will address these issues and make an attempt to improve on them in my proposal in Chapter 5. Note that my improvement on the first point will influence the second one: a formal definition of the exclamative speech act in a model together with definitions of other discourse moves will allow us to make predictions about the discourse behaviour of wh-exclamatives.

The second way to answer the how-question is to label wh-exclamative content as presupposed or conventionally implicated. This was done, for example, by Zanuttini and Portner (2003) and Castroviejo Miró (2008a), as described in sections 2.2.2 and 2.2.3. Claims about the discourse status of wh-exclamative content made in the literature include, for the descriptive content, that it is: presupposed (Grimshaw 1979, Michaelis and Lambrecht 1996, Michaelis 2001, d’Avis 2002, Zanuttini and Portner 2003, Merin and Nikolaeva 2008, Abels 2010, Gutiérrez-Rexach 1996), conventionally implicated (Marandin 2008), or taken for granted/taken as a fact (Beyssade and Marandin 2005, Castroviejo Miró 2006, Castroviejo Miró 2008a). Proposals for the expressive content are that it is: presupposed (Gutiérrez-Rexach 2008, Castroviejo Miró 2008a) or conventionally implicated (Castroviejo Miró 2008b).

The first problem with these kinds of labels was already mentioned in section 2.2.3: the difference between, for example, a presupposed and a conventionally-implicated proposition is visible only when it is embedded under certain operators, which cannot always be done with wh-exclamatives. Unsuitability of the traditional tests involving embedding for wh-exclamatives motivated me to take a discourse perspective. Intuitively, I consider wh-exclamatives as embedded not *in another sentence*, but *in a dialogue*.

The second issue with labelling the role of wh-exclamatives is methodological: it is a *top-down strategy* to answer the how-question. For the propositional content in a wh-exclamative the question being asked is *whether it is presupposed, conventionally implicated, asserted, etc.* In other words, the choice between different labels has to be made. The approach I am going to take in

the dissertation is *bottom-up*: I will first look at discourse properties of wh-exclamatives in Chapter 3 and then, on that basis, define what their context change effect is. I am not interested in *labelling*, but rather in *describing* the status of wh-exclamative content.

Having identified the main issues related to the how-question, I am going to address those issues in my proposal for the definition of the exclamative speech act in Chapter 5. As this definition is inspired by discourse properties, the next step is to provide a good description of discourse behaviour of wh-exclamatives. This is the goal of Chapter 3. In addition, as mentioned above, Chapter 3 will show that there is no evidence for splitting wh-exclamative content.

Before I continue, I would like to note that the approach I take in the rest of the dissertation is, in some respects, similar to what has been done in Castroviejo Miró (2008a). Castroviejo Miró claims that wh-exclamatives come with two types of content, descriptive and expressive, and by looking at discourse properties and scenarios where wh-exclamatives are used, makes a proposal that the descriptive content is taken for granted by the speaker and the expressive content is an expressive presupposition, which directly updates the common ground of the conversation.

In Chapter 5, I will work towards a claim similar to that of Castroviejo Miró; namely, that wh-exclamatives make a direct update of the common ground. However, I will come to this conclusion for a different content and in a more motivated way. First of all, I see no motivation for splitting wh-exclamative content into two types, and I will propose that wh-exclamatives convey one kind of content. Second, I will provide a thorough investigation of the discourse properties of wh-exclamatives based on naturally-occurring examples from the COCA corpus. After looking at the discourse properties of wh-exclamatives and contrasting them with the context change effects of presuppositions and conventional implicatures, it will become clear that the three do not differ with respect to discourse behaviour. This conclusion was not made in the work of Castroviejo Miró (2008a). Finally, I will show how the discourse properties are derived, which is also not done in Castroviejo Miró (2008a).

CHAPTER 3

Discourse properties of wh-exclamatives

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3.1 Introduction

The main goal of this dissertation is to define the exclamative speech act, or, to put it somewhat differently, to determine the context-change effect of the wh-exclamative content that I proposed in Chapter 2. As mentioned in Chapter 1, this question will be approached from a discourse perspective. The idea is that an accurate description of the discourse behaviour of sentences helps to give a formal definition of the speech act they perform in a model of context. I will apply this methodology to wh-exclamatives, and, in this chapter, I consider various discourse properties of wh-exclamatives in order to characterise their discourse behaviour.

This chapter addresses two main questions:

- (1) a. What can discourse properties tell us about the nature of wh-exclamative content in comparison to asserted, presupposed or conventionally-implicated content?
- b. Which discourse properties can be used as rigorous empirical characteristics of the exclamative speech act?

With respect to question (1-a), one hypothesis is that the propositional

content of a wh-exclamative is simply asserted. But in the literature, the claim is made that wh-exclamatives are non-assertive (Zanuttini and Portner 2003, Castroviejo Miró 2008a, Castroviejo Miró 2008b, Marandin 2008, Merin and Nikolaeva 2008, Rett 2011). Two discourse properties indicating that wh-exclamatives are non-assertive are considered: (1) wh-exclamatives cannot be challenged with, e.g., “*That’s not true*” (Castroviejo Miró 2008a, Castroviejo Miró 2008b, Rett 2011), and (2) wh-exclamatives cannot answer questions (Grimshaw 1979, Zanuttini and Portner 2003, Castroviejo Miró 2008a, Marandin 2008). Take, for instance, the first property. Castroviejo Miró (2008a) gives the following example for illustration:

- (2) A: What a nice girl Allison is!
 a. B1: That is not true. She’s a harpy!
 b. B2: #That is not true. You’re not emotional.
 (example (34) from Castroviejo Miró 2008a)

(2) is supposed to show that “*That’s not true*” is a possible reaction to a wh-exclamative which can be used to challenge the (external) descriptive, but not the (internal) expressive content of the wh-exclamative, following Castroviejo Miró’s terminology. However, (2) is a constructed example, and I did not find any naturally-occurring examples of “*That’s not true*” following a wh-exclamative. Similarly, the conclusion that wh-exclamatives cannot answer questions has been made on the basis of a few constructed examples.

I am going to provide more empirically sound arguments to support the claim that wh-exclamatives do not assert their content. I aim at a more systematic study of the discourse behaviour of wh-exclamatives than has been made previously, based on naturally-occurring examples taken from Corpus of Contemporary American English (COCA) (Davies 2008). This corpus contains more than 450 million words of text and includes various kinds of texts (spoken, fiction, popular magazines, newspapers, academic). The discussion of discourse properties of wh-exclamatives in this chapter is mainly based on two works: Chernilovskaya, Condoravdi and Lauer (2012a) and Chernilovskaya, Condoravdi and Lauer (2012b).

But how is wh-exclamative content conveyed, then, if it is not asserted? Other options include, for example, that exclamatives presuppose or conventionally implicate their content. I will contrast wh-exclamative content with the conventionally-implicated content of appositive relative clauses and presupposed content with respect to discourse properties. The result will be that all these contents do not differ with respect to discourse behaviour. In other words, if we approach the question in (1-a) from the discourse perspective, there is no way to decide, based purely on discourse properties, whether the exclamative content could be called a “presupposition” or a “conventional implicature”. As all other tests distinguishing between the two options involve embedding, and wh-exclamatives cannot be embedded, I conclude that it is not useful to evaluate the wh-exclamative content against these labels. (The

reader is referred to section 2.2.3 of Chapter 2 for more details.)

In this chapter I will proceed as follows. I will start in section 3.2 by showing that wh-exclamative content is an entailment and cannot be denied by the speaker, just like the content of an assertion. Section 3.3 will show a truly unique property of non-asserted content; namely, unlike asserted content, it cannot be directly challenged. My exploration of the challenging of asserted and non-asserted contents is going to bring some new insights into the existing discussion of this discourse move. For example, I will have a closer look at challenges of assertions conveying speaker-privileged information: although, at first sight, such challenges seem unusual, they do occur in conversations. I will also claim that *any* kind of content – asserted or not – can be challenged, but we need to take into account ways in which challenges are made. After considering this group of properties, the conclusion can be made that wh-exclamative content is not asserted, but no difference can be seen in the discourse behaviour of wh-exclamative and other non-asserted contents (like presupposed and conventionally-implicated contents of appositive relative clauses).

There are also other discourse properties with respect to which asserted and wh-exclamative contents differ. For example, in section 3.4, I look at how various types of contents can be accepted and confirmed. Although confirmation is considered to be the default reaction to an assertion, I will show that what exactly is confirmed needs to be carefully investigated, even for a simple case of assertion. Acceptance and confirmation with certain discourse markers will reveal the difference between asserted and non-asserted contents, the latter of which includes wh-exclamative content.

In section 3.5, I consider more discourse properties of wh-exclamatives, which are claimed to show the contrast between *how* wh-exclamative and asserted contents are conveyed (Grimshaw 1979, Zanuttini and Portner 2003, Marandin 2008, Merin and Nikolaeva 2008, Castroviejo Miró 2008a, Rett 2008a, Rett 2011). For example, in section 3.5.1, I am going to look at whether wh-exclamatives can answer questions. The point that wh-exclamatives are different from assertions with respect to this discourse property will be made, but the conclusions I will draw are more tentative than those suggested in the literature (see, e.g., Grimshaw 1979, Zanuttini and Portner 2003, Castroviejo Miró 2008a, Marandin 2008). In the subsequent sections, I will consider whether wh-exclamatives can be used to introduce new information, inserted into narration, or be used for argumentation. These discourse properties are not spelled out clearly enough to be used for defining the exclamative speech-act operator.

In the rest of the dissertation I define a formal model of dialogue (Chapter 4) and make a proposal for the context-change effect of wh-exclamatives in dialogue (Chapter 5). Ideally, the main aim of my proposal would be that all discourse properties of wh-exclamatives follow from it. In Chapter 5, I will show how some of the discourse properties discussed in this chapter are derived; for others, I discuss preliminary thoughts on what needs to be done before they

can be derived in the model.

The second question from (1) is methodological. At the level of discussion in this chapter, the only truly conclusive discourse properties of wh-exclamatives have to do with speaker-deniability, challengeability by the addressee, acceptability, and confirmation of wh-exclamative content with the discourse marker “*That’s right*”. For other properties, I will show that we need more detailed corpus search work in order to formulate them accurately.

In addition to making the first step towards the answer to the how-question formulated in Chapter 2, this chapter has another goal, contributing to the what-question for wh-exclamatives. Recall that Castroviejo Miró (2008a) suggested that an utterance of a wh-exclamative conveys two implications: the *descriptive* and *expressive contents*. I added to this distinction the option that each of the contents can be *external* or *internal*, depending on the judge of evaluation. Consider as an example the wh-exclamative in (3):

- (3) A: What a delicious dessert John baked!
- a. external descriptive content:
The dessert John baked is very delicious to people in general.
 - b. internal descriptive content:
The dessert John baked is very delicious to A.
 - c. external expressive content:
It is generally noteworthy that the dessert John baked is very delicious.
 - d. internal expressive content:
A finds it noteworthy that the dessert John baked is very delicious.

In section 3.6, I will show that there is no discourse property with respect to which the four contents behave differently. I will conclude from this that, from a discourse perspective, there is no motivation to split wh-exclamative contents into four. As a result, the proposal made in Chapter 2 involving one wh-exclamative content is simpler and thus to be preferred.

Before I continue, a word is in order on the relation between the notions of “discourse move” and “speech act”. A *conversational move* (also referred to as a “*dialogue move*” or a “*discourse move*”) is a generalisation of the notion of a *speech act*, taking into account the structure of a dialogue. The notion of a conversational move is more fine-grained than that of a speech act. A dialogue is not a sequence of individual and unrelated speech acts, but rather a joint action of discourse participants. In particular, a conversational move that a certain utterance makes takes into account the dialogue environment of an utterance. For example, a *direct challenge move*, which will be the topic of section 3.3, is used to react to an assertion made before. At the same time, it is itself a specific kind of assertion satisfying certain conditions. More information on the notion of a conversational move can be found in Chapter 4, where I model dialogue moves as updates of the context structure.

3.2 Wh-exclamative content is an entailment

3.2.1 Introduction

I start discussing the discourse properties of wh-exclamatives by looking at properties of assertions that are often discussed in the literature. The first property under consideration will be whether the wh-exclamative content can be *denied* by the speaker of the wh-exclamative in the subsequent discourse. Informally, a conversational move will be called a “*denial*” if it expresses a contradiction with some proposition in discourse. Speaker-deniability is the key criterion distinguishing between two types of meanings, namely *entailed* and *conversational* meanings, in the sense of Grice (1975). If a certain content is entailed by an utterance, it would be contradictory for the speaker to follow the utterance by denying this content. Conversational meanings, in contrast, appear only in some contexts but not in others, so they can be denied without giving rise to a contradiction. A typical example of an entailment is the asserted content. Consider the declarative sentence in (4). Its speaker cannot follow the sentence by denying what he has just claimed, as this would lead to a contradiction:

- (4) John baked a very delicious dessert. #But it was not very delicious.

As will be shown in section 3.4, which discusses the conversational move of confirmation, sometimes dialogue moves have constraints on the form of the move. Here, the definition of the speaker-denial move is given independent of the form of the move. In other words, denying the content of a declarative sentence just asserted by the speaker in any of the ways listed below is infelicitous:

- (5) John baked a very delicious dessert.
 a. #In fact, it was not very delicious.
 b. #However, it was not very delicious.
 c. #Actually, it was not very delicious.

In addition to asserted content, there are other types of contents which cannot be denied by the speaker. An example is the content of appositive clauses (cf. Potts 2005):

- (6) a. John, who is a cyclist, bakes very well. #But he’s not a cyclist.
 b. John, who is a cyclist, bakes very well. #But he doesn’t bake well.

Descriptively, (6) has two contents: the asserted (or: at-issue) content (i.e., the proposition that John bakes very well), and the content of the appositive clause (i.e., that John is a cyclist). The latter type of content is analysed as conventionally implicated in Potts (2005). Whether this or other analysis is chosen does not change the argumentation in this dissertation. Similarly to asserted content, conventionally-implicated contents are not deniable. (6) shows

that the information conveyed in the appositive clause, that John is a cyclist, cannot be denied, just as the asserted content that John bakes very well.

Another example of meaning that is not speaker-deniable is presupposed content. A possessive noun phrase “*John’s sister*”, as in (7), presupposes that John has a sister, which cannot be denied in the subsequent discourse:

(7) John’s sister lives in London. #In fact, John doesn’t have a sister.

An example of a conversational type of meaning is conversational implicature. The sentence in (8) asserts the proposition that some of the desserts John baked were delicious, and it also conversationally implicates that they are not all delicious:

(8) Some of the desserts John baked were delicious.

This implicature can be felicitously denied by the speaker. Consider, for example, (9) as a felicitous continuation of (8), where the conversational implicature that *not all* the desserts are delicious is denied:

(9) In fact, they were all delicious.

Another example of a speaker-deniable mHyphdashearing is what Potts (2005) referred to as a “*conversationally-triggered presupposition*”.¹ Consider the factivity implication of “*before*”, which is present in some scenarios and absent in others. (10) asserts that Sue cried before she finished her thesis, and can be used both in situations in which she *did* and *did not* finish the thesis:

(10) Sue cried before she finished her thesis.
 a. Conversationally-triggered presupposition: Sue finished her thesis
 (Potts 2005)

In a scenario for this sentence in which Sue never completed her thesis, the implication in (10-a) can be denied by the speaker:

(11) Sue cried before she finished her thesis. In fact, she never finished it.

To summarise, depending on the status of a certain content, it can or cannot be denied by the speaker of the utterance. We saw above that the content conveyed by a conversational implicature or by a conversationally-triggered presupposition is speaker-deniable, whereas asserted and conventionally-implicated contents are not. In the next part of this section, I will discuss the nuances of applying the speaker-deniability test to wh-exclamatives.

3.2.2 Denying the wh-exclamative content

Consider the wh-exclamative in (12) with its content in (12-a):

¹But see Beaver and Condoravdi (2003) for another analysis of “*before*”, where the content of “*before*”-clauses is not treated as deniable.

- (12) A: What a delicious dessert John baked!
 a. A finds the dessert John baked delicious and noteworthy

The continuation of A's exclamation in (13) is infelicitous, which shows that the wh-exclamative content cannot be felicitously denied by the speaker in the subsequent utterance:

- (13) A: What a delicious dessert John baked! #But I don't find it very delicious.

In some cases it seems that the speaker *can* deny the wh-exclamative content. Consider the COCA example in (14):

- (14) *What a day.* Not bad, just long and busy.

In this example the content of the exclamation is the proposition that the speaker finds the day noteworthy, but it is not clear why it is characterised as noteworthy. The continuation then just indicates that the reason for such an evaluation of the day is not that it was bad, but rather long and busy. So continuations like (14) do not deny, but specify the wh-exclamative content.

Similarly, the wh-exclamative in (12) cannot be followed up by (15):

- (15) #But I don't find it noteworthy.

Note, however, that for (15) characterising the dessert as "*noteworthy*" does not sound natural in speech. Recall that I used *noteworthiness* as an umbrella term to cover various attitudes that can be expressed by wh-exclamatives. For simplicity of reading, I will sometimes substitute "*noteworthy*", for instance, for "*surprising*" or "*impressive*" in all examples in this chapter.

A related observation – that it is infelicitous to deny an emotional attitude expressed by a wh-exclamative – was made by d'Avis (2002). Examples like (16) are infelicitous:

- (16) What a delicious dessert John baked! #But I don't care.

The same kind of "apparent denial" as in (14) is possible for the attitude expressed in a wh-exclamative. The wh-exclamative in (17), for instance, can be followed up with (17-a):

- (17) What a delicious dessert John baked!
 a. I am not surprised, though. He's a professional cook.

There is no way to interpret the wh-exclamative in (17) as conveying its speaker's surprise after we heard the continuation in (17-a). (17-a) does not take back the emotive attitude expressed by the exclamation in (17), but simply serves to better circumscribe the attitude expressed, namely by excluding surprise. For example, the speaker of (17) may still be stricken by how delicious the dessert was, although he knew it would be very well in advance.

Examples like (17) could also be used to argue against the point that the attitude wh-exclamatives express is necessarily unexpectedness, or surprise, made by, e.g., Rett (2011), among many others, and discussed in more detail in section 2.3.4 of Chapter 2. The mini-discourse in (17) show that even when the unexpectedness attitude is explicitly excluded by the speaker, the use of the wh-exclamative is still felicitous.²

3.2.3 Summary

The main observation made in this section is that the wh-exclamative content cannot be coherently denied by its speaker in the subsequent discourse. Therefore, this content is an entailment, just like asserted content is. The speaker-deniability property is thus too coarse to distinguish asserted meanings from other types of entailments. This is why I am going to look at other discourse properties. Chapters 4 and 5 will be show how this discourse property is derived for both asserted and wh-exclamative content types.

3.3 Wh-exclamative content is not asserted

3.3.1 Introduction

Asserted content cannot be denied by the speaker of an assertion, but any other interlocutor can voice their disagreement with the speaker's position by saying something like “*No*”, “*That's not true*” or “*That's a lie*”. I will refer to such forms of addressee-denials as “*direct challenges*”. Informally speaking, it looks like the speaker making an assertion puts its content “up for discussion”, so the content can be challenged by the audience. Consider the dialogue in (18):

- (18) A: John has a sister.
 B: No/That's not true. He is the only child in his family.

With his reaction, B indicates that he has evidence for the opposite claim, namely, that John does not have a sister.

A property of asserted content related to its direct challengeability is that it can always be challenged as a lie. Consider an example in (19):

- (19) A: John baked a dessert.
 B: I don't believe you./You're lying. He didn't bake anything.

Direct challenges cannot target other types of contents. The dialogue in (20) shows, for example, that “*That's not true*” cannot challenge the conventionally-

²Examples like (17) are, however, judged as infelicitous in Villalba (2003). He has not taken into account the interpretation of such continuations that fixes the exact attitude expressed by a wh-exclamative.

implicated content of an appositive clause³ (Amaral, Roberts and Smith 2007, AnderBois, Brasoveanu and Henderson 2010, Roberts and Tonhauser 2011, Murray 2012). The asserted content of (20), i.e., the proposition that John bakes delicious cakes, can be challenged by “*That’s not true*”, whereas the content of the appositive, i.e., the proposition that John is a cyclist, cannot:

- (20) A: John, who is a cyclist, bakes delicious cakes.
 a. B: That’s not true. He cannot bake at all!
 b. B: #That’s not true. He’s not a cyclist.

A similar claim can be made about “*No*”: when it is used after a declarative sentence containing an appositive clause, the asserted content of the sentence, but not the conventionally-implicated content of the appositive content, is challenged. The example in (20) showing reactions with “*No*”, is in (21):

- (21) A: John, who is a cyclist, bakes delicious cakes.
 a. B: No, he cannot bake at all!
 b. B: #No, he’s not a cyclist.

Note the position of the appositive clause in (20) and (21): it is in the middle of the declarative sentence. I will refer to such appositive clauses as *sentence-medial*. The data is different with respect to direct challengeability for *sentence-final* appositive clauses, as in (22):

- (22) A: Mary dates John, who is a cyclist.
 a. B: No/That’s not true. She dates Bill.
 b. B: No/That’s not true. He’s not a cyclist.

AnderBois, Brasoveanu and Henderson (2010) hypothesise that a declarative sentence with a sentence-final appositive clause performs assertions of the content of both the host declarative and appositive clauses. This might explain why the data differ with respect to direct challenge for sentence-medial and sentence-final appositives: this stems from different discourse roles of the two kinds of appositive contents. In the rest of this chapter (and dissertation), I will use the term *appositive content* as referring to the content of a sentence-medial appositive only. This kind of content is interesting to consider, because its function in discourse can be contrasted with asserted and wh-exclamative contents. Sentence-final appositives will be only briefly mentioned in section 3.4.

Just like appositive content, presupposed content cannot be challenged directly. Consider (23) for an illustration showing that the existence presupposition of the possessive noun phrase “*John’s cake*” cannot be targeted by a direct challenge; only the asserted content of the sentence can:

- (23) A: John’s cake is delicious.

³Instead of saying “conventionally-implicated content of an appositive relative clause” I will simply use the term “appositive content”.

- a. B: That's not true. It's disgusting!
- b. B: #That's not true. John didn't bake any cake.

It is not true, however, that non-asserted content (brought, for example, by a presupposition or an appositive) cannot be challenged at all. In some cases, a stop in the discourse is needed before the information can be challenged. This stop can be signalled, for example, by discourse markers like “*Hey, wait a minute!*” discussed in von Fintel (2004), “*Well*” or “*Not really*”. I will call this kind of challenge “*indirect*”. Let us consider an example from von Fintel (2004) first:

- (24) A: The mathematician who proved Goldbach's Conjecture is a woman.
- a. B: Hey, wait a minute. I had no idea that someone proved Goldbach's Conjecture.
 - b. B: #Hey, wait a minute. I had no idea that that was a woman.

B's reaction in (24-a) shows how the content carried by A's restrictive relative clause can be challenged, and (24-b) illustrates that the asserted content of a declarative sentence needs to be challenged directly.⁴

Similarly, Potts (2005) and Amaral, Roberts and Smith (2007), a.o., have argued that the content brought by a conventional implicature can be indirectly challenged. One of Potts' examples illustrating this claim for the content of an appositive is in (25):

- (25) A: Chomsky, the famous linguist from MIT, is coming to give a talk here next week.
- a. B: Hey, wait a minute. I didn't know he was from MIT.
 - b. B: #Hey, wait a minute. I didn't know he was coming here.
- (Potts 2005)

In fact, *any* type of content can be challenged just by asserting the opposite, without even the need for any discourse marking. This is illustrated in example (26-a) for the conventionally-implicated content of an appositive, and in (26-b) for presupposed content:

- (26) a. A: John, a cyclist, bakes delicious cakes.
B: John is not a cyclist.
- b. A: John's cake is very delicious.
B: He didn't bake any cake.

So, the asserted content of a declarative sentence can always be challenged directly, whereas other types of contents are challenged only indirectly. Because it is always possible to make a challenge by asserting the opposite, when we

⁴Some authors take the “*Hey, wait a minute!*” test as a diagnostic for presupposed content. However, von Fintel himself never made such a claim. A more detailed discussion of this issue and examples can be found in Abels (2010).

consider discourse properties related to challenging of a certain type of content, the question should be not *whether* the content can be challenged, but *how*; i.e., with the help of which discourse markers, this can be done.

Before turning to challenges of wh-exclamative content, let me say a few words about assertions with privileged information. The behaviour of asserted content involving speaker-privileged information is relevant for the discussion of discourse properties of wh-exclamatives because the wh-exclamative content conveys a speaker-related evaluation. The next section will show that *assertions* of speaker-related information can be challenged directly. Therefore, what is important is *how* the information is conveyed, and not the speaker-related or generic nature of the evaluation in the content.

3.3.2 Challenging assertions involving speaker-privileged information

Just like any asserted content, that involving speaker-privileged information can be challenged directly. A reaction to this kind of assertion with “*No*” or “*That’s not true*” is possible, although there are not many situations we can imagine in which the addressee would have “better” evidence about the speaker’s internal experience. Consider a dialogue in (27) for illustration:

- (27) A: I am hungry.
B: %No/That’s not true.

The symbol “%” indicates variable felicity: in some situations, B’s reaction is felicitous, and in others, it is not. One should be careful not to confuse the %-judgement with the impossibility for non-asserted content to be directly challenged. In most cases, it is weird for B to reject A’s claim that A is hungry, as this would indicate that B has better evidence about the A’s internal state than A himself. However, B still *can* challenge A’s assertion in some situations. One reason to reject A’s assertion in examples like (27) is when B has reasons to doubt A’s sincerity. A similar observation was made in Crespo and Fernández (2011). In this case, B can go on as in (28-b):

- (28) A: I am hungry.
B: No/That’s not true. You’ve just had dinner!

Another possible situation in which B’s reaction is felicitous is when B, for some reason, has got exact information about A’s private world. I will refer to this kind of scenarios as “*privileged information scenarios*”. Consider the example in (29), where B’s reaction is extended:

- (29) A: I am hungry.
B: No/That’s not true. In fact, you’re completely full, you just don’t feel it.

A situation in which this dialogue would be possible could, for example, be as follows: Imagine that B is a neurologist and A is a patient who is currently under drugs. B gives A stimuli (for example, a sandwich) and investigates how A classifies what he feels as a response to those stimuli. In this situation B has information about A's internal state and is, therefore, entitled to make claims about it.

A similar kind of dialogue about attitudes is possible in privileged information scenarios. Consider a (constructed) example (30), for illustration, where B challenges A's categorisation of his attitude as "surprise":

- (30) A: I am surprised.
B: No/That's not true. In fact, you feel admiration.

The following naturally-occurring examples from Google show that dialogues involving argumentation about assertions like A's assertion in (27) are possible:

- (31) A: "*I'm Hungry*"
B: "*No, you're just bored!*"
A: "NO REALLY MUM, I'M HUNGRY!!"
<https://www.facebook.com/pages/Im-Hungry-No-youre-just-bored-NO-REALLY-MUM-IM-HUNGRY/314776743012>
- (32) It's just so frustrating to hear two voices in my head – one saying "*I'm hungry*" and the other saying "*no, you're not.*"
<http://www.3fatchicks.com/forum/chicks-control/229853-trying-talk-myself-out-thinking-im-hungry.html>

Similarly, it is possible to challenge assertions conveying that the speaker experiences some emotion, although the speaker is, most often, the only one who has access to this kind of information, as in the example about hunger. (33) from Google and (34) and (35) from the Corpus of Contemporary American English (COCA) illustrate this for the assertions "*I am happy*" and "*I feel bitter*":

- (33) A: "*I'm happy.*"
B: "*No you're not.*"
A: "You're right."
<http://thatguywiththeglasses.com/videolinks/thatguywiththeglasses/5-second-movies/93-star-wars-episode-iii>
- (34) "You've taken wonderful care of me." "I promised I'd make sure that you were well taken care of and happy.," she continued. "*I am happy.*" "*You're not!*" she said, dropping her fork onto her plate and glaring at me. "You're afraid! You think everyone's staring at you, judging you.."
- (35) RIVERA: How do you feel about that? Do you feel bitter about that, or – how – how do you feel?
RACHEL: *I feel bitter about it.*
LINDA: *No, you don't.*

RACHEL: Not – not bitter, but still. . .
 RIVERA: Sad.
 RACHEL: Right.

Declarative sentences asserting something about speaker-privileged experience can also be challenged as lies, as (36) shows:

- (36) a. A: I'm hungry.
 B: I don't believe you./You're lying. You've just had dinner!
 b. A: I find this dessert very delicious.
 B: I don't believe you./You're lying. I saw you pushing it around on your plate.

As was shown in this section, assertions about speaker-privileged experience do not differ from “ordinary” assertions with respect to their challengeability by the audience. The challenges do require special contexts, like privileged information scenarios, but this has to do with the *type of information* asserted and not with the sentence form. These observations will be important for what follows. Wh-exclamatives contain privileged information (a speaker's noteworthiness evaluation, for a start). If we want to know whether the wh-exclamative content can be challenged, the observations above show us what to expect for privileged information in discourse. This way we can tease apart the influence of the type of information from the discourse characteristics of the speech act itself.

3.3.3 Wh-exclamatives cannot be challenged directly

Let us now turn to direct challenges of wh-exclamatives. If wh-exclamatives assert their content, it would be possible to directly challenge this content. As the wh-exclamative content is speaker-related, direct challenges would, supposedly, be available only in privileged information scenarios. (Recall the discussion in the previous section about challenging assertions involving speaker-privileged information.) However, the first observation that I will make is that direct challenges of the form most often used for declarative sentences are infelicitous after wh-exclamatives, as shown in (37):

- (37) A: What a delicious dessert John baked!
 B: #No./#That's not true./#That's a lie.

Let me first consider direct challenges involving the pronoun “*that*”, like “*That's not true*” or “*That's a lie*”. Challenges with “*No*” will be discussed subsequently. In the COCA corpus there were no examples of a wh-exclamative followed by a reaction with, e.g., “*That's not true*”, as a result of a search for “*what a|an*” followed by “*true*” in a 9-word window. A possible explanation for what constrains the things that can be challenged with “*That's not true*” has to do, at least in part, with restrictions on what “*that*” can refer to. Supposedly,

asserted content of declarative sentences has the right status to be referred to by this use of “*that*”, while the wh-exclamative content does not have the same status. In support of this claim, other forms of reactions containing “*that*” which are not related to the truth of the utterance are not possible after a wh-exclamative either (cf. Chris Potts, p.c.):

- (38) A: What a big crowd that is!
 B: #That’s interesting/fun/exciting.

Turning to the form of a direct challenge of the wh-exclamative content with “*No*”, Rett (2011) already noticed the contrast in the acceptability of the “*No*”-response between so-called “declarative exclamatives” as in (39) and wh-exclamatives as in (40):

- (39) A: (Wow,) John bakes delicious desserts!
 B: No (he doesn’t), these are store-bought. John’s actually a terrible cook. (Rett 2011)
- (40) A: (My,) *What delicious desserts John bakes!*
 B: ?No (he doesn’t), these are store-bought. John’s actually a terrible cook. (Rett 2011)

Rett used these examples to argue that declarative exclamatives make assertions, while wh-exclamatives do not. (More on how declarative exclamatives convey their content will be said in Chapter 5.) Note, however, that the infelicity of the “*No*”-reaction after the wh-exclamative in (40) can be alternatively explained: the ellipsis in “*he doesn’t*” might not have access to the content of the wh-exclamative in (40), in contrast to the content of a declarative exclamative in (39). Recall the tentative explanation that I gave for the unacceptability of direct challenges with “*That’s not true*” at the beginning of this section: “*that*” cannot refer to the content of a wh-exclamative. In Chapter 5, I will report contrasting examples for declarative exclamatives, which *can* be challenged with “*That’s not true*”. We thus see a similarity between acceptability of reactions with “*That’s not true*” and reactions involving ellipsis for the case of declarative and wh-exclamatives.

A COCA search for “*what a|an*” followed by “*No*” in a 9-word window did not result in any instance of a wh-exclamative challenged by the use of “*No*”. But it did reveal an interesting set of examples. “*No*” can occur after wh-exclamatives. However, in all cases in which this happened, “*No*” turned out to respond to the utterance *before* the exclamative utterance (Chernilovskaya, Condoravdi and Lauer 2012b). One such example is in (41), where Karl reacts with “*No*” not to Jeremy’s wh-exclamative itself, but rather to the utterance directly preceding it (namely, the one saying that Amy is a mind-reader), which is evident from the subsequent clarification:

- (41) “Amy told me,” Karl says.
 “I never told Amy I liked Elizabeth,” Jeremy says. “So now Amy is a

mind-reader as well as a blabbermouth? *What a terrible, deadly combination!*"

"No," Karl says, grudgingly. "Elizabeth told Amy that she likes you. So I just figured you liked her back."

Let us consider one more COCA example of a wh-exclamative followed by "No" in (42) in more detail. It comes from a commentary on the Winter Olympics:

- (42) Zahn: Oh, this sport is wild.
 McCarver: ... because it – it's wild.
 Smith: Mm-hmm.
 McCarver: It's like roller derby on – on ice and it's – it's something that Americans can relate to because – as opposed to being judged on time...
 Smith: Mm-hmm.
 McCarver: It's judged – whoever's across the finish line first and that's what Americans, I think, are used to watching.
 Smith: *What a radical concept.*
 Zahn: *No.* I thought he was going to say...
 McCarver: What a strange concept.
 Zahn: I thought he was going to say Americans can relate to it because everybody's going to be pushing and shoving and knocking each other on the ice.

I reformulated and shortened this example, for the sake of illustration, as follows:

- (43) McCarver: Americans like the sports judged based on precedence.
 Smith: *What a radical concept!*
 Zahn: *No,* Americans like the sports judged on time.

The "No" following Smith's wh-exclamative reacts to McCarver's claim. So, for the purposes of the "No"-response, Smith's wh-exclamative might as well not be there. If, in the same dialogue, Smith had used a declarative sentence asserting the radicality of the concept instead of the wh-exclamative, the target of "No" would be different. Indeed, as the contrast between (44-a) and (44-b) shows, "No" is more natural as an immediate reaction to the preceding clause:

- (44) McCarver: Americans like the sports judged based on precedence.
 Smith: *This is a radical concept.*
 a. Zahn: *No,* it's not radical.
 b. Zahn: ??*No,* Americans like the sports judged on time.

The literature on polarity particles has only looked at the words "Yes" and "No" as answers to polar questions or immediate reactions to assertions (Farkas and Bruce 2009, Farkas and Roelofsen 2012). Reactions to other speech acts or longer dialogues involving several conversational moves have not been

discussed, as far as I know. Suppose there is a rule in discourse saying that “*No*” reacts to the closest available conversational move, which is illustrated in (44). Then wh-exclamatives must escape this rule. In this sense they are not just not directly challengeable, they are, moreover, *transparent* to direct challenges.

Based on evidence from direct challengeability, it looks like wh-exclamative content is not asserted. Now I am going to consider whether wh-exclamative content can be challenged as a lie, and we expect that this kind of challenge cannot follow wh-exclamatives. The fact that the wh-exclamative content cannot be challenged as a lie is illustrated in a constructed example (45):

- (45) A: What a delicious dessert John baked!
 B: #I don't believe you. /#You're lying. You don't find it noteworthy.

Nor is it possible to react to a wh-exclamative with “*That's a lie*”, which probably has to do with restrictions on the referent of “*that*” discussed earlier in this section. A COCA search for “*what a|an*” followed by “*lying*”, “*lie*” or “*believe*” in the 9-word window did not give any results. I take it as evidence that this kind of reaction cannot follow wh-exclamatives.

If anything, the speaker of a wh-exclamative can be blamed for misguiding, or not being sincere in expressing his attitude, as is illustrated in (46):

- (46) A: What a delicious dessert John baked!
 B: Are you really surprised? I thought you knew that he's a professional cook.

Also, wh-exclamatives used as compliments can be reacted to in a similar way, as in (47), expressing the addressee's doubts about the speaker's sincerity. But neither in (46) nor in (47) would it be possible for B to start his reaction with, e.g., “*I don't believe you*”:

- (47) A: What a delicious dinner you've made!
 B: Are you really impressed? It's a perfectly ordinary meal!

Note, however, that these intuitions about challenging a speaker's sincerity are made purely on the constructed examples (46) and (47). No corpus examples confirming this point were found.

To sum up, in section 3.3.1 we saw that asserted content can be directly challenged using discourse markers like “*No*” or “*That's not true*”. Even assertions of speaker-privileged information allow this kind of challenge, although those are available only in situations when the addressee has information about the speaker's experience (referred to as *privileged information scenarios* in section 3.3.2). In contrast, non-asserted content (e.g., presupposed or appositive content) cannot be directly challenged: if “*That's not true*” reacts to a declarative sentence containing an appositive clause, only the asserted and not appositive content is challenged.

In this section, I have shown that wh-exclamatives cannot be challenged directly by using “*No*” or “*That’s not true*” and cannot be challenged as a lie. In other words, the wh-exclamative content shows a contrast with asserted content and behaves similarly to other non-asserted contents with respect to this discourse property. A curious thing about “*No*”-responses discovered in this section is that, if “*No*” follows a wh-exclamative, it reacts to the preceding utterance instead of the wh-exclamative itself. In Chapters 4 and 5, I will follow Farkas and Bruce (2009) in defining the discourse move of direct challenge with discourse markers like “*No*” and “*That’s not true*”. I will show that those challenge asserted, but not wh-exclamative or appositive content.

Recall from section 3.3.1 that presupposed and appositive contents can be challenged indirectly, for example, by using a discourse marker “*Hey, wait a minute!*” In the next section, I will investigate to what extent such a claim holds for wh-exclamatives.

3.3.4 Indirect challenge markers following wh-exclamatives

We have seen in the previous section that wh-exclamatives cannot be directly challenged by the addressee. However, it is not true that there is no way at all to challenge the wh-exclamative content. In this section I consider indirect challenges of wh-exclamatives using various discourse markers. (And in the next section challenges of wh-exclamatives not involving discourse markers will be discussed.)

Several claims, often contradicting each other, have been made in the literature regarding direct challenges. For example, Rett (2008b) argues that wh-exclamatives can be indirectly challenged by using “*Not really*”, but not “*Hey, wait a minute!*”. The latter is also claimed in Mayol (2008). Consider the example in which the fact that Edwood is very tall is challenged:

- (48) A: How very tall Edwood is!
 B: Not really; he’s just wearing platform shoes. (Rett 2008b)

B’s reaction is intended to contradict A’s wh-exclamative. A similar attempt to challenge starting with “*Hey, wait a minute!*” fails, according to the data reported in Rett (2008b):

- (49) A: What incredibly large feet you have!
 B: #*Hey, wait a minute, they’re not that big!* (Rett 2008b)

Rett takes the kind of example discussed above to indicate that “*Edwood is very tall*” is not presupposed by (49). She argues that presupposed content behaves in exactly the opposite way: it *cannot* be challenged with “*Not really*” and *can* be with “*Hey, wait a minute!*” Such a claim is, however, not uncontroversial, according to Abels (2010). He provides a more detailed discussion of whether the reaction with “*Hey, wait a minute!*” should be considered as a test for

whether some content is presupposed. He also notices that wh-exclamatives *can* sometimes be reacted to like this. He gives an example in (50) for illustration:

- (50) A: I just watched Stanley Kubrick’s 2001 – A Space Odyssey. *Man, what a great movie!*
 B: *Hey, wait a minute!* I didn’t know you liked science fiction movies.

Note that examples in (49) and (50) are not, strictly speaking, comparable. As opposed to Rett’s examples above, what B attempts to challenge in (50) is not *that the movie is great*, but rather *that A characterises the movie as great*, which is supported by the continuation in B’s reaction.⁵

To summarise, from the previous section regarding direct challenge reactions, we already know that wh-exclamative content cannot be challenged directly (and thus is not asserted). As for indirect challenges involving discourse markers like “*Hey, wait a minute!*”, we have seen in this section that the literature offers no conclusive data on whether and how wh-exclamatives can be challenged indirectly. In general, we know too little about indirect challenge markers, and this does not allow us to draw stronger conclusions about the indirect challengeability of wh-exclamatives. For example, we cannot draw the conclusion that wh-exclamative content is presupposed based on challenges with “*Hey, wait a minute!*”, and this is different from the claim made in Rett (2008b). More research on the discourse markers of indirect challenge is needed here. After gaining empirical insights, one will need to formally define the discourse move made by indirect challenges performed by discourse markers like “*Hey, wait a minute!*” A requirement for this definition is that the discourse behaviour of different types of content with respect to an indirect challenge would follow from the proposal.

In the next section, I will turn my attention to another way of challenging wh-exclamative content – assertion of the opposite.

3.3.5 Wh-exclamatives can be challenged by asserting the opposite

As was mentioned in the introduction to this section, all types of meanings can be challenged by an unmarked assertion of the opposite. This also seems to hold for wh-exclamative content. However, as wh-exclamative content is speaker-related, we would expect such challenges to be available only in privileged information scenarios. Examples of challenges by asserting the opposite are in (51):

- (51) Bill: What a delicious dessert John baked!
 wh-exclamative content: Bill finds the dessert John baked delicious and noteworthy

⁵Another possibility is that the target of B’s challenge is that A just watched this movie, rather than A’s exclamative. (Thanks to Cleo Condoravdi for this remark.)

- a. Mary: %You don't find it delicious at all.
- b. Mary: %You don't find this surprising/noteworthy/impressive.
You're just pretending. You eat his desserts every day!
- c. Mary: %You're not surprised. You're just pretending. You eat his
desserts every day!

These examples show that the wh-exclamative content can be challenged in appropriate contexts. In particular, both Bill's personal evaluations of the dessert as delicious and as noteworthy can be challenged (in privileged information scenarios). Note, however, that all examples in (51) are constructed. In the COCA corpus, I did not find examples confirming the point, probably because of the general infrequency of situations in which the addressee would have exact information about the speaker's private world.

Curiously, a search in COCA for "*what a/an*" followed by "*not*" in a 9-word window resulted in different kind of example, illustrated in (52)-(54). For example, the content of (52) expressed by a proposition "*I find the question strange and noteworthy*" is reacted to with "*Not strange...*", which expresses something similar to faultless disagreement:

- (52) "Which of your patients has the greatest, richest, most incredible bank deposits?" The nurse glanced up at this strange request. "Pardon?" "You heard me very clearly," said the tall gaunt man. "*What a strange question.*" "*Not strange when you think what's at risk.*"
- (53) "*What a mess,*" he says. "*Not so bad,*" she says, already loyal to what will be their home.
- (54) Becky covered her face with her hands. "I told him how glad I was he came home whole! Oh, Mother Warne! *What a stupid thing to say!*" "*Not at all!*" Molly patted her gently.

A similar kind of examples for asserted content would be (55):

- (55) A: I find this dessert delicious.
B: It is not delicious.

What A's assertion in (55) conveys is a speaker-related judgement about the deliciousness of the dessert. This judgement is not what is challenged by B's reaction. Rather, it looks like A's utterance, together with making an assertion about A's personal judgement, makes the generic evaluation of the dessert, and this is what B disagrees with. Dialogues like (55) for assertions and (52)-(54) for wh-exclamatives thus seem to involve faultless disagreement.

While challenging a wh-exclamative, it is possible that the addressee accepts a part of its content and at the same time rejects another part. Such cases lead to a discussion about the grounds for the attitude expressed by the speaker. Consider the following example from Chernilovskaya, Condoravdi and Lauer (2012b):

- (56) [Returning after a long trip abroad, finding a huge pile of mail.]⁶
 A: What a huge pile of mail!
 B: That's not surprising./What did you expect?/Why are you surprised? We were gone for 6 months!

This example shows B challenging a part of the content of A's wh-exclamative. B's response draws A's attention to the fact that A and B have been away for a long time, so the amount of mail they got should not have caused A's surprise. In other words, B is not challenging that A is stricken by the amount of mail accumulated during their absence, but is rather questioning the grounds for A's surprise.

In general, an emotive attitude is always assessed against a background set of beliefs. A response to a wh-exclamative can therefore question some of the background assumptions that justify the attitude expressed by the wh-exclamative. What is interesting about cases like (56) is that A and B agree on the size of the pile, and can even agree on the standard of comparison for "huge", i.e., both would assent to the description of the pile of mail as huge. At the same time, they disagree on the attitude at stake (whether this amount of mail should cause surprise).

To sum up, this section has shown that wh-exclamatives can be challenged by asserting the opposite of their content. In Chapter 5, I will show that this is compatible with the proposals for the context-change effects of the assertion and exclamative speech-act operators. Unfortunately, this conclusion is drawn only on the basis of constructed examples. In general, no clear claims are made about indirect challenges of wh-exclamative content: in section 3.3.4, we have seen that no conclusive data is reported about challenges of wh-exclamatives involving discourse markers like "*Hey, wait a minute!*" In this section no support from corpus data was found for the point about challenges of wh-exclamatives by asserting the opposite (not involving discourse markers).

3.3.6 Interim summary

In sections 3.2 and 3.3, we saw that wh-exclamative content is an entailment, but it is not asserted. Asserted content is put up for discussion and can be directly challenged by the addressee, whereas wh-exclamative content can be challenged only indirectly. In fact, this is already enough to support the claim that wh-exclamative content is not asserted, which provides a partial answer to the first question addressed in this chapter. From this point, one could go directly to Chapter 4 for a definition of the model of context, and Chapter 5 for the proposal for the exclamative speech act. However, there are also other discourse properties that could potentially be used to argue for the non-assertive nature of wh-exclamatives. One may wonder, for example, whether wh-exclamatives are confirmed and accepted in a similar way to asserted content. In the next section, I will address acceptance and confirmation of various types of

⁶Thanks to Itamar Francez for raising the questions about examples of this form.

content. I will show that there are differences in discourse behaviour between asserted and wh-exclamative contents. In addition, I will demonstrate that, although confirmation is considered to be the default reaction to an assertion (see, e.g., Farkas and Bruce 2009), the formulation of this property, even for assertions, requires much further research.

Following section 3.4, in section 3.5, I review some other discourse properties of wh-exclamatives which have been claimed to argue in the favour of non-assertive nature of wh-exclamatives. Examples include wh-exclamatives used as reactions to questions (Grimshaw 1979, Zanuttini and Portner 2003, Marandin 2008, a.o.) or the use of wh-exclamatives in argumentation (Castroviejo Miró 2008a). I will show that, despite the claim made in the literature, these discourse properties do not always clearly show the difference between asserted and wh-exclamative contents.

Another important point that will be made in the rest of the chapter is that there is no difference between presupposed, appositive and wh-exclamative contents with respect to discourse behaviour (at least, not in the examples of discourse properties that I consider). We already saw in sections 3.2 and 3.3 that all of the contents are entailments, which cannot be challenged directly, and the data concerning indirect challenges involving discourse markers is not conclusive. In the next section, I will address the same issue for acceptance and confirmation.

3.4 How wh-exclamative content is confirmed and accepted

3.4.1 Introduction

Following Gunlogson (2008), I distinguish between two kinds of conversational moves used for concurring reactions to assertions made by declarative sentences: *acceptance* and *confirmation*.⁷ *Confirmation moves* are responses with which the addressee indicates that he has conversation-external evidence for the asserted proposition. They are thus incompatible with a profession of ignorance on the part of the addressee. Confirmation is signalled by markers like “*Yes*”, “*Yeah*”, “*Indeed*”, “*Right*”, “*That’s right*”, etc.⁸ For example, in (57-a) B provides his own evidence for A’s claim. (57-b) shows that B’s reaction involving confirmation markers is incompatible with claiming that B does not have any evidence:

(57) A: John baked a dessert.

⁷The distinction is also discussed in Farkas and Roelofsen (2012), where it is made in terms of *sources* of information.

⁸In this sense, confirmation and acceptance are more clear discourse properties than challenge by the addressee, because they are always made with discourse markers, as opposed to challenges, which can always be made by asserting the opposite.

- a. B: Yes./Yeah./Indeed./((That's) right. I saw him in the kitchen yesterday.
- b. B: Yes./Yeah./Indeed./((That's) right. #I didn't know that.

Acceptance moves, on the other hand, indicate that the addressee has no such conversation-external evidence, and hence takes on a belief in the asserted proposition on the speaker's testimony alone. Some acceptance markers include "Oh", "Uh-huh", "Okay", and "Aha". (58) illustrates that B's reaction is compatible with him not having any evidence for A's claim:

- (58) A: There was a big crowd.
B: Oh./Uh-huh./Ok./Aha. I didn't know that.

Gunlogson's definition predicts that declarative sentences asserting something about speaker-privileged experience can be accepted in most cases, as the addressee usually has a tendency to trust the speaker reporting about his own experience:

- (59) A: I find the dessert John baked very delicious.
B: Oh./Uh-huh./Ok./Aha. I didn't know that.

B's response in (59) conveys that B has no evidence of his own about A's perception of the dessert. In addition, it is possible to confirm an assertion like in (59); however, this can be done only in privileged information scenarios:

- (60) A: I find the dessert John baked very delicious.
B: %Yes./Yeah./Indeed./((That's) right. I see it on your brain scan as well.

As mentioned above, there are several confirmation markers.⁹ Let's have a closer look at how some of them are used. Care should be taken in determining what confirmation markers confirm or agree with. As we pointed out in Chernilovskaya, Condoravdi and Lauer (2012b), while confirmation markers are usually used to confirm the asserted content of a declarative sentence, "Yeah" and "Yes" in particular can be used as more general markers of agreement, confirming the "point" the original speaker intended to make with his utterance. I informally take the notion of the *general point* to refer to the argument a discourse participant is trying to make. Consider (61) for illustration:

- (61) A: I learnt a lot in this course.
a. B: Yes/Yeah, you definitely did! I saw how fast you can solve these equations now!
b. B: Yeah/Yes, me too. The course was very useful!

⁹Some confirmation markers, like "Ok" or "Oh", have a very broad use in a conversation. Their variety of usages is beyond the scope of the dissertation, so I will be concerned only with their role related to confirmation and acceptance.

By his utterance in (61) the discourse participant A asserts that he learnt a lot, and the argument he is trying to make is more general: it could be, for example, that the course was good or generally useful. B's reaction in (61-a) confirms A's assertion, as B provides his own evidence for the claim that A learnt a lot. In contrast, B's explanation for (61-b) shows that he confirms the general point A' is making, and not that A learnt a lot. (61-b) could be specified further to show this:

(62) B: Yeah/Yes. I didn't know you learnt a lot, but I found the course very useful.

(63) is a COCA example structurally similar to (61-b), in which what the addressee confirms is not the claim that the speaker learnt a few things, but rather that it was useful to shoot the movie together with this 14-year-old girl:

(63) "I think doing this movie helped me in real life. I have an almost 13-year-old. The girl in the movie was 14, and it was very interesting to be around her. There are big differences between 12, 13 and 14, and I got to spend a lot of time with a 14-year-old, so that was useful for me. *I think I learned a few things.*"
 "Oh yeah, *absolutely*. It couldn't be more relevant than it is. It's exactly what's going on."

As opposed to the markers like "Yeah" and "Yes", there are examples of confirmation markers for which it *is* clear what they confirm. A particularly clear-cut example is "*That's right*". Consider (64). In this case, B's response only makes sense if B had the opportunity to see A demonstrate the skills A picked up in the course, i.e., if he has conversation-external evidence for the truth of A's assertion.

(64) A: I learnt a lot in this course.
 B: That's right. I saw how fast you can solve these equations now!

The fact that "*That's right*" does not confirm the general point made by the preceding utterance can be seen from the infelicity of examples like (65):

(65) A: I learnt a lot in this course.
 B: #That's right. I didn't know you learnt a lot, but I found the course very useful, too.

"*Indeed*" and "*Right*" seem to behave similarly to "*That's right*" in this respect: they also confirm the asserted content, in contrast to "Yeah" in (61). Recall that in a very similar example (61) with confirmation markers like "Yeah" it was not clear what exactly they confirm.

In addition to what exactly is confirmed, there is one more dimension in which various confirmation markers differ with regard to situations in which the addressee does not fully agree with the speaker's assessment. Consider the

dialogue in (66) with the confirmation marker “*Yeah*”:

- (66) A: That movie was awesome.
 B: Yeah, it was good./Yeah, it was not bad.

Here, B supposedly does not fully agree with A on A’s assessment of the movie, but he indicates with the confirmation reaction that his general impression is also positive. A similar example with the confirmation marker “*Indeed*” seems infelicitous:

- (67) A: That movie was awesome.
 B: #*Indeed*, it was not bad.

Here, B does not fully agree with A on his assessment of the movie as “*awesome*” and is trying to convey a weaker assessment (“*not bad*” rather than “*awesome*”). The infelicity of B’s reaction in (67) thus shows that for a felicitous use of “*Indeed*”, B must share A’s opinion completely.

Up to now, I have only considered confirmation and acceptance of the asserted content of declarative sentences. Confirmation reaction turned out to be much more involved than was suggested in Gunlogson (2008) and Farkas and Bruce (2009). The preliminary conclusion here is that confirmation markers “*Indeed*” and “*That’s right*” confirm the asserted content, which has to be fully shared by the addressee. Markers “*Yeah*” and “*Yes*”, in addition to confirming the asserted content, can confirm a more general point as well as a weaker point.

Can other types of contents be accepted or confirmed, and, if so, how? The situation with acceptance of appositive content seems clear: an acceptance marker as a reaction to a declarative sentence containing an appositive clause is used to agree with the asserted (and not the appositive) content:

- (68) A: John, who is a cyclist, bakes delicious desserts.
 a. B: Oh/Ok/Uh-huh, I didn’t know that he bakes well.
 b. B: #Oh/#Ok/#Uh-huh, I didn’t know he is a cyclist.

As for confirmation of declarative sentences containing appositives, AnderBois, Brasoveanu and Henderson (2010) make the following claim: bare particle responses are not readily interpreted as confirming appositive content. They illustrate this claim with the example in (69):

- (69) A: Sonia, who is a terrible housemate, left the door unlocked last night.
 B: Yeah, but she is still a good housemate. (AnderBois et al. 2010)

“*Yeah*” in (69) confirms the asserted content of A’s utterance (i.e., that Sonia left the door unlocked), and not the appositive content (i.e., that she is a terrible housemate). In fact, the appositive content in (69) is even challenged. (69), however, does not show that appositive content *cannot* be confirmed with “*Yeah*”. And in fact, it can be, as shown in example (70):

- (70) A: Sonia, who is a terrible housemate, left the door unlocked last night.
B: Yeah, she did leave the door unlocked and she's awful!

(70) is an example of both asserted and appositive contents being confirmed. Judging from (69) and (70), “*Yeah*” reacting to a declarative sentence containing a sentence-medial appositive requires sharing the asserted content. The appositive content may or may not be shared, as illustrated in (70) and (69), respectively. (71) illustrates that, if the asserted content of the sentence is not shared, “*Yeah*” is infelicitous as a reaction to it. In particular, “*Yeah*” cannot confirm *only* the appositive content:

- (71) A: Sonia, who is a terrible housemate, left the door unlocked last night.
B: #*Yeah*, although she did lock the door.

To sum up briefly, appositive content cannot serve as *the only* confirmed content of a declarative sentence with a sentence-medial appositive clause, as a confirmation marker reacting to such a sentence always shows agreement of the addressee with the asserted content.

Note that the data with respect to confirmation is different for sentence-final appositives. AnderBois, Brasoveanu and Henderson (2010) observe that “*Yeah*”-responses that repeat or further develop the content of an appositive clause are possible. One of the COCA examples reported in their work to confirm the point is in (72):

- (72) [Mr. ANDERSEN] And there was some sense of justice, I think, for these children for me to track down this foster mother, *who really got away with outrageous behavior*.
[Ms. SALTZMAN] *Yeah*. She got away with it.

But (72) cannot be used to show that appositive content is *the only* confirmed content. Another possibility would be that the appositive together with the asserted content of the main sentence is confirmed. A modification of (72), as in (73), is needed to show this:

- (73) [Mr. ANDERSEN] And there was some sense of justice, I think, for these children for me to track down this foster mother, *who really got away with outrageous behavior*.
[Ms. SALTZMAN] *Yeah*. She got away with it. ??But there isn't any justice in you tracking her down.

Although I did not provide a complete and conclusive overview of the use of various confirmation markers, I hope to have made it clear that judgements about what is confirmed have to be made with care. Confirmation markers can react to asserted content or content of a sentence-final (but not medial) appositive clause. But sometimes it is less clear what is confirmed: “*Yeah*” can be used to confirm a general point made by the sentence, rather than the content the sentence asserts. Unless we can specify what exactly is confirmed

by a certain confirmation marker, we cannot use the data to make a definite claim. In the next section, I will see if we can draw any conclusions about acceptance and confirmation of wh-exclamatives.

3.4.2 Wh-exclamative content cannot be accepted

I will start the discussion of acceptance and confirmation reactions to wh-exclamatives with acceptance, as the data here is more clear. As reported in Chernilovskaya, Condoravdi and Lauer (2012b), acceptance moves are generally infelicitous in response to wh-exclamatives. This is illustrated in (74). (74-a), for instance, shows that it is infelicitous for B to accept A's wh-exclamative on A's testimony and at the same time deny that B himself does not have evidence for John's dessert being very delicious:

- (74) A: What a delicious dessert John baked!
- a. B: #Oh./#Uh-huh./#Ok. I didn't know you find it delicious.
- b. B: #Oh./#Uh-huh./#Ok. I didn't know you find it noteworthy/surprising/impressive.

Consistent with the observation about the impossibility of accepting wh-exclamatives, a search in COCA for “*what a/an*” followed by “*oh*”, “*OK*” or “*okay*” within a nine-word window yielded no cases of wh-exclamatives responded to by those.¹⁰ With respect to this property, again, the wh-exclamative content behaves similarly to appositive and presupposed content, but differently from asserted content, which can be accepted on speaker's evidence alone.

3.4.3 Can wh-exclamative content be confirmed?

Some items that often function as confirmation markers when used in response to assertions, like “*Right*”, “*Yeah*”, “*Yes*”, and “*Indeed*”, can appear in response to wh-exclamatives. Consider the following example:

- (75) A: What a delicious dessert John baked!
- B: Yes./ Yeah./Indeed./Right.

What do these confirmation markers indicate: that B shares A's evaluation of the dessert as delicious? If so, does he also necessarily share A's attitude (noteworthiness) about the dessert being very delicious? Or does B have the

¹⁰The corresponding search for “*uh-huh*” did yield one occurrence, which is shown in (i):

(i) “*What a mess.*” “*Uh-huh.*”

However, it should be noted that “*Uh-huh*” in this case needs a rather particular intonation, which is different from the standard intonation for accepting backchannels, as in (58) on p. 64. The intonation used for backchannels is, in general, ruled out after wh-exclamatives. I assume that “*Uh-huh*” with the special intonation is, in fact, a confirming and not just an accepting move.

same attitude – for example, “surprise” – but does *not* completely agree with the fact that the dessert is very delicious? (This could be because B did not expect John to be able to bake at all, but he thinks John’s dessert is just average in terms of deliciousness.) And does B confirm *A*’s evaluation or rather a *generic* evaluation of the dessert, based on his own evidence? It is difficult to get exact answers to these questions. Also in COCA there are many examples illustrating confirmation of wh-exclamatives with various confirmation markers.

- (76) In this case, it was a perfect belly landing, I’m sure a very hard one, and I’m sure that when those engine cowlings started to suck in the water of the Hudson River, that plane jerked to a very fast stop and the cockpit would have slammed down into the water. *But, boy, what an amazing job.*
 KELLY: *Indeed.*
- (77) ... you can just leave mint sprigs in your pitcher of water in the refrigerator and have that kind of spa water, you know?
 STORM: *Ooh.*
 Ms-RITCHIE: *It’s good.*
 STORM: *This is really, really good.*
 Ms-RITCHIE: *OK.*
 STORM: *What a great idea.*
 Ms-RITCHIE: *Right.*
- (78) GIFFORD: My brother and his wife and his daughter and granddaughter came. [...]
 KOTB: *What a sweet weekend.*
 GIFFORD: *Yes.* And then we went to see “Salt” last night.

Similarly to the constructed example in (75), (77) can be understood as Ms-RITCHIE fully agreeing with characterising the idea as “*great*”, but not sharing STORM’s characterisation of the idea as noteworthy.

In this section, I will try to discover the patterns in what exactly in wh-exclamative content is confirmed. Recall from the introduction to this section that there are various confirmation markers that may differ with respect to the content they confirm. One of them, namely, “*That’s right*”, will show a clear difference between confirmation of asserted and wh-exclamative contents. For other confirmation markers, such as “*Yeah*”, I will show that it is difficult to draw empirical conclusions from the data. In particular, one cannot see the difference between wh-exclamative and other non-asserted contents with respect to confirmation discourse property, and further empirical investigation is needed here.

Confirmation marker “*That’s right*”

Remember that “*That’s right*” was one of the confirmation markers which, when used after a declarative sentence, unambiguously confirmed asserted content.

However, “*That’s right*” is generally infelicitous after wh-exclamatives:

- (79) A: What a delicious dessert John baked!
B: #*That’s right*.

Also, a COCA search for “*what a/an*” followed by “*right*” within a 9-word window yielded no exclamatives reacted with “*That’s right*”. The reason for the infelicity might have to do with what kind of content can be targeted by “*that*” – the point already discussed above in section 3.3.3 for direct challenges.

As “*That’s right*” can be used to confirm only asserted content, we can conclude once more that wh-exclamative content is not asserted. The comparison with other types of non-asserted contents cannot be made here due to the lack of data for confirmation of, e.g., appositive content.

Confirmation marker “*Indeed*”

What, in wh-exclamative content, does the marker “*Indeed*” confirm? I will try to tackle this question by looking at two types of continuations: the first one *confirming* certain content by providing extra evidence by the addressee, and the second one *denying* it. For the sake of illustration, all the examples below are constructed. As in corpus examples, in most of the cases, the context is unclear, as examples (76)-(78) indicated.

I will first consider a context in which the addressee brings his own judgement. In (80), for instance, B expresses that he agrees with A’s characterisation of the dessert as delicious, and adds his own evaluation to it:

- (80) A: What a delicious dessert John baked!
B: *Indeed*, and it also looks very nice.

On the other hand, B cannot react to A’s wh-exclamative by denying the evaluation of the dessert as delicious:

- (81) A: What a delicious dessert John baked!
a. B: *Indeed*, #but it’s not very delicious.
b. B: *Indeed*, #but you don’t find it very delicious.

A similar move is possible for the noteworthiness evaluation, but only in a privileged information scenario, where B has the power of making a claim about A’s personal experience:

- (82) A: What a delicious dessert John baked!
a. B: *Indeed*, it is surprising/noteworthy/impressive.
b. B: *Indeed*, %you’re surprised/impressed.
c. B: *Indeed*, %you find it noteworthy.

Example (83), seemingly, shows that the noteworthiness evaluation does not need to be confirmed with the confirmation marker “*Indeed*”: B’s continuation

is felicitous in privileged information scenarios:

- (83) A: What a delicious dessert John baked!
 a. B: Indeed, %but you're not surprised about it. John is a professional cook, after all.
 b. B: Indeed, but how can you be surprised about it? John is a professional cook, after all.¹¹

Here, B's reaction does not deny A's noteworthiness evaluation, but rather serves to fix the attitude under discussion. (83), for example, should be interpreted as saying that the attitude is not surprise.

One more thing to note about confirmation of wh-exclamative content with "*Indeed*" is that it has to be shared *completely* by the addressee, as (84) shows:

- (84) A: What a great movie!
 B: ??Indeed, it's not bad.

It is not felicitous for B to use "*Indeed*" as a reaction in case he would like to characterise the movie merely as "*not bad*".

In sum, I showed that the confirmation marker "*Indeed*" can be used as a reaction to a wh-exclamative when the addressee of the exclamative fully shares its content. The confirmation patterns with "*Indeed*" are thus similar for asserted and wh-exclamative contents. A similar comparison cannot be made at this point for other non-asserted contents because, taking appositive content as an example, there is not enough data reported in the literature on appositives. (See, e.g., AnderBois, Brasoveanu and Henderson 2010, for a brief discussion of confirmation with other discourse markers.)

Confirmation markers "*Yes*" / "*Yeah*"

I will now turn to other confirmation markers, namely "*Yeah*" and "*Yes*". For those I will consider the same kinds of continuation as I discussed above for "*Indeed*". Examples (85) and (86) concern the addressee's judgment of the deliciousness of the dessert and are parallel to (80) and (81):

- (85) A: What a delicious dessert John baked!
 a. B: Yeah/Yes, it's very delicious.
 b. B: Yeah/Yes, %you find it very delicious.
 (86) A: What a delicious dessert John baked!
 a. B: Yeah/Yes, #but it's not delicious.
 b. B: Yeah/Yes, #but you don't find it delicious.

(87)/(88) are similar to (82)/(83) and involve attitudes:

- (87) A: What a delicious dessert John baked!

¹¹Thanks to Cleo Condoravdi for bringing examples of this form to my attention.

- a. B: Yeah/Yes, it's surprising/impressive/noteworthy.
 b. B: Yeah/Yes, %you're surprised.
- (88) A: What a delicious dessert John baked!
 a. B: Yeah/Yes, but it's not surprising.
 b. B: Yeah/Yes, %but you're not surprised.

Example (88) is interpreted as fixing the exact attitude conveyed by the wh-exclamative.

At first sight, the confirmation markers “*Yeah*”/“*Yes*” seem similar to “*Indeed*”: all require that the wh-exclamative content must be shared. However, for “*Yeah*”, we also find examples in which the content is clearly not (fully) shared.¹² While reacting with “*Yeah*”, the addressee tries, at the same time, to down-tone the effect of the speaker's wh-exclamative by generalising its content. Consider examples (89) and (90) from COCA, which were found as a result of the search for “*yeah*” following “*what a/an*” in a 9-word window. In (90), Letter S's reaction explicitly weakens the content of Stensland's exclamative:

- (89) CRIER: The world needs you back. But in the meantime, the HBO special and the new CD, “Totally Committed.” *What a pleasure.*
 FOXWORTHY: *Yeah. That's good.*
- (90) STENSLAND: *Well, what a great job.*
 Letter S: *Yeah, it's not bad, yeah.*

In addition, it is not always obvious whether a “*Yeah*”-response down-tones the wh-exclamative content or affirms it. Ms. Foose's utterance in (91), for example, can be interpreted as indicating that she shares the emotive response of Wragge, providing an additional reason why she finds the concept great (namely, because it's also fun). It can also be taken to challenge a part of the content of Wragge's wh-exclamative: by designating the concept to be fun, she implicates that it is just fun, not great:

- (91) Ms-FOOSE: And hang out in the refrigerator for about an hour. Then we slide this right in our paper sack just like this.
 WRAGGE: *What a great concept.*
 Ms-FOOSE: *Yeah. It's fun.*

To sum up, in contrast to “*Indeed*”, a conclusion arises that “*Yeah*” is not a real confirmation marker, as it does not even need to confirm what it is reacting to. In addition to this, “*Yeah*” can be used as a reaction to nearly anything. The following two examples from COCA show that even particles like “*Wow!*” can be, in some sense, confirmed by “*Yeah*”:

- (92) [talking about Maine as vacationland]

¹²All the corpus examples in this section concern “*Yeah*”. Finding empirical evidence to make a similar claim for “*Yes*” is left for future research.

PETER-GREENBERG: – it’s got a typical New England coastal community. And it’s got everything there. Plus, very affordable. The – a dinner on – on the night there is like thirty-four dollars. That’s everything versus other cities where it’s like sixty-four dollars. ERICA-HILL: *Wow*. PETER-GREENBERG: *Yeah*. ERICA-HILL: *Yeah*. Some cities you could pay thirty-four dollars for an entree. . .

- (93) GIFFORD: The first tree, in – I think it was 1931. . . KOTB: *Yeah*. GIFFORD: . . . was 20 feet high, and by 1999 it was over 100 feet, so. KOTB: *Wow*. GIFFORD: *Yeah*.

3.4.4 Summary

In section 3.4, we saw that confirmation, but not acceptance discourse markers are felicitous as reactions to wh-exclamatives. We can draw four conclusions based on the discussion in this section. First of all, acceptance and confirmation with the discourse marker “*That’s right*” can be used to argue in favour of the non-assertive nature of wh-exclamatives. Second, the confirmation property with other discourse markers needs further empirical investigation, both for the case of asserted and wh-exclamative contents. Third, none of the discourse properties considered in this section demonstrate the difference between wh-exclamative and other non-assertive contents. Indeed, none of these contents can be accepted, and for confirmation we do not have enough data concerning, e.g., confirmation of appositive content. The last conclusion relates to the question from (1-b) from the introduction to this chapter. Acceptance and confirmation with “*That’s right*” are the only discourse properties considered in this section that can be used as clear empirical characteristics of the exclamative speech act. Further in the dissertation, in Chapters 4 and 5, I will consider the definitions of the acceptance and confirmation discourse moves and show how the fact that wh-exclamative content cannot be accepted or confirmed with “*That’s not true*” is derived.

Up to now, a clear conclusion that can be made on the basis of discourse properties considered in this chapter is that wh-exclamative content is not asserted. I showed this on the basis of direct challengeability and acceptance properties. In the literature on wh-exclamatives, other properties are mentioned that can be used to argue for the non-assertive nature of wh-exclamatives. In the coming sections, I will briefly present some of these properties and argue that none of them can serve as a conclusive test for the non-assertiveness of wh-exclamatives. In addition, the discourse properties I will consider are not formulated as sharply as, for example, the direct challengeability of wh-exclamatives. In Chapter 5, I will, for this reason, suggest only preliminary thoughts on how to derive them from my analysis of wh-exclamatives. More research, including corpus research, is needed before this can be done.

3.5 Other discourse properties of wh-exclamatives

3.5.1 Wh-exclamatives as responses to questions

Introduction

One of the discourse properties which was suggested to indicate the difference between assertions and wh-exclamatives is that the former, but not the latter, can be used to answer questions (Grimshaw 1979, Zanuttini and Portner 2003, Marandin 2008). The contrast can be seen in examples like (94):

- (94) A: How tall is John?
 a. B: #How tall John is!
 b. B: John is very tall. (Grimshaw 1979)

I will show in this section that the point that is made in the literature should be made much less forcefully. Below, I will first consider this discourse property for assertions and then some preliminary thoughts for wh-exclamatives.

What interlocutors typically use for answering questions are assertions:

- (95) A: Where is John?
 B: He is at home.

In Condoravdi (2012) a distinction is made between *answers*, *responses*, and *reactions* to questions. A *response* is taken to be any conversational move that addresses the questioner's information needs. Responses can be linguistic, such as in the example (95), as well as non-linguistic, as in the following example:

- (96) A: Who cheated on the exam?
 B: [points to John and Bill] (Condoravdi 2012)

Sometimes responses can address, but not fully resolve the question, as is done by B using "or" in (97):

- (97) A: Who is the student who cheated on the exam?
 B: John or Bill. (Condoravdi 2012)

Responses can also be used, for example, to challenge a presupposition of a question, rather than to address the question itself:

- (98) A: Who is the student who cheated on the exam?
 B: Actually, it was two students. (Condoravdi 2012)

The term "*answer*" will be used to refer to linguistic responses. *Reactions* to questions are discourse moves that comment on a question itself and do not address the issue raised by the question. Reactions are therefore not responses. An example of a reaction made by an assertion is in (99):

- (99) A: Where is John?
B: That's a good question.

B's reaction in (99) does not answer A's question, fully or partially. Rather, it provides some kind of comment on the content of the question.

As observed in Chernilovskaya, Condoravdi and Lauer (2012b), just about any declarative sentence can function as a felicitous response to just about any interrogative sentence used for asking a question, if the context is right. All that is necessary for a declarative sentence to function as an answer to a question is to contextually entail some information addressing the questioner's needs. B's move performed with a declarative sentence in (95) is an example of an answer fully resolving A's question. Alternatively, a declarative sentence may provide information that renders the question irrelevant, as in (100):

- (100) A: Does anyone have an umbrella?
B: It is not going to rain.

Even a declarative sentence that explicitly withholds information may be a felicitous response, as an indication that the addressee is unwilling or unable to provide an answer, as in (101):

- (101) A: Will it be raining tomorrow?
B: It will or it won't.
B: It may or it may not.

If we were to hypothesise that wh-exclamatives assert their content, we would expect them to be able to function as answers to questions. The point that will be made next is that wh-exclamatives are much more restricted as reactions to questions than assertions.

Wh-exclamatives are more restricted than assertions in answering questions

This discourse property is sometimes mentioned in passing in the literature. I want to suggest here taking a closer look at it. Zanuttini and Portner (2003) and Marandin (2008) observe that wh-exclamatives cannot function in question-answer pairs. First, as opposed to wh-interrogative clauses, wh-exclamatives cannot be answered:

- (102) a. A: How tall is he?
B: Seven feet.
b. A: How very tall he is!
B: #Seven feet. (Zanuttini and Portner 2003)

The second part of this claim, namely that wh-exclamatives cannot themselves be used as answers to questions, was originally made in Grimshaw (1979). Her example is in (103):

- (103) A: How tall is John?
 a. B: #How tall John is!
 b. B: John is very tall.

The wh-exclamative in (103-a) conveys exactly what the declarative answer in (103-b) asserts – and yet, the wh-exclamative is infelicitous as a response to the question. Grimshaw and, following her, Zanuttini and Portner (2003) aimed to account for this fact by assuming that what corresponds to the external descriptive content, which would constitute an answer to the question in (103), is a presupposition of a wh-exclamative. This explanation, however, cannot be on the right track (Chernilovskaya, Condoravdi and Lauer 2012b). In general, questions can be answered by a declarative sentence that presupposes the answer:

- (104) A: Is France a monarchy?
 B: The queen of France is standing in front of you.

In this example, the definite noun phrase “*the queen of France*” presupposes that there is a (unique) queen of France, which, together with knowledge about the world, fully resolves A’s question.

As opposed to Grimshaw (1979), Zanuttini and Portner (2003), and Marandin (2008), Castroviejo Miró (2008a) observes that, in some cases, wh-exclamatives *can* provide answers to questions. One of the examples she gives is in (105):

- (105) a. A: Què et sembla si anem a Cala S’Alguer?
 ‘Why don’t we go to Cala S’Alguer?’
 B: Quina idea tan fantàstica!
 ‘What a wonderful idea!’ (Castroviejo Miró 2008a)

Note, however, that (105) is, strictly speaking, not a question, but rather a *suggestion* to go to Cala S’Alguer, so it does not require an answer in the same sense as, for example, the information-seeking question in (103).

One can think of examples in which wh-exclamatives constitute felicitous answers to questions:

- (106) a. A: Did you enjoy your vacation?
 B: What great fun we had!
 b. A: What do you think about the dessert John baked?
 B: What a delicious dessert that was!

B’s wh-exclamative in (106-a) conveys that the answer to A’s question is “*Yes*”, by expressing an attitude prompted by consideration of the question. A part of the content of B’s wh-exclamative is that “*We had great fun*”, from which it could be derived, given world knowledge, that B enjoyed his vacation. Similarly, in (106-b), B conveys the evaluation of John’s dessert as very delicious, which constitutes an answer to A’s question. In theory, it seems that it should be

In a COCA search, I did find one type of example showing that wh-exclamatives can sometimes be used to provide a fully-resolving answer in a fairly direct manner:

- (109) STAHL: *Well, what's your reaction?*
Mr-FRANKLIN: *What a magnificent liar.*

Here, again, by having a closer look at the question we see that what it is asking for is that the addressee to show his reaction. In other words, STAHL's utterance in (109) does not function as a question. And this is exactly what he does by using the wh-exclamative.¹⁴

In the corpus, we find many examples of questions followed by wh-exclamatives as reactions. In (110)-(112), from COCA, the wh-exclamatives are used to comment on the content of the question and not to address the questioner's information needs:

- (110) "I said, where were you?"
"What a silly question," she answered, catching her breath. "You know it's my bingo night."
(111) "You ever been in love, Ursula?"
She laughed. "What a question."
(112) CONAN: *What was your first movie meal?*
HORWITZ: *Oh, what a good question.*

(113) is another example from Castroviejo Miró (2008a), which I would qualify as providing a reaction to A's question, rather than answering it:

- (113) [A is not used to dating girls and his aunt has set him up with her neighbor. Everybody thinks A should not go on a blind date, so when A asks his question, B understands that he is planning to meet the girl.]
A: How pretty is she?
B: How stupid you are!

Summary

In this section, I showed that wh-exclamatives can function as responses to questions in some cases, as reactions in others, and they are sometimes completely barred. This is a more complete observation than the one made earlier in the literature, which says simply that wh-exclamatives cannot answer questions (Grimshaw 1979, Zanuttini and Portner 2003, Marandin 2008, Castroviejo Miró 2008a). However, more data is needed to draw clear conclusions.

¹⁴STAHL's question in (109) could be interpreted as a *request* to provide a reaction, rather than an information-seeking question, and is similar to Castroviejo Miró's (105-a). It is also possible to take STAHL's question as asking about Mr-FRANKLIN's opinion, and this interpretation is close to the example (106-b).

The most solid claim is that wh-exclamatives are much more restricted than assertions in answering questions. The conclusion that I can now draw is that when wh-exclamatives occur after questions, they most often do not *answer* the question, but rather *comment* on it. In other words, they are used as *reactions* to questions.

3.5.2 Wh-exclamatives can be used to introduce new information

Castroviejo Miró (2008a) claims that, as opposed to assertions, the speaker of a wh-exclamative does not intend to introduce its content as new information. This claim is supported by examples in (114):

- (114) a. I've got some news/you're going to love this/check this out: Pau is very tall.
 b. I've got some news/you're going to love this/check this out: #How tall Pau is!

(Castroviejo Miró 2008a)

(114) is taken to show that the asserted content can be brought by its speaker as new information, which is not true for wh-exclamatives.

There are two reasons for why this property needs more specification. First of all, this property is a weak test for assertivity. It is not always the case that the speaker of an assertion intends to introduce its content as a new piece of information. He might just use an assertion to bring the content, already known to the addressee, to the addressee's mind. Castroviejo Miró (2008a) considers declarative sentences like (115) as an example:

- (115) It's a beautiful evening for a walk. [Said to a companion in the same locale.]
 (Castroviejo Miró 2008a)

Note that Castroviejo Miró does not consider declarative sentences as (115) as assertions, i.e., as sentences whose function in discourse is to erase worlds that are incompatible with the proposition uttered by the speaker.

In fact, wh-exclamatives *can* be used to bring new information. The fact that the speaker of a wh-exclamative finds something noteworthy is, in the majority of cases, new to the addressee, unless the speaker has shown the attitude before. Also, the whole description of the situation that triggered a wh-exclamative can be new to the addressee, as illustrated in (116):

- (116) a. [I look on the street outside, through the closed, soundproofed window, You are in bed, with the blanket drawn over your head. A Mercedes passes by. I utter:]
 b. What a beautiful Mercedes! (Merin and Nikolaeva 2008)

This example shows that not only the attitude of the speaker conveyed in the exclamative is news to the addressee, but also the whole situation: the addressee in (116) does not even see the Mercedes, so he does not know whether it is beautiful or not.

3.5.3 Wh-exclamatives can be inserted into narration

Another property distinguishing between assertions and wh-exclamatives, according to Castroviejo Miró (2008a), is that wh-exclamatives cannot be naturally inserted in narration. Her illustrating example is in (117):

- (117) a. I looked at the ceiling and I saw an extremely tall boy.
 b. #I looked at the ceiling and what an extremely tall boy I saw!
 (Castroviejo Miró 2008a)

As Castroviejo Miró explains,

“...it is odd to start a narration with the intention to use our discourse to reduce the context set and, suddenly, perform another speech act that involves a change in the speaker’s agenda with respect to his/her discourse.”

(Castroviejo Miró 2008a, p. 52)

The only thing we can conclude from Castroviejo Miró’s example (117) is that wh-exclamatives just cannot be used in the way illustrated in (117), probably because such a sentence structure cannot embed matrix wh-exclamatives. I did find structurally similar examples in the COCA corpus as the result of a search of “*what a/an*” followed or preceded by “*and*”:

- (118) TERRY-GROSS: That was great. *And what an achievement to sing that solo without a backup group, you know.*
- (119) Here are some of the comments from Prevention Walking Club members who walked for the Presidential Fitness Walking Award last year: *“I made it and what a great feeling to have done it!”*

Mini-discourses in (118) and (119) show that an assertion can naturally be coordinated with a wh-exclamative. Also, two wh-exclamatives can be conjoined by the discourse connective “*and*”, as (120) from COCA shows:

- (120) COURIC: *What a great story and what a great guy.*

Also, according to Eckardt (2012), wh-exclamatives can be used into a narration. One of her examples (in German) is in (121):

- (121) *Letzten Sonntag war Paul bei einem Konzert. Am Montag schwärmte er davon. Wie schön Pavarotti gesungen hatte! . . .*
 Last Sunday, Paul went to a concert. He rhapsodized over it the whole

Monday. How beautifully Pavarotti had sung! . . .

(Eckardt 2012)

Castroviejo Miró's example (117-b) is just like examples (118)-(121), but is judged as unacceptable.

3.5.4 Can wh-exclamatives be used to defend speaker's position?

According to Castroviejo Miró (2008a), wh-exclamatives cannot be used for arguing. Consider the contrast with assertions in (122):

- (122) A: You don't like tomato soup.
 a. B: Yes, I do! I love tomato soup. I think it's wonderful!
 b. B: Yes, I do! #How wonderful tomato soup is!
 (Castroviejo Miró 2008a)

We see that, although B's utterances convey similar information, this information is communicated in different ways. The way in which the wh-exclamative is conveyed does not allow it to start a debate. In addition to Castroviejo Miró's (2008a) example, in (123) I provide an example showing that the attitude conveyed by the exclamative cannot be used to defend B's position in the discussion either:

- (123) A: You don't care about the taste of tomato soup, do you?
 a. B: Of course, I do! I find it noteworthy how very tasty it is!
 b. B: Of course, I do! #How very tasty tomato soup is!

B's wh-exclamative and B's declarative sentence convey the same information – that B finds it noteworthy how very tasty the soup is. However, the wh-exclamative cannot be used in this dialogue, whereas the declarative sentence can. The contrast between asserted and wh-exclamative contents is thus clear. Yet, to be able to define this discourse property in a model of context, and formally derive it from a definition of the exclamative and assertive speech-act operators, we do need to specify what it means “to defend the speaker's position in a discussion” (Castroviejo Miró 2008a, p. 52). This will not be attempted in the dissertation.

3.5.5 Wh-exclamatives do not require reaction from the addressee

Beyssade and Marandin (2005) observe that wh-exclamatives do not require a reaction from the addressee. Also, as Milner (1978) puts it, “affirmative exclamatives leave Addressee in a position of passive observer whom Speaker let know about her opinion” (Milner 1978 p. 437, the translation is from Beyssade and Marandin 2005).

How can we see whether a reaction to a certain speech act is required? Assertions, for example, are usually assumed to require the addressee's confirmation (Stalnaker 1978, Beyssade and Marandin 2005, Farkas and Bruce 2009, among others). However, assertions in real conversations are most often confirmed silently, without any overt conversational move.

Although this discourse property is formulated abstractly, it expresses an intuition about wh-exclamatives which is compatible with my proposal. I will come back to this property in Chapter 5.

3.5.6 Summary

In section 3.5, I have concluded that wh-exclamative content is not asserted, on the basis of several discourse properties: direct challengeability, acceptance, and confirmation with the discourse marker "*That's right*". I also showed that other discourse properties considered in this section are not conclusive or not described well enough to reveal the difference between asserted and non-asserted contents. Recall that there was another goal set for this chapter. In Chapter 2, four potential wh-exclamative contents were introduced: external/internal descriptive and external/internal expressive. The next section will show that there is no empirical evidence that the four potential contents are conveyed in different ways.

3.6 Discourse properties of four wh-exclamative contents

In this section, I am going to concentrate on the three most clearly-formulated discourse properties of wh-exclamatives: speaker-deniability, direct challengeability by the addressee, and acceptance by the addressee.

Let us start with applying the speaker-deniability test to the descriptive contents of a wh-exclamative. The e-descriptive content of the wh-exclamative in (124) below conveys the proposition "*John baked a very delicious dessert*", and the i-descriptive content the proposition "*I find the dessert John baked very delicious*". Infelicity of the continuations in (124-a) and (124-b) shows that the speaker of the wh-exclamative cannot deny its descriptive contents:

- (124) What a delicious dessert John baked!
- | | |
|--|-----------------------|
| a. #But it was not very delicious. | e-descriptive content |
| b. #But it was not very delicious to me. | i-descriptive content |

Example (124) shows that the descriptive contents of wh-exclamatives are entailments. Zanuttini and Portner (2003) already made the observation that the proposition corresponding to the e-descriptive content cannot be denied by the speaker of the wh-exclamative. They take the descriptive content of a

markers “*Indeed*” and “*Yeah*”. Examples (128) and (129) show that the two descriptive contents must be shared by the addressee if he confirms the exclamative with “*Indeed*” or “*Yeah*”:

- (128) A: What a delicious dessert John baked!
 a. external descriptive content:
 B: Indeed, #but it’s not very delicious.
 b. internal descriptive content:
 B: Indeed, #but you don’t find it very delicious.
- (129) A: What a delicious dessert John baked!
 a. external descriptive content:
 B: Yeah/Yes, #but it’s not delicious.
 b. internal descriptive content:
 B: Yeah/Yes, #but you don’t find it delicious.

(130) and (131) can only be interpreted as fixing the attitude expressed in A’s wh-exclamative:

- (130) A: What a delicious dessert John baked!
 a. external expressive content:
 B: Indeed, but this is not surprising. He’s a professional cook, after all.
 b. internal expressive content:
 B: Indeed, %but you’re not surprised about it.
- (131) A: What a delicious dessert John baked!
 a. external expressive content:
 B: Yeah/Yes, but it’s not surprising.
 b. internal expressive content:
 B: Yeah/Yes, %but you’re not surprised.

Although it might not sound natural, (132) shows that the fact that there is an attitude expressed must be shared by the addressee:

- (132) A: What a delicious dessert John baked!
 a. external expressive content:
 B: Indeed/Yeah, #but this is not noteworthy. He’s a professional cook, after all.
 b. internal expressive content:
 B: Indeed/Yeah, #but you don’t find it noteworthy./#but you don’t care.

In sum, there is no discourse property which would show a difference in discourse behaviour between the four potential contents of wh-exclamatives. I take this as evidence for one unified wh-exclamative content, as was proposed in Chapter 2.

3.7 Conclusion

The perspective taken in this dissertation is that of relating speech acts to discourse behaviour. In this chapter, I have concentrated on describing the discourse behaviour of wh-exclamatives. The first discourse property I considered, namely, *speaker-deniability*, showed that wh-exclamative content is an entailment, just as asserted, appositive, and presupposed contents. The property clearly separating asserted from wh-exclamative content is *direct challengeability by the addressee*: wh-exclamatives cannot be challenged directly with, e.g., “*No, (that’s not true)*”, but only indirectly, and thus are non-assertive. (It is, however, possible to challenge the wh-exclamative content in other ways, for example, by asserting the opposite.) The same point about the non-assertiveness of wh-exclamatives can be made on the basis of other discourse properties. For example, asserted, but not wh-exclamative content can be accepted, the two types of content are confirmed in different ways, and they show different behaviour with respect to answering questions.

Recall that the aim of this chapter was to address two questions, repeated below:

- (133) a. Can we conclude that wh-exclamative content is asserted, presupposed or conventionally implicated, based on discourse properties?
- b. If we want to describe the discourse behaviour of wh-exclamatives, at which discourse properties should we look?

After having considered discourse properties, we have seen that wh-exclamatives do not assert their content, and the difference with the role of appositive and presupposed contents is not visible at the discourse level. This answers the first question in (133). As for the second question, I showed that the only discourse properties about which we can make clear conclusions are speaker-deniability, direct challengeability by the addressee, acceptance, and confirmation with the discourse marker “*That’s right*”. After having introduced a model of context in the next chapter, I will show how to derive these discourse properties from my proposal for the exclamative speech-act operator in Chapter 5. All other properties considered in this chapter need better formulation or more corpus research. I will suggest speculations about how to derive some of them in Chapter 5.

The main results of Chapter 3 are summed up in table 3.1 on page 87. Results from this table are going to be used in Chapters 4 and 5 to define how appositive and wh-exclamative contents are conveyed. Table 3.2 shows the results of applying the properties to four types of wh-exclamative content as they are identified in Castroviejo Miró (2008a), together with my suggestion about the judge of evaluation made in Chapter 2. From this table, I conclude that there is no empirical basis for claiming that wh-exclamatives convey more than one kind of content. Thus, the simpler theory of one kind of content from

Chapter 2 is preferable. The symbol “??” in the tables below indicates that there is no (conclusive) evidence for a certain property.

| | asserted content | appositive content | wh-exclamative content |
|---|------------------|--------------------|------------------------|
| speaker-deniable | no | no | no |
| directly challengeable by the addressee (e.g., with “ <i>That’s not true</i> ”) | yes | no | no |
| challengeable as a lie (e.g., with “ <i>I don’t believe you</i> ”) | yes | ?? | no |
| indirectly challengeable with “ <i>Hey, wait a minute!</i> ” | no | yes | ?? |
| indirectly challengeable by asserting the opposite | yes | yes | yes |
| transparent for “ <i>No</i> ” | no | ?? | yes |
| can be accepted (separately) | yes | no | no |
| can be confirmed (separately) | yes | no | yes |
| can always be used to answer questions | yes | ?? | no |

Table 3.1: Sum up: discourse properties

| | descriptive contents of wh-exclamatives | | expressive contents of wh-exclamatives | |
|---|--|----------|---|----------|
| | external | internal | external | internal |
| speaker-deniable | no | no | no | no |
| directly challengeable by the addressee (e.g., with “ <i>That’s not true</i> ”) | no | no | no | no |
| indirectly challengeable by asserting the opposite | yes | yes | yes | yes |
| can be accepted | no | no | no | no |
| can be confirmed | yes | yes | yes | yes |

Table 3.2: Sum up: discourse properties of four wh-exclamative contents

4.1 Introduction

The main goal of this dissertation is to define the exclamative speech act, which will be done by modelling its effect on the context. For this, we need a model of context in which the interaction between conversational participants can be represented. The discourse behaviour of wh-exclamatives studied in Chapter 3 will help to determine the context-change effect of the exclamative speech-act operator, which will be defined in Chapter 5. In particular, we should be able to encode what it means for one conversational participant to challenge, confirm or accept an utterance made by another participant.

Such a model was proposed in Farkas and Bruce (2009), which I will refer to as the *FB-model*. It provides a rich structure for specifying the effects of an utterance on a context. This context model separates commitments made by individual participants during the course of conversation from information shared by all the participants, or the Common Ground (henceforth denoted as the *CG*). It also keeps track of issues under discussion in the Question Under Discussion component (QUD). The framework was originally suggested in order to specify the essential effect of assertion on context, as well as to make a clear comparison between assertions and polar questions in terms of their context-change effect. However, the potential of the framework is greater than that. For example, Malamud and Stephenson (2012) use the same model to describe context-change effects of different kinds of polar questions.

In the FB-model a speech-act operator is a function that relates one context state to another. As I took a dialogue perspective on speech acts, I am interested

not only in modelling the context-change effect of an utterance performing a certain speech act, but also in reactions to this utterance. For example, I do not just consider the assertion speech act in isolation, but together with its acceptance, confirmation and challenges. This brings me to the notion of a “*conversational move*”, already mentioned in the introduction to Chapter 3. An assertion and reactions to it are different conversational moves, defined in section 4.3 of this chapter. But, for example, a challenge of p is also an assertion of a special kind that imposes conditions on the discourse structure. In other words, it takes into account the preceding utterance.

According to Stalnaker (1978), the essential effect of an assertion is to make a proposal to update the common ground with its content. If the addressee does not object, the propositional content is added to the *CG*. For instance, by asserting (1) the speaker suggests that the fact that John baked a delicious dessert should become a shared piece of information:

- (1) John baked a delicious dessert.

Consider now the wh-exclamative in (2) with its content in (2-a) expressing the speaker’s noteworthiness evaluation:

- (2) A: What a delicious dessert John baked!
 a. A finds the dessert that John baked delicious and noteworthy
 $\exists x \left(\text{dessert}(x) \wedge \text{baked}(j, x) \wedge \text{delicious}(A, x) \wedge \text{noteworthy}(A, x) \right)$

How does the content in (2-a) change the context? For example, could it be asserted? In Chapter 3, I presented empirical evidence that this view is not correct. But to be able to claim that the wh-exclamative content is not asserted, it is handy to have a theory of how assertions work. In a framework like the FB-model it will be simple to compare the ways in which asserted vs. wh-exclamative content is expressed, since the model is designed to describe the context-change effect of assertions.

Before continuing, I should point out that the FB-model is not the only platform that is potentially suitable for describing the context-change effects of wh-exclamatives. I could just as well have used one of a number of different frameworks. The key requirement is to be able to distinguish between two types of information: one that can be directly challenged by the audience and one that cannot. This distinction can, in principle, be made in any framework that models assertions as proposals to update the common ground. In such a framework, a piece of information that is not up for challenge should update the *CG*, without raising a new issue under discussion. In contrast, information that needs to be discussed before becoming shared should raise a new question under discussion, before becoming a part of the *CG*.

Such an alternative to Farkas and Bruce’s (2009) is, for example, the framework suggested in Roberts (2011) (based on Roberts (1996) and Ginzburg (1996)). However, one advantage of the model in Farkas and Bruce (2009)

over its competitors is that it can accommodate the situation when discourse participants disagree on a certain issue, without the whole conversation coming to crisis.¹ An example of a framework that does not fit my purposes is Stalnaker (1978), which only keeps track of information shared by all conversational participants and does not separate shared information from individual commitments of conversational participants. Having both the *CG* and individual discourse commitments allows Farkas and Bruce (2009) to capture what Stalnaker takes to be the crucial effect of an assertion, namely, that it is a proposal to update the *CG*. Such a proposal can be rejected by the addressee (by means of direct challenge), in which case the proposition does not become a shared piece of information. I will show how this is formalised later in this chapter.

This chapter consists of two parts. First, in section 4.2, I start by formally introducing components of the FB-model. I do so based on the example of the context-change effect of assertions (and partly also polar questions), which is summarised later in section 4.3. There, I also suggest how various reactions to assertions, like direct challenge, acceptance and confirmation, are formalised in the FB-model. The definition of the assertion speech-act operator will be given in accordance with the discourse behaviour of assertions discussed in Chapter 3.

In the second part of this chapter, in section 4.4, I consider the context-change effect of assertions containing non-asserted propositional content, in particular, appositive content. I will show that the context update which such assertions perform involves a direct update of the *CG*, following the proposal made in AnderBois, Brasoveanu and Henderson (2010), a.o.: The asserted content makes a *proposal* to update the *CG*, whereas non-asserted propositional content updates the *CG* directly. This notion of the direct *CG* update is introduced in section 4.4.2, and will play an important role in Chapter 5. From the proposal for the context-change effect of assertion with appositive content, the discourse properties described in Chapter 3 are derived. The strategy in Chapter 5 for the exclamative speech-act operator will be similar.

4.2 Farkas and Bruce (2009)'s model of context

Farkas and Bruce (2009) use the following parameters for describing a context state *C*:

- (3) a. Common ground (*CG*)
- b. Discourse commitments of a conversational participant *X* (DC_X), for each participant
- c. Question under discussion (*QUD*)
- d. Projected common grounds (CG^*)

I will discuss these components separately, taking the context-change effect of

¹I will follow Farkas and Bruce (2009) in using the expression “*conversational crisis*”.

assertions and polar questions as an example. In the coming sections, I will introduce all the contextual components from (3), in turn.

4.2.1 Common ground

Farkas and Bruce (2009), following Stalnaker (1978), take the common ground (denoted as CG) to encode information shared by all of the participants of a conversation (see also Ginzburg 1996, Roberts 1996, Gunlogson 2001, Murray 2010, Murray 2012, Farkas and Roelofsen 2012). The CG is represented as a set of propositions that are taken to be true by all discourse participants, for the sake of the conversation:

$$(4) \quad CG =_{def} \{p \mid p \text{ is taken to be true by all the conversational participants}\}$$

I will represent the concept of “taken to be true” in terms of beliefs. The CG is then defined as in (5) (Gunlogson 2001):

$$(5) \quad CG =_{def} \{p \mid p \text{ is a mutual belief of all conversational participants}\}$$

Crucially, propositions in the CG must be *mutually believed* and not just *shared*. In other words, for every p in the CG , each discourse participant believes p and recognises that other discourse participants believe p as well. Updating the CG means adding new propositions to it, which is done by set union:

$$(6) \quad Update(CG, p) =_{def} CG \cup \{p\}$$

CG is used to store all kinds of information about the environment in which the conversation takes place as well as linguistic information expressed in the utterances made in the course of the conversation (Stalnaker 1978). Suppose two discourse participants, A and B, are having a conversation. Even before anything is said, the CG is not empty: it includes (non-linguistic) information about the environment in which the conversation is going to take place. Suppose that A and B are in A’s room on Friday afternoon, and it is raining outside. Then these (and similar) facts are stored in the CG before the conversation starts, which I will denote as CG_0 :

$$(7) \quad CG_0 = \{A \text{ and B are in A's room, It is Friday afternoon, It is raining outside } \dots \}$$

Now A starts a conversation by saying:

$$(8) \quad A: \text{John has a car.}$$

A’s utterance of the declarative sentence in (8) performs a speech act of assertion. Farkas and Bruce (2009) develop Stalnaker’s (1978) idea that, when an assertive utterance is made, its content is not directly added to the CG , but only if there are no objections by other interlocutors. In other words, by uttering (8), A proposes the addition of the proposition $p = \text{“John has a car”}$ to

the *CG*. B, in turn, can accept or reject A's proposal. If and only if he accepts, the proposition is added to the *CG*, otherwise not.

A's assertion in (8) also triggers some direct updates of the *CG*, without the need for any agreement. In particular, the facts related to the speech act of an assertion – such as the fact that A is speaking, that he is using the words he is using, that he is speaking English – are all added to the *CG*. These are called “*secondary effects*” of an assertion in Stalnaker (1978). Note that these facts are added to the common ground even if the proposal made by the assertion itself is rejected by the addressee. The *CG* after A's assertion denoted CG_1 looks as follows:

- (9) $CG_1 = \{A \text{ and } B \text{ are in } A\text{'s room, It is Friday afternoon, It is raining outside, A spoke at the moment of time } t, A \text{ speaks English, A uttered the sentence “} John \text{ has a car”} \dots \}$ ²

Secondary effects of an assertion update the *CG* unless very special circumstances obtain. For example, if a sudden noise makes A's utterance unintelligible, the update does not happen. This is because the *CG*, by definition, contains only information shared by all conversational participants. So if something prevents a piece of information from becoming shared, the *CG* update does not happen. As we will see later, the notion of secondary effects and direct update will play an important role in the analysis of wh-exclamatives.

Suppose now that B goes along with A's proposal to add the content of the assertion to the *CG*, for example, by uttering (10):³

- (10) B: Yes(, I saw him driving a red Ferrari.)

Since A and B both agree on the content of A's assertion, i.e., that John has a car, this information will update the *CG*. The new common ground after A's assertion and B's confirmation, CG_2 , is in (11):⁴

- (11) $CG_2 = CG_1 \cup \{p\} = \{A \text{ and } B \text{ are in } A\text{'s room, It is Friday afternoon, It is raining outside, A spoke at the moment of time } t, A \text{ speaks English, A uttered the sentence “} John \text{ has a car”}, John \text{ has a car,} \dots \}$

Note that changes in the environment of the conversation also have an effect on the *CG*. As Stalnaker (1978) pointed out,

If a goat walked into the room, it would normally be presupposed, from that point, that there was a goat in the room. And the fact that this was presupposed might be exploited in the conversation, as when someone asks, “How did that thing get in here?”, assuming

²Only some secondary effects of an assertion are mentioned.

³In (10) I consider only confirmation of an assertion. Acceptance also leads to the addition of the information to the *CG*. Both types of reactions will be considered in more detail in section 4.3.3.

⁴Here, again, not all secondary updates are explicitly mentioned.

that others will know what he is talking about.

(Stalnaker 1978, p.152)

So, in our example, if a goat entered the room in which the conversation was taking place after B's reaction in (10) to A's assertion in (8), this would update the CG to CG_3 in (12):⁵

- (12) $CG_3 = \{A \text{ and } B \text{ are in } A\text{'s room, It is Friday afternoon, It is raining outside, } A \text{ uttered the sentence “} John \text{ has a car”}, B \text{ uttered the sentence “} Yes, I \text{ saw him driving a red Ferrari”}, John \text{ has a car, } A \text{ goat entered } A\text{'s room } \dots \}$

As for the secondary effects of an assertion, this update would happen only if both discourse participants saw the goat entering the room (and saw each other seeing that it entered the room).

4.2.2 Discourse commitments

It has been suggested in the literature that the notion of the CG should be separated from the discourse commitments of individual conversational participants (see e.g. Hamblin 1971, Gunlogson 2001, Farkas and Bruce 2009, Condoravdi and Lauer 2011, Condoravdi and Lauer 2012, Farkas and Roelofsen 2012). A model of context that keeps track of both shared and individual commitments of conversational participants allows us to capture the proposal nature of an assertion, as well as disagreement between conversational participants.

The discourse commitments of a discourse participant X , DC_X , consist of all the propositions X is publicly committed to⁶ and which are not yet CG shared by all the other participants, i.e., which are not included in the CG :⁷

- (13) $DC_X =_{def} \{p \mid X \text{ is publicly committed to } p \wedge p \notin CG\}$

Therefore, in total, what a discourse participant X is committed to is all of the propositions from the union of DC_X and CG . Reformulating (13) in terms of beliefs gives us (14):

- (14) $DC_X =_{def} \{p \mid Bel_X p \wedge p \notin CG\}$,

where $Bel_X p$ stands for “the discourse participant X believes the proposition p ”. As for the CG , updating the DC of X with a proposition p is done by set union:⁸

⁵Not all secondary updates are reflected.

⁶An example of how a discourse participant X can become publicly committed to p is by asserting p . Interlocutors witnessing this assertion will then be aware of X 's commitment. That is, it will be public among interlocutors.

⁷The latter is not a common assumption. For example, Gunlogson (2001) takes DC_X to represent X 's public commitments, including those that are shared by the audience.

⁸I will assume, for simplicity, that this update of X 's DC s with a proposition p is never applied when p is already a part of the CG .

$$(15) \quad \text{Update}(DC_X, p) =_{def} DC_X \cup \{p\}$$

Let us now see how to formalise the proposal nature of an assertion using the separation between the speaker's *DC*s and the *CG*. Consider example (8) again, repeated below:

$$(16) \quad \text{A: John has a car.}$$

When A utters the declarative sentence in (16), he proposes to add the content of his assertion, i.e., the proposition $p = \text{"John has a car"}$, to the *CG*. This proposal is reflected in the update of DC_A with p , rather than in putting p directly into the *CG*. The updated DC_A after A's assertion in (16) is therefore:

$$(17) \quad DC_{A,1} = DC_{A,0} \cup \{p\}$$

If B agrees with A's proposal to add p to to the *CG*, for example, by simply saying "Yes":

$$(18) \quad \text{B: Yes(, I saw him driving a red Ferrari.)}$$

he also becomes committed to p . The updated set of B's *DC*s is thus as follows:

$$(19) \quad DC_{B,1} = DC_{B,0} \cup \{p\}$$

Now p is shared by A and B and, therefore, can become a part of the *CG* (which will look like $CG_0 \cup \{p\}$). Farkas and Bruce (2009) implement this last step by introducing a so-called "*Common ground increasing operation*" which adds a proposition to the *CG*, at while removing it from individual discourse commitments of all discourse participants. This operation will be formally defined and discussed in more detail in section 4.3.3.

Separating individual discourse commitments from the shared *CG* is also essential for modelling disagreement in discourse. Consider a situation in which B *rejects* A's proposal to add $p = \text{"John has a car"}$ to the *CG*. B could express this simply by saying:

$$(20) \quad \text{B: No(, he doesn't.)}$$

As a result of this reaction, the negation of the proposition p , $\neg p$, is added to B's discourse commitments, which become:

$$(21) \quad DC_{B,1} = DC_{B,0} \cup \{\neg p\}$$

Notice that A is now committed to p (it is an element of $DC_{A,1}$), and B to its negation ($\neg p$ is an element of $DC_{B,1}$), so there is no way for p to become a part of the *CG*. There are several possibilities of how to continue a conversation like this: A and B can discuss the issue further and decide who is right (in other words, one of them will have to retract their assertion), or agree to disagree (Farkas and Bruce 2009). Both situations will be discussed in more detail, in section 4.3.4, when the *QUD* and CG^* components are introduced. In any case,

after the dialogue in (16)-(20), p stays unshared and does not get added to the CG .

Here I suggested only an informal description of what happens with the context state after a confirmation and a challenge of an assertion. These conversational moves will be formally introduced and considered in more detail in section 4.3.4.

In section 3.4 of Chapter 3, I introduced a distinction between acceptance and confirmation of an assertion, following Gunlogson (2008). In (22-a), B's reaction is an example of acceptance, and in (22-b), of confirmation:

- (22) A: John has a car.
 a. B: Oh(, I didn't know that).
 b. B: Yes(, I saw him driving a red Ferrari).

The distinction between acceptance and confirmation has to do with whether the discourse participant B accepts A's claim *on A's evidence*, as in (22-a), or *on his own evidence*, as in (22-b). I will say, following Farkas and Roelofsen (2012), that B is a *source* for p if he has his own conversationally external evidence for p , as in (22-b), and that B is *dependent* relative to p if he accepts p on someone else's evidence, as in (22-a).

To be able to reflect the distinction between acceptance and confirmation in the discourse model, Farkas and Roelofsen (2012) suggested splitting the set of discourse commitments of a conversational participant B into two disjoint subsets: one containing commitments for which B is a source (denoted as $DC_{B,source}$), and another one for which B is dependent ($DC_{B,dep}$):

$$(23) \quad DC_X = DC_{X,source} \cup DC_{X,dep}, \text{ where } DC_{X,source} \cap DC_{X,dep} = \emptyset$$

So B's acceptance move in (22-a) updates B's dependent discourse commitments with p , and B's confirmation move in (22-b) updates his source discourse commitments.

4.2.3 Question under discussion

The question under discussion component, or *QUD*, as suggested by Ginzburg (1996) and Roberts (1996), is a contextual component which keeps track of *issues under discussion* in the conversation. For example, an assertion of a proposition p raises an issue of whether p (Farkas and Bruce 2009). Another way of setting a new issue under discussion is by explicitly asking a question. A polar question about the proposition p , for instance, gives rise to the issue of whether p or its negation is true.

The question of what, exactly, is an issue under discussion is theory-dependent. Some authors assume that it is a (semantic) question (see e.g. Ginzburg 1996, Bonami and Godard 2006, Simons, Tonhauser, Beaver and Roberts 2011, Roberts 2011). Farkas and Roelofsen (2012) generalise the notion of a *question* under discussion to what they call a "*proposal*" under discussion, where

proposals can be informative or inquisitive. This perspective is also taken in Farkas and Bruce (2009) and Malamud and Stephenson (2012). I will follow the latter view in saying that assertions supply *informative* issues under discussion, and questions *inquisitive* issues. This choice is made only for the sake of explanation, as it will not be crucial in the discussion of wh-exclamatives. An informative issue is represented as a singleton set consisting of one proposition, and an inquisitive issue is a set of propositions.

I follow Farkas and Bruce (2009) in taking the issues under discussion to form a stack. The order in which issues arise is thereby captured.^{9,10} Each element of the stack is a set of propositions (possibly a singleton). The top element of the stack represents the issue currently under discussion. I will picture the *QUD* component as a column, as in (24):

$$(24) \quad \text{QUD} = \begin{array}{|c|} \hline e_n \\ \hline \dots \\ \hline e_3 \\ \hline e_2 \\ \hline e_1 \\ \hline \end{array}$$

An assertion of a proposition p is assumed to put a singleton set consisting of p , i.e., $\{p\}$, on the top of the *QUD* stack (Farkas and Bruce 2009). This relates to the fact that p has to be agreed on by all conversational participants before it can be added to the *CG*. A singleton issue $\{p\}$ will be called “*resolved*” relative to the common ground *CG* if and only if p or $\neg p$ follows from the *CG*.¹¹ A polar question about p raises an issue of a different form, namely $\{p, \neg p\}$. An issue of such a form is resolved if and only if which of the two propositions – p or $\neg p$ – is true is established.¹²

When an issue is resolved, it disappears from the stack. Later we will see, for example, that accepting an assertion of a proposition p leads to the update of the *CG* with p , and therefore to the resolution of the issue under discussion $\{p\}$. I define some operations on the *QUD* stack in (25):

- (25) Suppose S is a stack and e is an element admissible in this stack.
- $push(e, S)$ is a new stack obtained from S by adding e to the top
 - $top(S)$ is an element on the top of S

⁹The fact that *QUD* is modelled as a stack, rather than a set of elements, is theory-internal to Farkas and Bruce (2009) and is irrelevant for the discussion here. Alternatively, *QUD* can be taken as a partially-ordered set of questions, as in Ginzburg (1996).

¹⁰In fact, the *QUD* as I define it here is a simplification of Farkas and Bruce’s (2009) notion of the “*Table*”, which has as its elements syntactic objects paired with their denotations. Having syntactic forms available in discourse together with semantic contents allows conversational moves to have access to both of them.

¹¹As Farkas and Bruce (2009) note, one needs to define exactly what it means for a proposition to follow from a set of propositions. I will not go into a deeper discussion here.

¹²In other words, $\{p\}$ and $\{p, \neg p\}$ represent practically the same issue. The reason for why we need issues of both forms will be explained when the *CG** contextual component is introduced.

One of the goals of a conversation is to empty the stack of issues under discussion, which would mean that all the issues are resolved and the conversation came to its end. In this sense, the *QUD* component directs the conversation towards its logical end.

In general, there seems to be no consensus in the literature about the *role* of the notion of an issue under discussion: is it something that necessarily *needs to be resolved* in order for a conversation to continue, or is it just a topic that can *potentially be discussed* (but does not necessarily have to be settled)? Ginzburg (1996) and Bonami and Godard (2006) consider the *QUD* component as consisting of issues that have a potential to be discussed. Roberts (1996) noted that a current issue under discussion is most often not a question explicitly asked in the course of the conversation, but implicitly constructed from the context. She, and also Simons, Tonhauser, Beaver and Roberts (2011), Roberts (2011), and Malamud and Stephenson (2012), view an issue under discussion as what must be resolved. Finally, Farkas and Bruce (2009) seem not to make a clear distinction here: depending on the kind of content introducing an issue under discussion, it either needs to be resolved or has a potential to be discussed. I will side with the view that, once a certain issue is under discussion, it remains so until it is resolved or shown to be unresolvable.

4.2.4 Future common grounds

Following the assumption made in Farkas and Bruce (2009), if a discourse move places an issue on the top of the *QUD* stack, it is also associated with a canonical way of removing this issue from the *QUD*. The set of future common grounds, *CG**, referred to as a “*projected set*” in Farkas and Bruce (2009) and Farkas and Roelofsen (2012), consists of all supersets of the *CG* which would be reached if the current issue under discussion were to be resolved.¹³

Let me illustrate this notion with an example of an assertion. An assertion of a proposition *p* places the issue $\{p\}$ on the top of the *QUD* stack. In general, there are several ways to continue the conversation after an assertion is made. It can be confirmed or challenged by the addressee, as well as discussed further. We saw examples of the first two reactions in (10) and (20) to the assertion in (8). Two examples of further discussion of the issue the assertion raised are B’s reactions in (26):

- (26) A: John has a car.
 a. B: Why do you think so?
 b. B: And he has a motorcycle as well.

However, the canonical way of reacting to an assertion is confirming the issue

¹³Note that the set of future common grounds is therefore not an independent contextual component. It can always be calculated on the basis of the *QUD* and the *CG*, if this assumption is followed. I will nevertheless keep the discussion of this contextual component, since it represents default reactions to discourse moves, as discussed in section 4.3 for assertions.

it raised¹⁴, which would lead to adding the proposition to the CG . This special status of the confirmation reaction is reflected in the CG^* component: after a discourse participant makes an assertion, the CG^* includes the current CG with the proposition p added. In this sense, assertion projects confirmation. The CG^* represents distinguished future common grounds toward which the conversation is directed.

Consider now an example of a polar question asking about p in (27). Confirming either p or $\neg p$ are canonical reactions of the addressee to such a polar question:

- (27) A: Does John have a car?
 a. B: Yes(, he does).
 b. B: No(, he doesn't).

These moves reacting to the polar question are default compared to, e.g., discussing some aspect of asking the question, as is done in (28):

- (28) A: Does John have a car?
 a. B: Why are you interested?
 b. B: Don't you know the answer yourself?

As was mentioned in the previous section, the polar question introduces the set $\{p, \neg p\}$ as an issue under discussion. It simultaneously projects two future common grounds: one consisting of the current CG updated with the proposition p , and another consisting of the current CG updated with $\neg p$. The fact that exactly these two future common grounds are projected encodes the two canonical reactions to a polar question, namely, confirming and denying the proposition being questioned.

In sum, CG^* captures the “anticipatory nature” of conversational moves (Farkas and Bruce 2009). An update of the CG^* with a set of propositions is defined in the following way:¹⁵

- (29) Suppose CG^* is the current set of future common grounds $\{cg_1, cg_2, \dots, cg_n\}$, and P is a set of propositions $\{p_1, p_2, \dots, p_m\}$ with which CG^* is to be updated.
 Then $CG^* \bar{\cup} P =_{def} \{cg_i \cup \{p_j\} \mid 1 \leq i \leq n, 1 \leq j \leq m, cg_i \cup \{p_j\} \text{ is consistent}\}$

In words, the result of updating the CG^* with a set of propositions P , $CG^* \bar{\cup} P$, is a new collection of sets of propositions, for which each set is formed by adding a proposition p_j from P to a current future common ground cg_i from the current CG^* . Any inconsistent sets are removed from this collection.

As will be shown in Chapter 5, the CG^* is not directly relevant for describ-

¹⁴For simplicity, I will not discuss acceptance vs. confirmation here. Their effects on the CG^* are the same.

¹⁵The definition is taken from Farkas and Bruce (2009).

ing the context-change effects of wh-exclamatives. It is, however, important for the discussion of assertions (and polar questions). In the next section, I summarise the discussion of the assertion speech-act operator and formalise some conversational moves that can be used for reacting to an assertion.

4.3 Farkas and Bruce (2009)'s proposal for assertion

In this section, I describe the proposal for the assertion speech-act operator from Farkas and Bruce (2009), formulated in the FB-model. Recall that my perspective on speech act operators presented in this dissertation is related to discourse behaviour. In Chapter 3, I considered a number of the discourse properties of asserted content. In the coming sections, I will consider those properties again, but formalised in the model of context. For some of them, I will show how they follow from Farkas and Bruce's proposal for the assertion speech-act operator presented in (30).

4.3.1 The context-change effect of the assertion speech-act operator

In the FB-model introduced in section 4.2, a speech-act operator is a function of a context state. In this section, I will show how Farkas and Bruce (2009) formalise the context-change effect of the assertion speech-act operator, which I will abbreviate as *ASSERT*. *ASSERT* is a three-place function: as its first argument it takes the speaker of the utterance; the result applies to the denotation of a declarative sentence performing the assertion speech act; the final argument is the input context state. The result of the function is the output context state updating some of the components of the input state. The denotation of a declarative sentence is the proposition corresponding to its truth conditions. The result of applying *ASSERT* to speaker A and the denotation p takes the input context state C_{input} as its argument and maps it to the output context state C_{output} . The effects of *ASSERT* on the context are spelled out in (30):

$$(30) \quad \text{ASSERT}(A)(p)(C_{input}) = C_{output}, \text{ where } C_{output} = C_{input}, \text{ except:}$$

- a. $QUD_{output} = \text{push}(\{p\}, QUD_{input})$
- b. $DC_{A,output} = DC_{A,input} \cup \{p\}$
- c. $CG_{output}^* = CG_{input}^* \cup \{p\}$

In words, the effect of asserting a proposition p by a discourse participant A in the context C_{input} is threefold: p becomes a new issue under discussion, A becomes committed to p , and the confirmation of p is projected.¹⁶ Whether the

¹⁶There is disagreement on what the essential effect of asserting a proposition is, exactly. On the one hand, Stalnaker (1978) suggested that an assertion proposes updating of the CG

proposal to add p to the CG succeeds depends on the reaction of the addressee. Among the possible reactions to an assertion are acceptance, confirmation and (direct) challenge, which will be formalised in the FB-model, in turn, in the following sections.

4.3.2 Denying asserted content

The first property I considered in Chapter 3 said that asserted content cannot be denied by the speaker in the subsequent utterance, i.e., it is an entailment. This property was not originally considered in Farkas and Bruce (2009), but follows directly from their proposal. This follows from the (b)-clause in the definition in (30), which states that the speaker is committed to asserted content. After having committed himself to p , one cannot felicitously assert the negation of p in the subsequent utterance.¹⁷

4.3.3 Accepting and confirming asserted content

The addressee's default reaction to an assertion is to accept/confirm the asserted content. Only confirmation was considered in Farkas and Bruce (2009). I will show that acceptance can be modelled in the same way they suggested for confirmation, which is introduced immediately below. A conversational move *confirming* an assertion is illustrated in (31):

- (31) A: John has a car.
B: Yes/Yeah/Indeed. (I know.)

A confirmation move of an assertion is performed by a discourse move $CONF-ASSERT$, which is a function taking four arguments: the speaker of the assertion A , the addressee of the assertion B , the asserted proposition p , and the input context state C_{input} . The function defined in (32) produces the context state C_{output} as a result. The definition is in the spirit of Farkas and Bruce (2009), but takes into account the split of B's discourse commitments into source and dependent commitments:

- (32) $CONF-ASSERT(A)(B)(p)(C_{input})$ is defined iff the following input conditions are satisfied:
- a. (i) $top(QUD_{input}) = \{p\}$
 - (ii) $p \in DC_{A,input}$

with its content. On the other hand, Gunlogson (2008) and Condoravdi and Lauer (2011) argue that the basic effect of uttering a declarative sentence is that of committing its speaker to the content. Finally, Farkas and Bruce (2009) take both to be effects of an assertion. I will consider only the latter proposal here.

¹⁷Of course, the speaker can retract what he has just said, thereby denying the asserted content. Note that retraction should be marked overtly or acknowledged. (Thanks to Cleo Condoravdi for this remark.)

- b. $CONF-ASSERT(A)(B)(p)(C_{input}) = C_{output}$, where $C_{output} = C_{input}$ except:
- (i) $DC_{B,source,output} = DC_{B,source,input} \cup \{p\}$

In words, the confirmation move commits the addressee B to the proposition p as a source, and it is defined if this proposition p is A's commitment and the current issue under discussion. After B's confirmation move p is in both A's and B's discourse commitments, it will enter the CG in a way presented later in this section. Note that this is a simplified definition of the confirmation discourse move, not taking into account all of the intricacies of assertion confirmation that I considered in Chapter 3. I will come back to those later in this section, where I will show that the definition in (32) results in wrong predictions.

For clarity, let us follow, step-by-step, what happens with the context state $C_0 = \langle CG_0, DC_{A,0}, DC_{B,0}, QUD_0, CG_0^* \rangle$ after the dialogue in (31). I will denote the context set after A's assertion as C_1 , and after B's reaction as C_2 . According to the proposal for the assertion speech-act operator in (30), the context state C_1 after A's assertion looks as follows:

- (33) a. $QUD_1 = \frac{\{p\}}{QUD_0}$
- b. $DC_{A,1} = DC_{A,0} \cup \{p\}$
- c. $DC_{B,1} = DC_{B,0}$
- d. $CG_1 = CG_0$
- e. $CG_1^* = CG_0^* \cup \{p\}$

According to (32), B's confirmation move is defined, because $\{p\}$ is on the top of QUD_1 and in A's discourse commitments $DC_{A,1}$. The resulting context state C_2 is in (34):

- (34) a. $QUD_2 = QUD_1 = \frac{\{p\}}{QUD_0}$
- b. $DC_{A,2} = DC_{A,1} = DC_{A,0} \cup \{p\}$
- c. $DC_{B,source,2} = DC_{B,source,1} \cup \{p\}$
- d. $CG_2 = CG_1 = CG_0$
- e. $CG_2^* = CG_1^* = CG_0^* \cup \{p\}$

Now, after both discourse participants agreed on the content of A's assertion p , it is present in the discourse commitment sets of both participants. So p can be added to the CG and removed from the individual DC s. Farkas and Bruce (2009) introduce an auxiliary move M' , an operation of increasing the CG with a proposition p , which is a function from a proposition and a context state to a context state, defined as follows:

- (35) $M'(p)(C_{input})$ is defined iff the following input condition is satisfied:
- a. for all discourse participants X : $p \in DC_{X,input}$
- b. $M'(C_{input}) = C_{output}$, where $C_{output} = C_{input}$ except:

- (i) $CG_{output} = CG_{input} \cup \{p\}$
- (ii) for all discourse participants X :
 $DC_{X,output} = DC_{X,input} - \{p\}$
- (iii) $QUD_{output} = QUD_{input}$ except that all issues that contain, as one of their elements, any proposition q entailed by CG_{output} are popped off the stack

M' adds the shared proposition p to the CG and removes it from the individual discourse commitments of all participants. In addition, it removes all resolved issues from the QUD . (Following Farkas and Bruce (2009), I assume that items from the QUD stack that are decided as a result of adding p to the CG are popped off the QUD stack.) Applying this auxiliary move after the dialogue in (31) produces the context state C_3 , which is the same as C_2 , except for the components mentioned in (36):

- (36) a. $CG_3 = CG_2 \cup \{p\}$
- b. $DC_{A,3} = DC_{A,2} - \{p\} (= DC_{A,0})$
- c. $DC_{B,3} = DC_{B,2} - \{p\} (= DC_{B,0})$
- d. QUD_3 is the same as QUD_0 from which all issues resolved relative to CG_3 are popped off

The *acceptance move* can be defined analogously to the confirmation move. An example of a dialogue illustrating such a reaction is in (37):

- (37) A: John has a car.
- B: Oh/Uh-huh/Ok. (I didn't know that.)

The definition of the operator performing the acceptance move $ACC-ASSERT$ in (38) is very similar to $CONF-ASSERT$ in (32), except for substituting DC_{dep} by DC_{source} in the last clause. This substitution represents the difference between confirmation and acceptance: the former is done by the addressee based on his own evidence, whereas the latter is based on the speaker's evidence. (Recall the split of the commitment set into $DC_{X,source}$ and $DC_{X,sep}$ suggested in section 4.2.2.)

- (38) $ACC-ASSERT(A)(B)(p)(C_{input})$ is defined iff the following input conditions are satisfied:
 - a. (i) $top(QUD_{input}) = \{p\}$
 - (ii) $p \in DC_{A,input}$
 - b. $ACC-ASSERT(A)(B)(p)(C_{input}) = C_{output}$,
where $C_{output} = C_{input}$ except:
 - (i) $DC_{B,dep,output} = DC_{B,dep,input} \cup \{p\}$

Just as was the case for the confirmation move, after the acceptance move p is shared by both conversational participants it can, therefore, be added to the CG with the help of M' .

Above, I discussed the confirmation discourse move as it was originally defined in Farkas and Bruce (2009). Recall now the empirical discussion in Chapter 3 about the intricacies of confirmation: there, I showed that some confirmation markers, like “*Yeah*” and “*Yes*”, do not necessarily react to the content of the assertion they are following. Instead, they can be used to confirm some abstract point, which I called the “general point” of an utterance, or to partially, rather than fully, confirm the asserted content. On the other hand, those are exactly the confirmation markers considered in the work of Farkas and Bruce (2009) for which the definition in (32) is suggested. I will demonstrate below that (32) is at the same time too weak and too strong to cover all the confirmation data.

An example of a dialogue involving confirmation of a general point is in (39):

- (39) A: I learnt a lot in this course.
B: Yeah, the course was very useful.

Rather than confirming that A learnt a lot in the course, B confirms the argument A is trying to make; namely, that the course was very useful. Here, the confirmation marker reacts to a more general point than the asserted content itself. The definition of the confirmation marker from (32) would wrongly predict that it reacts to the asserted content itself and, therefore, implies that the proposition “*A learnt a lot in this course*”, rather than the more general proposition “*The course was useful*”, becomes a shared piece of knowledge. The definition of the confirmation discourse move is too weak.

At the same time, “*Yeah*”, can be used to confirm a weaker point than the one conveyed in asserted content. (40) is an example illustrating this from Chapter 3:

- (40) A: That movie was awesome.
B: Yeah, it was not bad.

B does not fully agree with A on his assessment of the movie.

Here, the definition of the confirmation discourse move from (32) wrongly predicts that the proposition “*That movie was awesome*” becomes a shared piece of knowledge. In fact, what becomes shared in (40) is a weaker proposition “*That movie is not bad*”, whereas A’s extremely positive characterisation is, supposedly, left unshared in his *DCs*. In this sense, the definition in (32) is too strong.

In sum, for discourse markers clearly confirming asserted content (like “*In-deed*” and “*That’s right*” considered in Chapter 3) Farkas and Bruce’s (2009) definition in (32) is well-suited. As for less clear patterns of confirmation with, e.g., “*Yeah*”, and “*Yes*”, they must be described first, before the respective confirmation move(s) can be formally defined in the discourse model. (In Chapter 3 I suggested a possible direction in which such a description could go. A formal definition of confirmation discourse moves is left for future research.)

Leaving the intricacies of the confirmation discourse move aside, defining the acceptance move is important for predicting discourse properties of wh-exclamatives. As reported in Chapter 3, acceptance is one of a few discourse properties that clearly describe the discourse behaviour of wh-exclamatives. Also, it is used as one of the diagnostics distinguishing between how asserted and wh-exclamative contents are conveyed.

4.3.4 Directly challenging asserted content

The (direct) challenge reaction to an assertion is illustrated in (41):

- (41) A: John has a car.
B: No/That's not true. (He doesn't).

Denial moves can be performed by different kinds of utterances, including markers like “No”, “That's not true”, “No way”, “Definitely not” (Farkas and Bruce 2009). B's discourse move performing a direct challenge of A's assertion of the proposition p is made by an operator *CHALLENGE – ASSERT*, which is defined as follows:¹⁸

- (42) *CHALLENGE – ASSERT*(A)(B)(p)(C_{input}) iff the following input conditions are satisfied:
- a. (i) $top(QUD_{input}) = \{p\}$
(ii) $p \in DC_{A,input}$
 - b. *CHALLENGE – ASSERT*(p)(C_{input}) = C_{output} ,
where $C_{output} = C_{input}$ except:
 - (i) $DC_{B,output} = DC_{B,input} \cup \{\neg p\}$
 - (ii) $QUD_{output} = push(\{\neg p\}, QUD_{input})$
 - (iii) $CG_{output}^* = CG_{input}^* \bar{\cup} \{\neg p\}$

In words, the move performing a direct challenge commits the discourse participant B to the negation of what A asserted, i.e., to $\neg p$, and suggests that $\neg p$ should become a new issue under discussion that now needs to be resolved.

Let us follow the change of the context state resulting from the dialogue in (41). The context state before the dialogue will, again, be denoted as C_0 , after A's assertion C_1 , and after B's challenge C_2 . In accordance with the proposal in (30), after A's assertion the context state C_1 looks as follows:

- (43) a. $QUD_1 = \frac{\{p\}}{QUD_0}$
b. $DC_{A,1} = DC_{A,0} \cup \{p\}$
c. $DC_{B,1} = DC_{B,0}$
d. $CG_1 = CG_0$

¹⁸The definition in (42) is a slight modification of the original proposal from Farkas and Bruce (2009). In their proposal there is no update of the CG^* . My modification follows their own assumption: if an issue is placed on the QUD stack, its canonical resolution is projected.

$$e. \quad CG_1^* = CG_0^* \bar{\cup} \{p\}$$

B's challenging move introduced in (42) is defined for this context state, because the proposition p is on the top of the *QUD* and is one of A's discourse commitments. The move changes the context state to C_2 in (44):

$$(44) \quad \begin{array}{l} a. \quad QUD_2 = \begin{array}{|c|} \hline \{-p\} \\ \hline \{p\} \\ \hline QUD_0 \\ \hline \end{array} \\ b. \quad DC_{A,2} = DC_{A,1} \\ c. \quad DC_{B,2} = DC_{B,1} \cup \{-p\} \\ d. \quad CG_2 = CG_1 \\ e. \quad CG_2^* = \emptyset \end{array}$$

Note that the set of future common grounds CG_2^* after B's direct challenge is empty. Just for illustration, suppose that the common ground before the conversation started consisted of just one proposition q :

$$CG_0^* = CG_0 = \{q\}$$

Then applying the definition of the CG^* update from (29) gives us:¹⁹

$$\begin{aligned} CG_2^* &= CG_1^* \bar{\cup} \{-p\} = (CG_0^* \bar{\cup} \{p\}) \bar{\cup} \{-p\}^{20} = \{q\} \bar{\cup} \{p\} \bar{\cup} \{-p\} \\ &= \{q, p\} \bar{\cup} \{-p\} = \emptyset \end{aligned}$$

Note that the last step in this derivation results in the empty set, regardless of what the original CG was. This is so, because the definition (29) of the CG^* update collects only consistent supersets, and a set including both p and $\neg p$ is inconsistent. The idea is that the set of future common grounds is empty after the conversation in (41): first, the debate about p has to be settled, and only then can the conversation continue. Since the *QUD* and CG^* contextual components govern the conversation in the direction of resolving the current issue under discussion, the conversational state C_2 is in crisis. Before continuing the conversation, the discourse participants need to discuss further which of the two p or $\neg p$ is true, or agree to disagree (Farkas and Bruce 2009). In other words, a step back in discourse is needed, possibly leading to revision of the beliefs of conversational participants.

To sum up, the addressee does not necessarily need to accept the asserted content. He can directly challenge asserted content by using, e.g., “*No*” or “*That's not true*”. This is connected to the update of the discourse commitments of the speaker, rather than adding the content to the CG directly. If the latter happened, this would mean that the addressee automatically accepts the asserted content as true, without having a possibility to object. Also, the

¹⁹Assuming that the set $\{q, p\}$ is consistent.

²⁰As can be seen from the definition of the CG^* update in (29), the operation $\bar{\cup}$ is associative, so I will omit parentheses in the future.

asserted content becomes an issue under discussion; i.e., the issue whether it is true needs to be settled before the content updates the *CG*.

Note the difference between two kinds of reactions to assertions: confirmation/acceptance moves on the one hand, and challenge moves on the other hand. The latter, in contrast to the former two, puts its content on the top of the *QUD* stack. This corresponds to the intuition that confirmation/acceptance indicates B's agreement with the proposal to add the issue to the *CG* (whatever is the source of B's agreement). Therefore, the issue is not under discussion anymore after B has confirmed/accepted it. After a challenge, in contrast, both $\{-p\}$ and $\{p\}$ are in the *QUD* stack, which reflects the fact that it is undecided which of the two is true.

4.4 Assertions with non-asserted contents

The FB-model was designed in Farkas and Bruce (2009) to model the context-change effect and discourse behaviour of asserted content. In this section, I will introduce a new operation on the context to model the context-change effect of non-asserted propositional contents, namely, the *direct common ground update*. This extension will be indispensable to my analysis of the exclamative speech-act operator in Chapter 5.

In this section, I consider declarative sentences conveying, together with their asserted content, other types of content. Well-known examples of such non-asserted contents include presupposed contents and the contents of (sentence-medial) appositive clauses. The result will be that this kind of non-asserted propositional contents does not constitute part of the proposal made by an assertion, but updates the *CG* directly.

4.4.1 The proposal for assertions with non-asserted content

A model example of an assertion with non-asserted content is a declarative sentence containing an appositive relative clause, as in (45):

(45) John, who is a swimmer, lives around the corner.

In Chapter 3, we saw a clear difference in the discourse behaviour between asserted and appositive content of sentences like (45). The key discourse properties of asserted and appositive contents are summarised in table 4.1, which is a part of table 3.1 from Chapter 3. The asserted content of (45) can be directly challenged, just as in the case of asserted content being the only content of a declarative sentence. In contrast, appositive content cannot be challenged directly, but only indirectly (for example, with the help of the discourse marker “*Hey, wait a minute!*”). Also, asserted, but not appositive content can be accepted or confirmed separately.

| | asserted content | appositive content |
|--|------------------|--------------------|
| speaker-deniable | no | no |
| directly challengeable by the addressee (i.e. with “ <i>That’s not true</i> ”) | yes | no |
| indirectly challengeable with “ <i>Hey, wait a minute!</i> ” | no | yes |
| indirectly challengeable by asserting the opposite | yes | yes |
| can be accepted separately | yes | no |
| can be confirmed separately | yes | no |

Table 4.1: Sum up: discourse properties

Following AnderBois, Brasoveanu and Henderson (2010) and Koev (2012), I extend the proposal made in Farkas and Bruce (2009) for the assertion speech-act operator to the context-change effect of declarative sentences with appositive contents. Farkas and Bruce’s (2009) original proposal is repeated below:

- (46) $ASSERT(A)(p)(C_{input}) = C_{output}$, where $C_{output} = C_{input}$, except:
- $QUD_{output} = push(\{p\}, QUD_{input})$
 - $DC_{A,output} = DC_{A,input} \cup \{p\}$
 - $CG_{output}^* = CG_{input}^* \sqcup \{p\}$

(47) represents the context-change effect of a declarative sentence with the asserted content p and non-asserted contents q_1, \dots, q_n :

- (47) $ASSERT(A)(p)(C_{input}) DU(A)(q_1)(C_{input}) \dots DU(A)(q_n)(C_{input}) = C_{output}$, where $C_{output} = C_{input}$ except:
- $QUD_{output} = push(\{p\}, QUD_{input})$
 - $DC_{A,output} = DC_{A,input} \cup \{p\}$
 - $CG_{output} = CG_{input} \cup \{q_1, \dots, q_n\}$
 - $CG_{output}^* = CG_{input}^* \sqcup \{p\}$

In words, the asserted content p makes exactly the same update as defined in (46): it introduces a new issue under discussion, enters the speaker’s discourse commitments, and projects. The speaker of such an utterance makes a proposal to update the CG with p . The non-asserted contents q_1, \dots, q_n are not part of the proposal. Instead, they update the CG directly (DU stands for the “*direct update*”), as shown in the (c)-clause of the definition in (47). I will motivate and explain this direct update of the CG in the next section. Applying the proposal in (47) to an utterance of a declarative sentence containing an appositive clause like (45) leads to the following result: the asserted content, i.e., the proposition “*John lives around the corner*” is, as usual, a proposal to update the CG ,

whereas the appositive content “*John is a swimmer*” is put into the *CG* directly.

4.4.2 Direct Common Ground update

The notion of a direct update of the *CG* has been proposed in the literature before. For example, AnderBois, Brasoveanu and Henderson (2010) and Koev (2012) suggest that appositive relative clauses directly update the *CG*, without negotiation with the addressee. Murray’s (2012) proposal for evidentials also includes this kind of update.

All these notions of the direct *CG* update have the same problem: the *CG* contains information shared by all conversational participants (as defined in section 4.2.1 of this chapter), and, therefore, it should not be possible to update it without giving the discourse participants a chance to object. Of course, there is information that directly enters the *CG*, namely, information about observable events happening in the vicinity of the conversation. In an oft-cited example already mentioned in section 4.2.1 of this chapter, Stalnaker (1978) points out that if, during a conversation, a goat suddenly walks into the room, the fact that a goat entered the room can be assumed to be in the *CG*, given that all discourse participants observe the goat (and observe each other observing the goat). Another example of such publicly observable events happening during a conversation are, of course, utterances themselves. For example, *the fact that a declarative sentence was uttered* will always directly enter the *CG*. Section 4.2.1 contains more examples of information entering the *CG* directly.

However, it is not evident why the non-asserted content of some utterances has a potential to enter the *CG*. Given that no utterance of any kind can directly make the addressee believe something, utterances ought not to be able to directly add their contents to the *CG*. Why does the speaker, in some cases, have the power to directly put information into the *CG*?

What I want to suggest is that contents that are subject to direct *CG* update are typically contents that are straightforwardly accommodated by the addressee. Let me illustrate this idea with a property of appositive contents noted by Schlenker (2009). Schlenker observed that not just any content can appear in an appositive clause, but only “relatively uncontroversial” content. In 2009, when Schlenker’s paper was written, a declarative sentence in (48) could be uttered felicitously:

- (48) Sarkozy, who is the commander-in-chief, has just murdered his wife.
English translation from Schlenker (2009)

Nicolas Sarkozy was the commander-in-chief of France in 2009, so the content of the appositive clause in (48) is uncontroversial. In contrast, the information that he murdered his wife would be news for everyone, and it constitutes a part of the proposal the speaker of (48) is making with his utterance. Note that this proposal does not have to be accepted by the addressee. In contrast, the inverted distribution of information, i.e., when the controversial information

is in the appositive clause, leads to a weird result:

(49) #Sarkozy, who has just murdered his wife, is the commander-in-chief.

(49) is, of course, weird only if the fact that Sarkozy has murdered his wife is not yet public knowledge (as is the case in reality).

I will take the case of the appositive content as illustrative for all cases of direct update of the *CG*. I propose that the direct update of the *CG* is available under the following condition:

(50) **Condition:** The information with which the *CG* is updated directly must be uncontroversial.

In Schlenker (2009) this property of the content of appositive clauses is referred to as “*translucency*”. (I will use the term *uncontroversial* proposition.) For a proposition *p* to be *translucent/uncontroversial* means that it is possible to add unsurprising assumptions to the *CG* such that the local context entails *p*; in other words, if adding it to the *CG* does not change the beliefs of discourse participants about what is possible. For illustration, consider Schlenker’s example (51):

(51) Sarkozy has just murdered his wife, and the President, who will have to be tried, is about to resign. (Schlenker 2009)

The content of the appositive clause “*who will have to be tried*”, where “*who*” refers to President Sarkozy, is the proposition “*Sarkozy will have to be tried*”, which, by itself, might not seem uncontroversial, but, if we add a trivial assumption to the *CG*, namely, *if someone – even the President – commits a murder, he must be tried* (Schlenker 2009), the content of the appositive clause becomes accommodable, which means that it is uncontroversial.

To sum up, the *CG* is a contextual component containing information shared by the discourse participants, and it can sometimes be updated directly, without negotiation required. The information that is added directly to the *CG* must be uncontroversial. Let us see now how the proposal from (47), together with the condition from (50), explains the discourse properties of appositive content discussed in Chapter 3.

4.4.3 Explaining discourse properties of appositive content

The proposal in (47) explains why the speaker cannot deny asserted and appositive contents (see section 3.2 of Chapter 3). Asserted content updates the speaker’s *DCs* and is, therefore, undeniable. Appositive content makes a direct update of the *CG* (see the (c)-clause in (47)). As the *CG* contains the information shared by all conversational participants, the speaker cannot first introduce a shared piece of information and consequently deny it.

(47) also accounts for the fact that asserted, but not appositive content can be directly challenged by the addressee. The discourse move performing the direct challenge introduced in (42) on p.105 is defined only if the content that is to be challenged is on the top of the *QUD* stack and is contained in the discourse commitments of the original speaker. Note that this holds in the context state C_{output} for the asserted, but not for the appositive content, as can be seen from (47). The appositive content does not introduce a question under discussion.

A similar explanation works for the acceptance and confirmation reactions of the addressee. As Chapter 3 reports, confirmation and acceptance markers can confirm both asserted and appositive contents, but never appositive content alone in situations where asserted content is not shared. Formally, the acceptance move defined in (38) and the confirmation move from (32) have as one of their definedness conditions that the proposition to be accepted must be on the top of the *QUD* stack, similarly to the direct challenge move in (42).²¹ This condition is satisfied by asserted content, according to the (a)-clause of (47), but not by appositive content. In sum, the definitions in (32) and (38) end up predicting correctly that the acceptance/confirmation move following a declarative sentence with an appositive clause cannot indicate acceptance/confirmation of the appositive content alone.

As mentioned above, it is infelicitous to challenge appositive content directly. Indirect challenges are possible, as illustrated in section 3.3 of Chapter 3. Indirect challenges are particularly important, as they concern challenging a supposedly shared piece of information, which has already become a part of the *CG*. This will be the topic of the next section.

4.4.4 Indirect challenge

As mentioned in Chapter 3, an indirect challenge of a proposition can be made in several ways; for example, by using discourse markers suspending the conversation, like “*Hey, wait a minute!*” or “*Well*”, or by asserting the opposite proposition, without any markers. I will not go into the description of situations in which each of the two forms of the indirect challenge is felicitous. Instead, I make a proposal about what it means in discourse to challenge a certain proposition indirectly. I will claim that indirect challenge need not be defined as a separate conversational move, because it is exactly the same as raising a new issue.

Consider (52), which is an example of a dialogue involving indirect challenge of appositive content by asserting its negation:

- (52) A: John, who is a swimmer, lives around the corner.
B: He is not a swimmer.

²¹For simplicity, I leave aside the problems with the definition of the confirmation discourse move discussed in section 4.3.3 and take Farkas and Bruce’s (2009) definition.

Let me denote as p the proposition that John lives around the corner, and as q the proposition that John is a swimmer. I will follow how the context state changes in the course of the dialogue in (52). Suppose we start with the context C_0 . Following the definition of $ASSERT(A)(p)(C_0)$ $DU(A)(q)(C_0)$ in (47), after A's assertion of p with appositive content q C_0 changes to C_1 in the following way:

$$(53) \quad \begin{array}{l} \text{a. } QUD_1 = \frac{\{p\}}{QUD_0} \\ \text{b. } DC_{A,1} = DC_{A,0} \cup \{p\} \\ \text{c. } DC_{B,1} = DC_{B,0} \\ \text{d. } CG_1 = CG_0 \cup \{q\} \\ \text{e. } CG_1^* = CG_0^* \cup \{p\} \end{array}$$

Speaker A is committed to p , which is suggested as a proposal, and q enters the CG directly.

Now the discourse participant B wants to signal that the information q put by A into the appositive clause is not uncontroversial. He does so by asserting the negation of the appositive content q . Let us apply the definition of the assertion context-change generator $ASSERT$ from (46) to the speaker B, content $\neg q$ and context state C_1 described in (53). The resulting context state C_2 is described in (54):

$$(54) \quad \begin{array}{l} \text{a. } QUD_2 = \frac{\{\neg q\}}{\frac{\{p\}}{QUD_0}} \\ \text{b. } DC_{A,2} = DC_{A,1} = DC_{A,0} \cup \{p\} \\ \text{c. } DC_{B,2} = DC_{B,1} \cup \{\neg q\} \\ \text{d. } CG_2 = CG_1 = CG_0 \cup \{q\} \\ \text{e. } CG_2^* = CG_1^* \cup \{\neg q\} = CG_0^* \cup \{p\} \cup \{\neg q\} \end{array}$$

Note that in C_2 the proposition q = “*John is a swimmer*” is in the *current* common ground, and, at the same time, the negation of this proposition, $\neg q$, is in the *future* common ground. This means that, if B's reaction was accepted by A, both q and $\neg q$ would end up in the common ground, which is impossible. In such a discourse state the conversation can proceed in one of the two ways: either one of the interlocutors retracts his statement that John is/is not a swimmer, or they agree to disagree.

In general, it is suggested that indirect challenge is, in fact, equivalent to raising a new issue in the conversation. Therefore, it can be applied to any issue, regardless of whether it is already a part of the CG or not. In other words, all information can be challenged indirectly, including information from the CG , as illustrated in the example of a dialogue in (52). However, challenging information that is a part of the CG leads to a conversational crisis, which has to be settled before the conversation can continue.

Non-linguistic information in the *CG* can also be challenged indirectly. If a goat enters the room in which a conversation between A and B is taking place, this fact updates the *CG* without any need for negotiations. However, if it later turns out that what A and B thought was a goat was, in fact, a dog, the proposition “*A goat entered the room*” is removed from the *CG*.

The issue raised by an indirect challenge should, of course, be relevant to what the preceding conversational move conveyed. But this is a general conversational principle which is also applied, for example, to discourse moves commenting on what has just been asserted. It is not a special condition pertaining to indirect challenges.

4.5 Conclusion

The main goal of this chapter was to introduce the model of context from Farkas and Bruce (2009). This model defines a number of contextual components that form a rich structure to model the effects of various discourse moves. I gave examples of defining context-change effects in this model for asserted and appositive contents and, for both, the connection between the proposal in the model and discourse behaviour is explained. The gist of the proposal for appositive content is that it does not constitute part of the proposal made by the assertion, but updates the *CG* directly. However, such an update is possible only if the non-asserted content is uncontroversial.

Now, that the ground for defining the exclamative speech-act operator is set, I will turn to its formal definition in Chapter 5.

The context-change effect of wh-exclamatives

5.1 Introduction

The main goal of this dissertation is to define the exclamative speech-act operator as a discourse move, which will be done in this chapter. So, in some sense, it is the key chapter of the dissertation. The idea behind my proposal is that wh-exclamatives perform a direct update of the common ground of the conversation with their content.

The question I addressed in Chapter 2 was “*What* propositional content do wh-exclamatives convey?” Now it is time to look at the second question posed there; namely, “*How* do wh-exclamatives convey what they do?” In fact, I already started an informal discussion of different options suggested in the literature in Chapter 2. But now I will take a more formal perspective on this question, given the model of context introduced in Chapter 4 and the discourse properties of wh-exclamatives described in Chapter 3. The connection between my how-proposal and the background literature is made at the end of this chapter.

Chapter 3 argued, based on discourse properties, that the wh-exclamative content is not asserted, and that there does not seem to be a simple way to distinguish the context update it makes from the update of appositive content. Also, I identified which discourse properties are formulated well enough to be considered in the model of context. All these conclusions are going to be used for formulation of the context-change effect of wh-exclamatives.

Chapter 4 lays the ground work for a model of context in which the exclamative speech-act operator will be defined. There, I also gave some examples of

definitions of discourse moves in the model. In particular, the context-change effect of the exclamative speech-act operator can be easily compared to that of asserted or appositive content.

The structure of this chapter is as follows. My proposal for how wh-exclamative content affects the context will be presented in section 5.2. The proposal derives the discourse properties of wh-exclamatives discussed in Chapter 3, which will be shown in section 5.3. The place of my analysis with respect to other theories of wh-exclamatives is discussed in section 5.4. In section 5.5, I discuss the core of exclamativity and I suggest that the use of exclamatives is associated with a certain convention. Finally, in section 5.6 I show how the approach I have taken in this dissertation can be applied to other kinds of exclamatives.

5.2 Proposal for the how-question

Based on the discourse properties of wh-exclamatives I investigated in Chapter 3, I will now aim at formulating a definition of the exclamative speech-act operator in the FB-model of context. The discourse properties of wh-exclamative content are summarised in Table 5.1, where a comparison with appositive content is also made. Table 5.1 shows that wh-exclamative content is similar to appositive content with respect to most discourse properties. For example, neither wh-exclamative nor appositive contents can be challenged directly by using “No” or “That’s not true”. However, both of them can be challenged indirectly, for example, by asserting the opposite. Neither wh-exclamative nor appositive content can be accepted with acceptance markers like “Oh” or “Uh-huh”. This similarity in discourse behaviour between appositive and wh-exclamative contents favours similar proposals for the context-change effects of these types of content. This idea is further developed in this section.

Recall the (preliminary) what-proposal that I made in Chapter 2, following the works of Chernilovskaya and Nouwen (2012) and Nouwen and Chernilovskaya (submitted). Consider the example of a wh-exclamative in (1):

(1) A: What a delicious dessert John baked!

I proposed that wh-exclamatives like (1) express a noteworthiness evaluation directed towards the referent of the wh-phrase. (The other four potential contents of wh-exclamatives that were discussed in Chapter 2 play no role in my proposal.) For (1), this means that the dessert that John baked is delicious and noteworthy. The content of (1) is spelled out in (2):

(2) $p = \exists x \left(\text{dessert}(x) \wedge \text{delicious}(x) \wedge \text{baked}(j, x) \wedge \text{noteworthy}(x) \right)$

As suggested in section 4.4 of Chapter 4, the context-change effect of the appositive content of a declarative sentence constitutes a direct update of the

| | asserted content | appositive content | wh-exclamative content |
|--|------------------|--------------------|------------------------|
| speaker-deniable | no | no | no |
| directly challengeable by the addressee (i.e. with “ <i>That’s not true</i> ”) | yes | no | no |
| indirectly challengeable by asserting the opposite | yes | yes | yes |
| transparent for “ <i>No</i> ” | no | ?? | yes |
| can be accepted (separately) | yes | no | no |
| can be confirmed (separately) | yes | no | yes |

Table 5.1: Sum up: discourse properties of asserted, appositive and wh-exclamative contents

common ground, CG , without raising an issue under discussion or requiring the addressee’s agreement. I am going to work out a similar idea for how wh-exclamative content is conveyed. I propose the following definition for the exclamative speech act, which I am going to denote as $EXCL$, applied to the wh-exclamative content p :

$$(3) \quad EXCL(A)(p)(C_{input}) = C_{output},$$

where $C_{output} = C_{input}$ except:
 $CG_{output} = CG_{input} \cup \{p\}$

If (3) is to be ultimately successful as an analysis of the exclamative speech-act operator, I will have to show that it makes sense to directly update the CG with the wh-exclamative content like (2). Recall the issue that I raised in Chapter 4 when discussing the direct CG update with appositive content: the CG consists of mutual beliefs of all conversational participants, so directly updating this contextual component with a piece of information would mean committing the addressee to it, without giving him the possibility to object. In Chapter 4, I formulated the following condition on direct CG update:

$$(4) \quad \textbf{Condition:}$$

The information with which the CG is updated directly must be uncontroversial. ((50) from Chapter 4)

As suggested in section 2.3.5 of Chapter 2, the noteworthiness evaluation in the wh-exclamative content in (2) can potentially be read in two ways: as the *speaker’s* evaluation of the dessert x as noteworthy/delicious, or as a *generic* evaluation. The two options are repeated below:

$$(5) \quad \text{A: What a delicious dessert John baked!}$$

a. external content:
 $\exists x (dessert(x) \wedge Gen_y delicious(y, x) \wedge baked(j, x))$

- $$\wedge \text{Gen}_y \text{noteworthy}(y, x))$$
- b. internal content:
 $\exists x (\text{dessert}(x) \wedge \text{delicious}(A, x) \wedge \text{baked}(j, x) \wedge \text{noteworthy}(A, x))$

Which of the two propositions mentioned in (5) is the true wh-exclamative content? Below, I will give a theoretical reason to prefer the *internal* content in (5-b) to the *external* in (5-a). Note that only the former option gives rise to uncontroversial content, as the proposition it expresses involves speaker-privileged information. In nearly all real-world scenarios, internal content would be easily accommodated by the audience. This is based on an (unsurprising) assumption that if a person reports something about his own personal experience, what he reports is true. For (5), for example, the internal content in (5-b) saying that A finds the dessert delicious and noteworthy can easily be accommodated in the *CG*.

In contrast to the internal content in (5-b), the external content in (5-a) is *not* uncontroversial, as it expresses a generic evaluation and is not overtly related to the speaker of the wh-exclamative. The wh-exclamative (5) can be felicitously uttered in a context in which the information that the dessert x is delicious to people in general, which is part of the external content, is not shared. Suppose, for example, that x is a cheesecake, and the proposition “*The addressee B doesn’t like cheesecake*” is a shared piece of knowledge; i.e., it is in the *CG*. Although the external content contradicts the *CG*, it is nevertheless felicitous for A to utter a wh-exclamative in (5). If wh-exclamatives are to make a direct common ground update, (5-a) is *not* a proposition that can update the *CG* directly.

Another indication that the proposition in (5-b) is, and in (5-a) is *not* uncontroversial comes from the corpus data related to challenge which is reported in section 3.3.5 of Chapter 3. Construed examples like (6) demonstrate that challenging wh-exclamative content (the proposition in (5-b)) is possible only in privileged information scenarios:

- (6) Bill: What a delicious dessert John baked!
 wh-exclamative content: Bill finds the dessert John baked delicious and noteworthy
 Mary: %You don’t find it delicious at all.

In other types of scenarios, such as when Mary does not have access to Bill’s private world, the content of Bill’s exclamative is easily accommodated. In contrast, the generic evaluation can be challenged by the addressee; moreover, this is the only kind of challenge that we find in the corpus. One of the COCA examples from Chapter 3 is repeated in (7):

- (7) “Which of your patients has the greatest, richest, most incredible bank deposits?” The nurse glanced up at this strange request. “Pardon?”
 “You heard me very clearly,” said the tall gaunt man. “*What a strange*

question.” “Not strange when you think what’s at risk.”

((52) from Chapter 3)

To sum up, I have argued above for a certain choice in the formulation of my what-proposal; namely, that the wh-exclamative content is *internal* (i.e., related to the speaker of the wh-exclamative). The wh-exclamative content of (5) is thus:

$$(8) \quad p = \exists x \left(\text{dessert}(x) \wedge \text{delicious}(A, x) \wedge \text{baked}(j, x) \wedge \text{noteworthy}(A, x) \right),$$

where A is the speaker of the wh-exclamative. How is this content conveyed? Following the how-proposal I made in (3), the content from (8) makes a direct update of the common ground. Such an update is always possible, because the nature of the content is speaker-related and, therefore, uncontroversial. Note that this is not to say that the proposition from (5-a) expressing a generic evaluation cannot be an issue under discussion in a conversation in which a wh-exclamative is used. It becomes relevant after an utterance of a wh-exclamative, as example (8) shows, but it is neither asserted nor does it make the direct common ground update.

Let us now compare how the wh-exclamative content changes the context to the context-change effects of asserted and non-asserted contents defined in Chapter 4. The definition of the assertion operator *ASSERT* is given in section 4.3 of Chapter 4 and repeated below:

$$(9) \quad \text{ASSERT}(A)(p)(C_{input}) = C_{output}, \text{ where } C_{output} = C_{input}, \text{ except:}$$

- a. $QUD_{output} = \text{push}(\{p\}, QUD_{input})$
- b. $DC_{A,output} = DC_{A,input} \cup \{p\}$
- c. $CG_{output}^* = CG_{input}^* \sqcup \{p\}$

Asserting the proposition p amounts to updating the speaker’s discourse commitments and introducing a new issue under discussion, following Stalnaker’s (1978) intuition that an assertion proposes an update of the *CG*. Raising an issue under discussion automatically projects a canonical way of resolving it, which is reflected in the CG^* update in the (c)-clause of (9). This encodes the “canonical” reaction to an assertion, which is confirmation (or acceptance).

As opposed to an assertion, a wh-exclamative does not make a *proposal* to update the *CG*. Instead, it makes a *direct update* of the *CG* with its content, without raising a new question under discussion. There are two important differences between the proposal for *EXCL* in (3) and for *ASSERT* in (9). The first is that there is no update of the *QUD* component. This means that, as opposed to an assertion, a wh-exclamative raises no issue that has to be settled before the conversation can continue. The second point is that *EXCL* does not update the projected set CG^* . This makes the theoretical claim that a wh-exclamative is not associated with any default reaction, which was already observed in Beyssade and Marandin (2005) and is advocated in section 3.5.5. In

particular, a wh-exclamative poses no request for an addressee’s commitment to its content. Intuitively, this corresponds to the intuition that a wh-exclamative does not need to be accepted by the addressee. The exact formulation of this claim and investigating whether it is true is outside the scope of this dissertation.

As an example of non-asserted content, I considered appositive content in Chapter 4. The context-change effect of a declarative sentence containing an appositive clause is in (10), where p is the asserted content and q the (uncontroversial) appositive content:

$$(10) \quad \begin{aligned} & \text{ASSERT}(A)(p)(C_{input}) \text{ DU}(A)(q)(C_{input}) \\ & = C_{output}, \text{ where } C_{output} = C_{input} \text{ except:} \\ & \text{a. } QUD_{output} = \text{push}(\{p\}, QUD_{input}) \\ & \text{b. } DCA_{output} = DCA_{input} \cup \{p\} \\ & \text{c. } CG_{output} = CG_{input} \cup \{q\} \\ & \text{d. } CG^*_{output} = CG^*_{input} \sqcup \{p\} \end{aligned}$$

In words, the asserted content p makes exactly the same update as defined in (9): it introduces a new issue under discussion, enters the speaker’s discourse commitments, and updates the projected set CG^* . The non-asserted content q updates the CG directly, without making a proposal, as the asserted content p does.

The fact that both appositive and wh-exclamative contents make a direct update of the CG explains the similarities in the discourse properties of the two types of content: for example, neither of the two can be directly challenged with, e.g., “No, that’s not true”, or accepted. For appositive content, we saw the derivation of the discourse properties in Chapter 4, and in the next section I am going to show how the proposal for the exclamative speech-act operator *EXCL* derives the discourse properties of wh-exclamatives that I considered in Chapter 3.

5.3 Derivation of discourse properties of wh-exclamatives

In the previous section I made an integrated what- and how-proposal for the context-change effect of wh-exclamatives. A wh-exclamative conveys a speaker-related noteworthiness evaluation, which makes a direct update of the common ground. The proposal is repeated in (11-b) and (c) for the wh-exclamative in (11-a):

$$(11) \quad \begin{aligned} & \text{a. } A: \text{ What a delicious dessert John baked!} \\ & \text{b. } \text{wh-exclamative content:} \\ & \quad p = \exists x \left(\text{dessert}(x) \wedge \text{delicious}(A, x) \wedge \text{baked}(j, x) \right) \end{aligned}$$

- $\wedge \textit{noteworthy}(A, x)$)
- c. context-change effect:
 $EXCL(A)(p)(C_{input}) = C_{output}$,
 where $C_{output} = C_{input}$ except:
 $CG_{output} = CG_{input} \cup \{p\}$

The proposal in (11) successfully derives the impossibility for the speaker to deny the wh-exclamative content, and for the addressee to directly challenge or accept the content. I will show below how these discourse properties are derived. In addition, I will discuss indirect challengeability of wh-exclamatives and speculate on the use of confirmation markers following wh-exclamatives. I address the properties in the subsections below. As the proposal for wh-exclamatives is similar to the context-change effect of appositive content, the derivations of some of the discourse properties are similar to those in section 4.4 of Chapter 4.

5.3.1 Speaker deniability of wh-exclamative content

The speaker of a wh-exclamative cannot deny its content in subsequent discourse, as the continuations in (12-a) and (12-b) of the exclamative in (12) show:

- (12) A: What a delicious dessert John baked!
 a. #But I don't find it delicious.
 b. #But I don't find it noteworthy.
 c. But I don't find it surprising.

The wh-exclamative in (12) cannot be understood as conveying surprise after the continuation in (12-c). As a wh-exclamative performs an update of the *DC* with its content, the speaker of the exclamative is committed to the content. This implies that the content cannot be denied in the subsequent discourse.

5.3.2 Direct challengeability of wh-exclamative content

Wh-exclamative content cannot be directly challenged by the audience using something like “No” or “That’s not true”:

- (13) A: What a delicious dessert John baked!
 B: #No./#That’s not true./#That’s a lie. You don’t find it noteworthy. John is a professional cook, after all.

The discourse move performing a direct challenge, as defined in section 4.3.4 of Chapter 4, repeated below, simply cannot target wh-exclamative content:

- (14) *CHALLENGE – ASSERT*(*A*)(*B*)(*p*)(*C*_{input}) is defined iff the following input conditions are satisfied:
- a. (i) $top(QUD_{input}) = \{p\}$
 - (ii) $p \in DC_{A,input}$
 - b. *CHALLENGE – ASSERT*(*A*)(*B*)(*p*)(*C*_{input}) = *C*_{output}, where $C_{output} = C_{input}$ except:
 - (i) $DC_{B,output} = DC_{B,input} \cup \{\neg p\}$
 - (ii) $QUD_{output} = push(\{\neg p\}, QUD_{input})$
 - (iii) $CG_{output}^* = CG_{input}^* \sqcup \{\neg p\}$

The definedness condition in (14-a-i) does not hold for the update made by *EXCL*, as *EXCL* does not put its content up for discussion.

Recall that, when the direct challenge marker “*No*” is used after a wh-exclamative, it always reacts to the discourse move preceding the wh-exclamative:

- (15) A: John is a very good cook. What a delicious dessert he baked!
 B: No, I don’t think he can cook at all.

“*No*” in (15) performs the discourse move of direct challenge defined above in (14). As the definedness conditions in the (a)-clause indicate, it reacts to the current issue under discussion, which is also in A’s discourse commitments. For the dialogue in (15), the last issue put into the *CG* stack is the one containing the proposition “*John is a very good cook*”, as an effect of A’s assertion. Consequently, this is also what “*No*” reacts to, and the wh-exclamative is transparent to “*No*”.

5.3.3 Indirect challengeability of wh-exclamative content

Wh-exclamative content can be challenged indirectly, for example, by asserting the opposite:

- (16) Bill: What a delicious dessert John baked!
- a. Mary: %You don’t find it delicious at all.
 - b. Mary: %You don’t find this surprising.
 - c. Mary: %You’re not surprised.
 - d. Mary: You’re just pretending. You eat his desserts every day!

Recall that the discussion in section 4.4.4 of Chapter 4 suggests that indirect challenge amounts to making a new assertion raising the opposite issue. I will not repeat all the formal details here, but it is always possible to make an assertion of a certain proposition, so, also, to challenge exclamative content indirectly by asserting the opposite. Note that the indirect challenge of the noteworthiness evaluation conveyed in wh-exclamative content is felicitous only in privileged information scenarios, when the addressee B has evidence for *QUD* talk about A’s personal experience.

5.3.4 Acceptance of wh-exclamative content

Wh-exclamatives cannot be followed by acceptance discourse markers like “*Oh*”, “*Uh-huh*” or “*Ok*”:

- (17) A: What a delicious dessert John baked!
B: #*Oh*./#*Uh-huh*./#*Ok*.

This follows from the definition of the acceptance discourse move in section 4.3.3 of Chapter 4, which is repeated below:

- (18) $ACC - ASSERT(A)(B)(p)(C_{input})$ is defined iff the following input conditions are satisfied:
- a. (i) $top(QUD_{input}) = \{p\}$
(ii) $p \in DC_{A,input}$
 - b. $ACC - ASSERT(A)(B)(p)(C_{input}) = C_{output}$, where $C_{output} = C_{input}$ except:
 - (i) $DC_{B,dep,output} = DC_{B,dep,input} \cup \{p\}$

The acceptance move is associated with the same definedness conditions as the direct challenge move from (14), which are not provided by the context update with wh-exclamative content. Note, however, that the acceptance move reacts to the last issue put under discussion, just as was the case for the direct challenge move in section 5.3.2. Therefore, the definition of the acceptance discourse move predicts that wh-exclamatives should be transparent to acceptance as well. Consider example (19)¹, in which an assertion is followed by a wh-exclamative, and then by acceptance:

- (19) McCarver: Americans like the sports judged based on precedence.
Smith: *What a radical concept!*
Zahn: *Oh*, I didn’t know Americans like the sports judged on precedence.

The first prediction is that Zahn’s reaction with the acceptance discourse move is felicitous, and the second is that her acceptance is actually directed to McCarver’s assertion preceding the exclamative. Zahn accepts the content of this assertion on McCarver’s evidence, rather than on her own. More corpus research is needed to find whether these predictions are correct.

5.3.5 Confirmation of wh-exclamative content

Recall from section 3.4 of Chapter 3 that the confirmation marker “*That’s right*”, that is used to confirm asserted content, is infelicitous as a reaction to a wh-exclamative and thus shows the difference between wh-exclamative and asserted contents:

¹(19) is taken from Chapter 3 and modified.

- (20) A: What a delicious dessert John baked!
 B: #That's right.

The proposal for the confirmation conversational move from Chapter 4 is repeated below:

- (21) $CONF - ASSERT(A)(B)(p)(C_{input})$ is defined iff the following input conditions are satisfied:
- a. (i) $top(QUD_{input}) = \{p\}$
 (ii) $p \in DC_{A,input}$
 - b. $CONF - ASSERT(A)(B)(p)(C_{input}) = C_{output}$,
 where $C_{output} = C_{input}$ except:
 (i) $DC_{B,source,output} = DC_{B,source,input} \cup \{p\}$

Straightforwardly applying this definition after *EXCL*, we conclude that confirmation of wh-exclamatives is impossible, because the definedness conditions do not hold, just as we did for the direct challenge and acceptance moves in (14) and (18). Those, indeed, had the same definedness conditions as in the (a)-clause of (21). Similarly to those cases, the proposal in (21) predicts that, if a confirmation move follows a wh-exclamative, it necessarily reacts to the last issue under discussion (e.g., to the preceding assertion, as in example (22), which is a modification of (19)).

- (22) McCarver: Americans like the sports judged based on precedence.
 Smith: *What a radical concept!*
 Zahn: *That's right*, I knew that already.

However, the prediction of the proposal in (21) about the complete impossibility to confirm wh-exclamatives is not correct in general. We saw in Chapter 3 that wh-exclamatives can be confirmed with some markers, although it is sometimes difficult to see what exactly is confirmed. Consider example (23) for illustration:

- (23) A: What a delicious dessert John baked!
 B: Yes./Yeah./Indeed./Right.

The data reported in section 3.4 of Chapter 3 demonstrated that confirmation moves like “*Yes*”, “*Yeah*”, “*Indeed*” and “*Right*” are felicitous reactions to wh-exclamatives, but what is confirmed can be an abstract point and depends on a discourse marker. The definition of the context-change effect of the confirmation discourse move in (21) cannot thus be applied to discourse markers “*Yes*”, “*Yeah*”, “*Indeed*” and “*Right*”, as it predicts that they cannot occur after wh-exclamatives. In addition, recall that this definition does not completely describe all uses of confirmation moves, even for the case of assertion confirmation. In section 3.4 of Chapter 3, I showed that confirmation markers like “*Yeah*” following an assertion move sometimes confirm not the content just asserted, but rather the general point made by the assertion. In section 4.3.3,

I explained the problems with the proposal in (21) for the case of assertions. Further discussion of confirmation of wh-exclamatives is outside the scope of my dissertation.

5.3.6 Other discourse properties of wh-exclamatives

As anticipated in Chapter 3, below I will provide preliminary thoughts on what is necessary for the model of context to be able to derive the rest of the discourse properties of wh-exclamatives.

Recall that, in section 3.5.1 of Chapter 3, I concluded that wh-exclamatives are more restricted as answers to questions than are assertions. A canonical example like (24) shows the contrast:

- (24) A: How tall is John?
a. B: #How tall John is!
b. B: John is very tall.

On the other hand, I also provided (constructed) examples illustrating that wh-exclamatives can serve as felicitous answers to questions:

- (25) A: Did you enjoy your vacation?
B: What great fun we had!

As mentioned earlier, this discourse property requires further empirical investigation in order to define when wh-exclamatives can serve as answers to questions and when they cannot. In general, in the FB-model, a question raises a new issue under discussion, and, to investigate answering questions in a model, one needs to look at different ways of reacting to an issue under discussion with asserted and non-asserted contents.

I also showed in Chapter 3 that, in most situations, when wh-exclamatives occur after questions, they do not *answer* but *comment* on a question. Defining commenting as a discourse move is necessary, but is left outside the scope of this dissertation.

Another discourse property discussed in Chapter 3 is that wh-exclamatives can be used to introduce new information. This is compatible with my proposal for the context-change effect of the exclamative speech-act operator that I made in this chapter. The only requirement on the new information that a wh-exclamative introduces is that it should be uncontroversial (in order for a direct *CG* update to succeed).

Finally, to show that wh-exclamatives can be inserted into narration and cannot be used to defend the speaker's position in a discussion, the respective notions first need to be defined in a discourse model. This will not be attempted in this dissertation.

5.3.7 Summary

To sum up, in section 5.2, I proposed that wh-exclamatives perform a direct update of the common ground with the speaker-related noteworthiness evaluation. From this proposal, it follows that wh-exclamative content cannot be denied, directly challenged, accepted, or confirmed with the discourse marker “*That’s right!*”. Some other discourse properties that I described in Chapter 3, like confirmation of wh-exclamatives with other confirmation markers or wh-exclamatives used as reactions to questions, require extensive data collection and are left for future research.

In Chapter 2, I reviewed some main approaches to the semantics and pragmatics of wh-exclamatives and pointed out how they answer the questions of *what* wh-exclamatives convey and *how* they do it. There, I also made the first step in formulating my what-proposal and related it to other theories. This chapter suggested final answers that I give to the what- and how-questions, and the next section is going to describe the place of my theory in the literature.

5.4 Comparison to the literature

In Chapter 2, I summarised and reviewed a number of semantic and pragmatic proposals for wh-exclamatives. With respect to the what-question, the approach I suggested is more economical and better-motivated than other analyses in the literature (e.g., Zanuttini and Portner 2003, Castroviejo Miró 2008a, Rett 2011): it assumes one, rather than two, wh-exclamative contents, covers scalar as well as non-scalar wh-exclamatives, and the noteworthiness evaluation that I proposed covers attitudes expressed by wh-exclamatives. I also clarified the question of perspective in wh-exclamative content, which has never been done in the literature, and showed that the content is related to the speaker, rather than being generic.

As for the how-question, two main strategies were identified in Chapter 2. Searle-like approaches to defining the exclamative speech act use an intuitive notion of “expressing”. Rett (2011), for example, claims that wh-exclamatives express unexpectedness. From such a vague notion, it is difficult to make predictions about the discourse behaviour of wh-exclamatives. In my proposal I improved on this issue by providing a formal definition of what it means “*to express*”. I formally defined the exclamative speech act in a model of context: its effect is a direct update of the conversational common ground with wh-exclamative content expressing the speaker’s noteworthiness evaluation. In some sense, the noteworthiness evaluation that I propose is comparable to the unexpectedness attitude in Rett (2011), and “to express” an attitude means a direct common ground update. A formal definition of this kind allows us to explain the discourse behaviour of wh-exclamatives, which is not easily achievable in Searle-like approaches.

Approaches of the other type, like Castroviejo Miró (2008a), labelled the discourse status of wh-exclamative content(s) as, e.g., presupposed or conventionally implicated. Such a strategy is not motivated for wh-exclamatives, as the difference between different labels is in scopal behaviour and thus can only be seen with tests involving embedding. Such tests are, however, inapplicable to wh-exclamatives, because, as I already showed in Chapter 2, embedded exclamatives constitute an entirely different phenomenon from matrix exclamatives. This is consistent with my proposal given in this chapter, as I provided a definition of the exclamative *speech-act operator*, and it is standardly assumed that speech-act operators cannot be embedded. Moreover, the labels that are provided in the literature, supposedly, have the same discourse status: they are all non-assertive and make a direct update of the common ground. In other words, one cannot see a difference between different labels and wh-exclamative content in the context-change perspective. Finally, in general, my fundamental idea was not to give a certain label to wh-exclamative content, but rather to describe how it affects the context – what I referred to as the *bottom-up strategy* in Chapter 2.

In sum, the position of my proposal in the literature is that it complements Searle-like approaches with formal definitions and develops further approaches merely providing labels for the status of the wh-exclamative content. In addition, my proposal successfully derives the discourse properties of wh-exclamatives, which had not been done before.

At the end of Chapter 2, I mentioned that my answer to the how-question for wh-exclamatives is, in some respects, similar to the answer given in Castroviejo Miró (2008a). At this point, I can make this comparison explicit. Recall that Castroviejo Miró identifies two (rather than one) types of exclamative content. For (26-a) the contents are in (26-b) and (26-c):

(26) What an entertaining movie I saw!

a. descriptive content:

$$\exists x \left(\text{movie}(x) \wedge \text{TAN}(\text{entertaining}(x))(d_i) \wedge \text{saw}(\text{Speaker}, x) \right),$$

where:

(i) $\text{TAN}(d_S)(d_R) = 1$ iff $d_S \geq d_R$

(ii) $d_S = d_i$

(iii) d_i is a degree recovered from the context that is high

b. expressive content:

The speaker experiences an attitude towards the fact that
 $\wedge \text{TAN}(\text{entertaining}(x))(d_i)$

(Castroviejo Miró 2008a, cf. ex. (30) on p. 57)

Castroviejo Miró's (2008a) how-proposal was that the descriptive content of a wh-exclamative is taken for granted, whereas its expressive content is an expressive presupposition. I already showed in Chapter 2 that the former statement is untenable. The context-change effect of the expressive content is, following

Castroviejo Miró, a direct update of the common ground, and this is exactly the proposal I make for the wh-exclamative content that I defined in the dissertation. But my proposal presented in this chapter is minimalistic in the sense that it assumes a single update with the wh-exclamative content. As I showed in Chapter 3, there is no empirical motivation for more than one wh-exclamative content. In addition, I considered more discourse properties than Castroviejo Miró (2008a), described them in detail, illustrated on the basis of corpus examples, and, finally, showed how to derive them from my proposal. This is either not attempted or done to a lesser extent in the work of Castroviejo Miró.

5.5 Wh-exclamatives and convention

Earlier in this chapter, I made a proposal for the context-change effect of wh-exclamatives, which was similar to the proposal for non-asserted (e.g., appositive) content discussed in Chapter 4. To be specific, I suggested that appositive and wh-exclamative contents update the common ground of the conversation directly. But appositive and wh-exclamative contents differ in how their content is conventionally regulated. For wh-exclamative content such an update is at the core of the exclamative speech act. In this section, I will speculate on how the wh-exclamative conversational move arises and what the direct common ground update with a noteworthiness evaluation results from.

Recall the idea behind my proposal for the what-question: wh-exclamatives express the speaker's noteworthiness evaluation. The notion of noteworthiness was used as an umbrella term for the whole range of attitudes expressed by wh-exclamatives (like surprise, unexpectedness, being stricken, etc.). When we say that wh-exclamatives convey a certain attitude, the term "attitude" may suggest that wh-exclamatives signal a certain mental *state*. And indeed, at least some of the attitudes expressed by wh-exclamatives can be conceived of as stative (for example, *unexpectedness*). However, in a co-authored work with Condoravdi and Lauer (Chernilovskaya, Condoravdi and Lauer 2012a) we claim that wh-exclamatives generally signal that a *mental occurrence* has taken place, that is, that there was a mental or emotive *event*. Consider, for illustration, an example in which someone uses a wh-exclamative to show that he has undergone an emotive event of a certain kind:

- (27) [A and B are sitting in A's beautiful garden, which B knows well, and it is commonly known that he greatly admires the garden. Suddenly:]
B: How beautiful your garden is!

B uses the wh-exclamative in (27) to show his admiration of A's garden, or, in other words, to signal that there is an emotive event of admiring the garden that he is undergoing.

Wh-exclamatives directly update the common ground with a noteworthiness

evaluation. But how does such an update arise? In Chernilovskaya, Condoravdi and Lauer (2012a) we suggested that wh-exclamatives update the common ground in a manner similar to observable events, like Stalnaker’s goat entering the room in which the conversation takes place. To make sense of this, we use the notion of a convention in the sense of Lewis (1969), which in Chernilovskaya, Condoravdi and Lauer (2012a) we called “*Lewis conventions*” to distinguish them from other kinds of conventions. Lewis conventions can roughly be described as self-sustaining regularities of behaviour in a population; i.e., such regularities in behaviour that, given that most members of the community follow the convention, most members of the community have an incentive to continue following it, most of the time. We propose that wh-exclamatives are associated with the convention in (28):

- (28) **Convention:** A speaker only utters a wh-exclamative if he undergoes an emotive event

If a goat enters the room in which the conversation takes place, the *CG* gets automatically updated with the fact that a goat entered, as it is an observable event. Similarly, if a wh-exclamative is uttered, the fact that it is uttered is an observable event and therefore directly updates the *CG*. But, following the convention in (28), an utterance of a wh-exclamative indicates that its speaker underwent an emotive event. As the convention itself is followed by/known to discourse participants, the fact that the speaker of the exclamative is going through an emotive event updates the *CG*. Coming back to the example in (27), the fact that B uttered his wh-exclamative updates the *CG*, and, following the convention for wh-exclamatives in (28), the fact that B underwent an emotive event (or: B had an emotive reaction) also updates the *CG*. In sum, a noteworthiness evaluation expressed by a wh-exclamative is a result of the speaker experiencing an emotive event. The direct *CG* update with the speaker’s noteworthiness evaluation, which is at the core of the exclamative speech act, thus goes hand in hand with another direct *CG* update involving an emotive event.

The emotive events with which wh-exclamatives are associated must be triggered by something. A trigger can be an external, observable event, as in (29) being uttered by A just after having seen John:

- (29) [A has never seen John, except in pictures. Suddenly, John enters the room where A is, and A exclaims:]
A: How tall John is!

Similarly, in a COCA example (30) DODGE’s wh-exclamative is triggered by him seeing the three people who have just entered:²

²The example in (30) was found with the search task “*what a/an*” preceded by a form of the verb “*enter*”. The intuitive motivation for this search is that entering some space usually brings new events, which could trigger a wh-exclamative.

- (30) (The door opens. Dodge turns to see Olaf Anderson, Tommy O'Connor, and Zeke Bridges enter.)
DODGE: *What a surprise!*

A trigger can also be a mental event, such as remembering something, attending to something, etc. In (31), for example, what causes B's utterance of the wh-exclamative is a thought related to the bad political situation in the country:

- (31) [B is thinking about the political situation in Egypt. He exclaims:]
B: What a mess the situation in Egypt is!

Also, in the garden example (27) B attending to A's garden serves as a stimulus for B experiencing the emotional reaction. To show this emotional reaction, B utters the wh-exclamative.

Note that the addressee of an exclamative does not need to know in advance what the stimulus is. An example of such a situation in which a wh-exclamative is used is (32):

- (32) a. [I look on the street outside, through the closed, soundproofed window, You are in bed, with the blanket drawn over your head. A Mercedes passes by. I utter:]
b. What a beautiful Mercedes! (Merin and Nikolaeva 2008)

Importantly, it is infelicitous to just utter a wh-exclamative, without any event triggering it:

- (33) A: Tell me everything you know about John.
B: #How tall he is!

In (33) there is no event, like B seeing John, that would trigger B's exclamative utterance.³

The problem with the notion of a trigger for a wh-exclamative is that it is difficult to define precisely what it is, although in every example of a wh-exclamative that we see we can identify what triggered it. Also, triggers are often non-linguistic, which means that the relation between an utterance of a wh-exclamative and something that has triggered this utterance is not always analysable in discourse terms. In sum, my proposal is that wh-exclamatives are used to show that there is an emotive event that the speaker is undergoing which forms a basis for the noteworthiness evaluation. In addition, this event is triggered by something. In the next section I will show that the direct common ground update and conventional association with an emotive event form the core of exclamativity.

³Note, however, that nearly anything can trigger a wh-exclamative. Even in (33) A mentioning the name of John might already be a stimulus for B to think about John, who is exceptionally tall, and this thought would trigger the use of a wh-exclamative.

5.6 Extension of the proposal to other exclamatives

The goal of this section is to suggest how the line of reasoning I followed in the dissertation and my proposal for wh-exclamatives can be extended to cover other sentences that function in a conversation similarly to wh-exclamatives. As opposed to Castroviejo Miró (2008a), who points out differences between wh- and other types of exclamatives and claims that there is no common “exclamative context-change effect”, my tentative claim is that the constructions I consider below are all exclamative in a particular sense: they are all associated with an occurrence of an emotive event that is triggered by something, and perform a direct update of the common ground. Of course, there are differences between different constructions: for example, not all of them perform solely the speech act of exclamation.

5.6.1 Declarative exclamatives

Consider an example of a declarative exclamative in (34):

(34) A: John has a car!

Declarative exclamatives are declarative sentences, but they are pronounced with an intonation pattern different from a usual falling declarative like (35):

(35) A: John has a car.

I am not going to focus on the description of intonational differences here. The main difference between (34) and (35) that I am interested in is in their *discourse functions*. By using (35), A performs an assertion; i.e., in discourse model terms, he makes a proposal to update the *CG* with the proposition “*John has a car*”. This is not exactly what (34) does. Intuitively, (34) conveys that its speaker finds it noteworthy that John has a car.

Castroviejo Miró (2008a) and Rett (2011) note that declarative exclamatives, in addition to being exclamative, function as assertions. In particular, Rett (2011) does so on the basis of the discourse property of direct challengeability. “Default” assertions and declarative exclamatives can be directly challenged by “*No, (that’s not true)*”, whereas wh-exclamatives cannot (see section 3.3.3 of Chapter 3 for the claim for wh-exclamatives):

- (36) a. A: John has a car.
 B: No(, that’s not true). He has a motorcycle.
 b. A: John has a car!
 B: No(, that’s not true). He has a motorcycle.

My goal in this section is to show how the approach I have taken in the dissertation can be applied to exclamatives other than *what a*-exclamatives,

which have been my focus thus far. In Chapter 2, I started by defining *what* an exclamative conveys. Intuitively, the declarative exclamative in (34) conveys that John has a car, and that the speaker A has some attitude towards this fact. The two propositions are in (37):

- (37) a. p = John has a car.
 b. q = A finds it noteworthy that John has a car.

How are the two propositions above conveyed? Let us have a brief look at some discourse properties of declarative exclamatives, as I did for wh-exclamatives in Chapter 3. Direct challengeability, illustrated in (36), indicates that one kind of content (namely p from (37-a), for (34)) is asserted. In this respect, declarative exclamatives are different from wh-exclamatives, which cannot be reacted to by “*No, that’s not true*”. Note, however, that another content of (34) cannot be directly challenged:

- (38) A: John has a car!
 B: No, that’s not true. #You don’t find it noteworthy/#You’re not emotional.

(38) shows that the content q from (37-b) is not asserted, similarly to the content of wh-exclamatives. Castroviejo Miró (2008a) briefly mentions another discourse property of declarative exclamatives: the first, but not the second content of declarative exclamatives can be used to answer questions. Her examples are in (39) and (40):

- (39) A: What happened?
 B: Football Club Barcelona has won the Champions League!
 (40) A: How do you feel?
 B: #Football Club Barcelona has won the Champions League!

As assertions are usually used to answer questions, the two examples above are consistent with the intuition expressed earlier about one of the contents of declarative exclamatives being asserted and the other one not. Note, however, that B’s answers with a “default” declarative in (41-a) and with a declarative exclamative in (41-b) are not exactly similar:

- (41) A: Did John make something for the party?
 a. B: He baked a cake.
 b. B: He baked a cake!

B’s (41-a) neutrally answers A’s question, whereas the answer in (b) conveys, in addition, some emotion (for example, B’s irritation that A just saw John’s cake and already forgot). With respect to this property, declarative exclamatives seem to differ both from assertions and wh-exclamatives. As opposed to assertions, they do not just provide an answer to the question, but also add some emotive evaluation. And, as opposed to wh-exclamatives, declarative ex-

clamatives clearly *can* be used as an answer.

I will not attempt to do a further (corpus) investigation of discourse properties for the case of declarative exclamatives, as I did in Chapter 3 for wh-exclamatives. One should look at whether declarative exclamatives can be accepted and confirmed. But we can already conclude, on the basis of the direct challenge in (36)/(38) and the potential to answer questions in (39)/(40), that the two contents conveyed by declarative exclamatives show different discourse behaviour. In other words, as opposed to wh-exclamatives, here we do have discourse evidence for two distinct contents.

After having considered some discourse properties of declarative exclamatives, we can answer the question about how declarative exclamatives affect the context. Below, I will make an attempt to work out the hypothesis that declarative exclamatives combine two speech acts: assertion and exclamation. This has not explicitly been done before, although the idea is suggested in Castroviejo Miró (2008a) and Rett (2011). An example with its two contents is below, in which the first content is, supposedly, asserted, whereas the second content is responsible for the exclamative part:

- (42) A: John baked a cake!
- a. $p = \exists x \left(\text{cake}(x) \wedge \text{baked}(j, x) \right)$
 - b. $q = \exists x \left(\text{noteworthy}(A, \wedge \text{cake}(x) \wedge \text{baked}(j, x)) \right)$

How can the two speech acts be formally combined? The definitions of the assertion speech act *ASSERT* following the proposal in Farkas and Bruce (2009) is in (43):

- (43) $ASSERT(A)(p)(C_{input}) = C_{output}$, where $C_{output} = C_{input}$, except:
- a. $QUD_{output} = \text{push}(\{p\}, QUD_{input})$
 - b. $DC_{A,output} = DC_{A,input} \cup \{p\}$
 - c. $CG^*_{output} = CG^*_{input} \sqcup \{p\}$

(44) is the proposal I made in this chapter for the exclamative speech-act operator *EXCL*:

- (44) $EXCL(A)(q)(C_{input}) = C_{output}$,
where $C_{output} = C_{input}$ except:
 $CG_{output} = CG_{input} \cup \{q\}$

Combination of the speech acts performed by (42) would then look as follows:

- (45) $ASSERT-EXCL(A)(p, q)(C_{input}) = C_{output}$, where $C_{output} = C_{input}$, except:
- a. $QUD_{output} = \text{push}(\{p\}, QUD_{input})$
 - b. $DC_{A,output} = DC_{A,input} \cup \{p\}$
 - c. $CG^*_{output} = CG^*_{input} \sqcup \{p\}$

$$d. \quad CG_{output} = CG_{input} \cup \{q\}$$

What (45) expresses is that the content p is asserted and thus makes a proposal to update the CG , and the content q conveys a noteworthiness evaluation and so directly enters the CG . This explains, in particular, why p can be directly challenged and predicts that it should also be possible to accept and confirm p . (I leave the investigation of whether these predictions are accurate for future research.)

However, there is a problem with a definition like (45) directly combining *ASSERT* and *EXCL*. On one hand, by using (42) the speaker A *makes a proposal* to update the CG with the fact that John baked a cake (and thus does not update the CG directly). On the other hand, noteworthiness attitude is factive: if one finds a proposition p noteworthy, p must be true (or at least: the speaker himself must believe p). In (45), the fact that A finds it noteworthy that John baked a cake (q) updates directly the CG , so the fact that John baked a cake (p) must already be in the CG . Here we get a contradiction, because p is a part of the proposal to update the CG . (Note that Castroviejo Miró's (2008a) and Rett's (2011) ideas would face the same problem.) In sum, the direct combination of the assertion and exclamative speech acts does not work well. Instead of q , one could claim that a declarative exclamative conveys a proposition like "*The speaker is emotional*" (i.e., a proposition not including p), which would directly update the CG . In this case, the problem described above does not arise.

5.6.2 Non-scalar wh-exclamatives

Next to *what a*-exclamatives which were the main object of study in the dissertation, another kind of wh-exclamative was considered in some detail in Chapter 2, namely, *non-scalar wh-exclamatives*. For instance, in some languages there are *who*-exclamatives, which are ungrammatical in English. A Dutch example from Chapter 2 is repeated below:

- (46) A: *Wie ik net gezien heb!*
 A: who I just seen have

Recall that the difference between scalar and non-scalar wh-exclamatives was that only the latter is associated with some contextually given scale. For example, a scalar wh-exclamative in English corresponding to (46) is in (47):

- (47) A: What a person I just saw!

For (47) to be felicitous the person in question must noteworthy: for example, particularly tall, beautiful, or interesting. In contrast, (46) expresses noteworthiness of *the fact* that its speaker saw the person, which might be because this person was thought to be away on vacation.

In section 2.3.3 of Chapter 2, I have already suggested, following Chernilovskaya and Nouwen (2012), what non-scalar wh-exclamatives convey. (46), for instance, conveys a speaker's noteworthiness evaluation of the fact the he saw the person in question:⁴

$$(48) \quad p = \exists x \left(\text{noteworthy}(A, \wedge \text{saw}(\text{speaker}, x)) \right)$$

But *how* is this content conveyed? Following the strategy I advocated in this dissertation, we should look at discourse properties of non-scalar wh-exclamatives. Here, a systematic corpus research in languages having non-scalar wh-exclamatives is needed. I will restrict myself here to a constructed example of direct challengeability in Dutch. (49) shows that, just as scalar wh-exclamatives, non-scalar ones cannot be directly challenged:

- (49) a. A: *Wie ik net gezien heb!*
 A: who I just seen have
 b. B: *#Nee, dat is niet waar.*
 B: No this is not true

The impossibility for the addressee to directly challenge non-scalar wh-exclamatives indicates that their content is not asserted. Whether the content of these exclamatives is conveyed in exactly the same way as the content of scalar exclamatives should be considered in more detail. The proposal made for the exclamative speech-act operator *EXCL* can be directly applied to non-scalar wh-exclamatives.

5.7 Conclusion

This chapter addressed the main question raised in the dissertation. I gave a formal definition of the exclamative speech-act operator in a model of context, which was suggested in Chapter 4. The proposal I made is that wh-exclamatives perform a direct update of the common ground with their content. The condition on such a direct update was that updating information must be uncontroversial. With the help of this condition the theory made a choice between the two potential wh-exclamative contents – external, i.e., conveying a generic evaluation, and internal, i.e., speaker-related – in favour of *internal* content, as this is the only uncontroversial content. In addition, I suggested that wh-exclamatives are associated with a certain convention: the speaker uses an exclamative to show that he is undergoing an emotive event, which is triggered by something in the situation. The direct update of the common ground with

⁴In fact, (48) is not exactly the content of (46) as it was suggested in Chapter 2, but its internal interpretation. In other words, a noteworthiness evaluation is *the speaker's* rather than *generic*. Reasons to choose for a speaker-related evaluation were discussed above in section 5.2.

the wh-exclamative content thus goes hand in hand with an update involving this emotive event. (I refer the reader to section 5.5 for more details.)

The proposal that I made for the context-change effect of wh-exclamatives is the same as the effect of appositive content suggested in, e.g., AnderBois, Brasoveanu and Henderson (2010): the contents of both wh-exclamatives and appositives directly update the conversational common ground. This also explains the similarity in discourse behaviour between the two types of contents: both are entailments and cannot be challenged directly or accepted by the addressee. In section 5.3, I showed how to derive these discourse properties of wh-exclamatives from the proposal. One of the interesting points raised there relates to transparency: recall from Chapter 3 that wh-exclamatives were transparent for “*No*”, which instead reacted to an assertion preceding the exclamative, as wh-exclamatives themselves do not raise a question under discussion. I speculated that transparency might also hold for reactions with confirmation and acceptance discourse markers. Also, the proposal about the context-change effect of wh-exclamatives differs from the one for assertions: in contrast to an assertion, a wh-exclamative does not put any issue under discussion and does not require a reaction from the addressee of the exclamative. This difference explains the difference in discourse behaviour between asserted and non-asserted contents, which was the topic of Chapter 3.

My theory about how wh-exclamatives affect the context makes a contribution to both Searle-like and top-down strategies for answering the how-question for wh-exclamatives. It contributes to Searle-like approaches to defining speech acts in the following way: instead of claiming, for example, that wh-exclamatives express surprise, I provided a formal definition in a model of context of what it means “*to express*”. Such a definition also allowed me to make predictions about discourse properties of wh-exclamatives, which was difficult for Searle-like theories. Also, the proposal I argued for *defines* the context-change effect of wh-exclamative content, instead of merely *labelling* how it affects the context.

The strategy I followed in this dissertation is applicable to other kinds of exclamatives, as I demonstrated in section 5.6 of this chapter on examples of declarative and non-scalar wh-exclamatives. A systematic description of their discourse properties would give us insights into how these exclamatives change the context. This is especially important for the case of non-scalar wh-exclamatives, as those do not occur in English and their discourse behaviour has not been investigated earlier. Here, corpus research in languages other than English is necessary. For declarative exclamatives, I attempted to develop an idea that their context-change effect involves a combination of speech acts of assertion and exclamation. The details thereof have to be worked out in further research.

CHAPTER 6

Conclusion

The object of study in this dissertation is *wh-exclamatives* like (1):

- (1) Bill: What a delicious desert John baked!

When Bill uses (1), he expresses, intuitively, that he is impressed by the delicious dessert John baked. The goal of the dissertation is to define the exclamative speech act based on the case study of *wh-exclamatives* like (1). This goal is approached from the context-change perspective on speech acts using discourse properties of *wh-exclamatives*.

In Chapter 2 I formulated two main questions about exclamatives that I addressed in the dissertation, the *what*- and the *how*-question formulated in (2):

- (2) a. What-question: *What type(s) of propositional content do wh-exclamatives convey?*
b. How-question: *How do wh-exclamatives convey their content?*

Both questions have been discussed in the literature on *wh-exclamatives*, and the answers given there are reviewed in Chapter 2 of the dissertation. Starting with the *what*-question, there are several main dominating tendencies in the answers given in the literature. First of all, most analyses of *wh-exclamatives* discussed are scalar: in Rett's (2011) theory, for example, *wh-exclamatives* are associated with a gradable predicate either overtly present in the exclamative or salient in the context. Going back to (1) for illustration, its denotation is taken to be the set of degrees to which the dessert is delicious. If there is no overt adjective in a *wh-exclamative*, as in (3), there are several possible

interpretations:

(3) Bill: What a dessert John baked!

(3) could be associated with deliciousness, beauty, weirdness, etc. of the dessert that John baked. The second feature of the analyses suggested in the literature is that they often make a distinction between the *attitude* conveyed in an exclamation and *the goal of this attitude*. Castroviejo Miró (2008a), for example, makes a distinction between so-called *descriptive* and *expressive contents*: for (1), the descriptive content conveys that the dessert John baked is very delicious, and the expressive content that Bill is impressed by the dessert being very delicious:

- (4) Bill: What a delicious dessert John baked!
- a. descriptive content: The dessert John baked is very delicious
 - b. expressive content: Bill is impressed by the dessert being very delicious

The third distinctive feature of the existing analyses of wh-exclamatives is that they are often taken to convey surprise or unexpectedness (Elliott 1974, Castroviejo Miró 2006, Castroviejo Miró 2008a, Rett 2011, a.o.). Finally, the contents that wh-exclamatives convey are formulated in the literature in a very specific way with respect to the perspective of evaluation. What Castroviejo Miró refers to as the descriptive content is taken as a generic evaluation – in (4-a) the deliciousness of the dessert is evaluated generically – whereas the expressive content is related to the speaker of the wh-exclamative – in (4-b), it is Bill who is impressed by the dessert.

All the main trends in the answers to the what-question need some improvement. Relating to scalarity, in some languages there are wh-exclamatives that are non-scalar. Consider (5) in Dutch:

- (5) *Wie ik net gezien heb!*
 who I just seen have

It expresses that the speaker is impressed by the fact that he has just seen a certain person. This exclamation is not associated with any gradable property: the person in question does not have to be exceptionally tall or beautiful. Instead, the fact that the speaker just saw this person must be noteworthy in some way, for example, because the person was thought to be on vacation in a different country, so it is unexpected for the speaker to suddenly see this person. Non-scalar wh-exclamatives are not covered by scalar theories like Zanuttini and Portner (2003), Castroviejo Miró (2006), Castroviejo Miró (2008a) or Rett (2011). Secondly, relating to the two wh-exclamative contents that were originally suggested in the work of Castroviejo Miró (2008a) and are also distinguishable in other analyses of wh-exclamatives, no reason is provided for treating the contents separately. As for the attitude expressed by

wh-exclamatives, what wh-exclamatives are used to express is more generic than just unexpectedness. In some cases the speaker perfectly expects a certain situation to be the case and still uses an exclamation. (6) is an example of such from Chernilovskaya, Condoravdi and Lauer (2012a):

- (6) [A and B are sitting in A's beautiful garden, which B knows well, and it is commonly known that he greatly admires the garden. Suddenly:]
 B: How beautiful your garden is!

Finally, as for the perspective of evaluation in the descriptive and expressive contents of wh-exclamatives, there are, in fact, four theoretical possibilities, which have not all been seen earlier in the literature. Each of the two types of contents can convey a generic or a speaker-related evaluation. The four possibilities are spelled out in (7) for the exclamation in (1):

- (7) Bill: What a delicious dessert John baked!
- a. external descriptive content: The dessert John baked is very delicious to people in general
 - b. internal descriptive content: The dessert John baked is very delicious to Bill
 - c. external expressive content: It is impressive to people in general that the dessert John baked is very delicious
 - d. internal expressive content: Bill is impressed that the dessert John baked is very delicious

Which of the four contents mentioned above are conveyed by wh-exclamatives? In the literature, wh-exclamative contents were formulated in a specific way with respect to the perspective of evaluation, and no motivation for this is provided.

My proposal for the what-question that follows the works of Chernilovskaya and Nouwen (2012) and Nouwen and Chernilovskaya (submitted) and is introduced in Chapter 2 of this dissertation improves on all four points mentioned above. The idea behind the proposal is that wh-exclamatives express a speaker's noteworthiness evaluation. In particular, I suggested that the wh-exclamative from (8-a) conveys a proposition in (8-b):

- (8) a. Bill: What a dessert John baked!
 b. $\exists x \left(\textit{dessert}(x) \wedge \textit{baked}(\textit{John}, x) \wedge \textit{noteworthy}(\textit{Bill}, x) \right)$

(8) expresses that Bill finds the dessert that John baked noteworthy. The dessert can be noteworthy for different reasons: because it is exceptionally delicious, beautiful, weird-looking, etc. The idea is that an entity is noteworthy if some of its characteristics make it stand out compared to similar entities. (See section 2.3.1 of Chapter 2 for more details about the proposal.) The wh-exclamative content that I suggested subsumes both the descriptive and expressive part under one proposition and includes noteworthiness as a generic

term covering a number of attitudes that wh-exclamatives can express. As I showed in section 3.6 of Chapter 3, the four potential wh-exclamative contents identified in (7) behave in the same way in a conversation: in other words, the split of wh-exclamative contents is not motivated. Finally, in section 2.3, my proposal was applied to non-scalar wh-exclamatives like (5) in languages like Russian and Dutch. In sum, the proposal that I make is simpler, better-motivated and has broader cross-linguistic applications than other alternatives from the literature.

Turning now to the how-question for wh-exclamatives, we want to know how their content is conveyed. Two main trends in answering the how-question can be identified in the literature and are described in more detail in Chapter 2. One way to explain how wh-exclamatives convey their contents is to describe when the use of a wh-exclamative is felicitous and its effect on the context. For example, Rett (2011) says that use of a wh-exclamative “counts as an expression” of the speaker’s unexpectedness. This approach relates wh-exclamatives to Searle’s (1979) taxonomy of speech acts: among other speech acts, he identified the *expressive speech act*, whose point is to “express the psychological state”. Another way to explain how wh-exclamatives convey their content is by providing one of the well-known labels, such as saying that it is presupposed, conventionally implicated or taken for granted (Grimshaw 1979, Michaelis and Lambrecht 1996, Gutiérrez-Rexach 1996, Michaelis 2001, d’Avis 2002, Zanuttini and Portner 2003, Beyssade and Marandin 2005, Castroviejo Miró 2006, Castroviejo Miró 2008a, Castroviejo Miró 2008b, Gutiérrez-Rexach 2008, Merin and Nikolaeva 2008, Marandin 2008, Abels 2010). The main disadvantage of such an approach is that the difference between different labels – e.g., presupposition vs. conventional implicature – lies in their scopal behaviour, which can only be investigated with the help of embedding the content in different contexts. However, as I showed in Chapter 2, embedded wh-exclamatives constitute a totally different phenomenon from the matrix ones, and will be left outside of scope in this dissertation.

In this dissertation, I have taken a completely different approach to defining the exclamative speech act. Instead of focussing on a philosophical description of speech acts, as Searle (1979) did, I concentrated on *linguistic*, or *discourse* aspects of his taxonomy. I took a so-called *discourse perspective* on speech acts, whose goal is to formally define a speech act as a discourse move in a certain model of context. I assumed that studying discourse behaviour of wh-exclamatives gives us useful information for defining the exclamative speech act, similar to what Stalnaker (1978) has done for assertions. The rest of the dissertation was meant to bring this approach into action. The main focus of Chapter 3 was to describe discourse properties of wh-exclamatives, a formal model of context in which the exclamative speech-act operator was to be defined is suggested in Chapter 4, and my proposal for the context-change effect of wh-exclamatives, or the definition of the exclamative speech-act operator, was the primary goal of Chapter 5.

In Chapter 3 I looked at what discourse properties can tell us about the nature of wh-exclamative content in comparison to asserted, presupposed, or conventionally-implicated contents. Some discourse properties of wh-exclamatives have, to some extent, been considered in the literature, but the discussion was often too hasty and based on constructed examples. As opposed to what has been done before, I illustrate discourse properties on naturally occurring examples from the Corpus of Contemporary American English (COCA) (Davies 2008).

The first discourse property that I considered in Chapter 3 is that, just as asserted content, wh-exclamative content is an entailment and thus cannot be denied by the speaker (d'Avis 2002, Zanuttini and Portner 2003). The claim that wh-exclamatives are non-assertive has been made in the literature (Zanuttini and Portner 2003, Castroviejo Miró 2008a, Castroviejo Miró 2008b, Marandin 2008, Merin and Nikolaeva 2008, Rett 2011). One of the arguments in favour of this claim is that assertions, but not wh-exclamatives can be directly challenged by the addressee with “(No,) *that’s not true*”. (Although this claim has been made, for example, in Rett (2011), I provided a more involved discussion of the challengeability of wh-exclamatives based on corpus examples, including some additional observations that had not been made previously.) A peculiar observation about the behaviour of wh-exclamatives with respect to direct challenge is that they are transparent for “No”: if “No” occurs after a wh-exclamative, it is used to react not to the exclamative itself, but to an issue raised right before the exclamative. In addition, the non-assertive nature of wh-exclamatives was illustrated on other discourse properties. As opposed to assertions, wh-exclamatives cannot be accepted and confirmed by the confirmation discourse marker “*That’s not true*”, which can confirm only asserted content. The conclusion is thus that wh-exclamative and asserted contents behave in different ways in discourse, but, curiously, I did not find a discourse property that would show a clear difference between wh-exclamative and other non-asserted contents (as an example I considered the content of non-restrictive relative clauses).

Chapter 3 also showed some other discourse properties of wh-exclamatives that require additional (empirical) research before formulating sound generalisations. I suggested, for example, some preliminary thoughts on patterns of confirmation available for wh-exclamatives and discussed the intricacies of wh-exclamatives as responses to questions (the literature included only a brief discussion of this issue (Grimshaw 1979, Zanuttini and Portner 2003, Marandin 2008, Castroviejo Miró 2008a)), in addition to some other discourse properties discussed in the work of Castroviejo Miró (2008a).

In order to define the exclamative speech-act operator as a discourse move, we need a model of context. In Chapter 4, I suggested using the model from Farkas and Bruce (2009), which distinguishes the following components: the common ground of the conversation, the discourse commitments of each conversational participant, the question under discussion and the set of future

common grounds. In this model, the context-change effect of an assertion is to commit its speaker to the asserted content, to raise the content as a new question under discussion that has to be settled before the conversation continues, and to include the content in the set of future common grounds, hereby showing that confirming the asserted content by the addressee is a default reaction to an assertion. As for non-asserted appositive content, I followed the proposal originally made in AnderBois, Brasoveanu and Henderson (2010): appositive content makes a direct update of the common ground. There was, however, a condition on such an update: the information performing a direct update of the common ground must be uncontroversial.

The similarity in discourse behaviour between wh-exclamative and appositive contents favoured a similar proposal for the context-change effect of the former as was suggested in AnderBois, Brasoveanu and Henderson (2010) for appositives. The main idea behind my definition of the exclamative speech-act operator given in Chapter 5 was that it updates the common ground directly with the content of a wh-exclamative. This was my answer to the how-question for wh-exclamatives. Relating to the discussion of perspective in wh-exclamative content, such a theory involving a direct common-ground update puts restrictions on exclamative content: it *has to be* related to the speaker, rather than generic, as only the former and not the latter is uncontroversial.

The definition of the exclamative speech-act operator makes a contribution to the literature on how wh-exclamatives convey their content. It spells out formally, in a model, what is expressed in an informal way in Searle-like approaches to defining a speech act: instead of simply saying that wh-exclamatives *express* an attitude of the speaker, I suggested that an expression of an attitude corresponds to a direct update of the conversational common ground. In addition, because a discourse move of, e.g., direct challenge, acceptance and confirmation can be defined in the same model of context, as is done in Chapter 4, we were able to derive discourse properties of wh-exclamatives from the formal definition of the exclamative speech act. This was impossible for approaches like Rett (2011). The main difference with the other type of approach to studying the how-question for wh-exclamatives was methodological. These theories approached this question from a top-down perspective – by labelling a certain content as being, e.g., presupposed. Instead, I investigated what the context-change effect of the wh-exclamative content is, without necessarily relating it to the context-change effect of any other type of non-asserted content or giving any kind of predefined label – in other words, it is a bottom-up approach to answering the how-question.

At the end of the dissertation, I suggested a couple of additional points related to exclamativity that should be investigated further. One is related to the application of the definition of the exclamative speech act to a wider class of exclamatives. The main goal of this dissertation was to define the exclamative speech act based on a case study of wh-exclamatives, because they occur frequently and are unmistakably exclamative (among other reasons mentioned in

Chapter 1). But there are other kinds of sentences that function very similarly to wh-exclamatives: they are also used to express a speaker's noteworthiness evaluation (at least as a part of their effect in the conversation). Does the definition of the exclamative speech act that I suggested in Chapter 5 apply to these exclamatives? And how can the strategy I developed in the dissertation, i.e., defining a speech-act operator in a model of context on the basis of discourse properties, be put into action for exclamatives other than wh-exclamatives?

In Chapter 5, I considered the case of declarative and non-scalar wh-exclamatives. For the former, I developed the idea from Castroviejo Miró (2008a) and Rett (2011) that declarative exclamatives combine the speech acts of exclamation and assertion, and I showed the difficulties with such a proposal. A new – or, rather, better-developed – spell-out is needed here. For non-scalar wh-exclamatives, corpus research on their discourse properties is needed first, in order to see whether they constitute exactly the same phenomenon as scalar wh-exclamatives. My first idea is to apply exactly the same proposal I made for scalar wh-exclamatives, namely, that the content directly updates the common ground. It must be investigated further whether this proposal is sufficient for non-scalar wh-exclamatives.

The set of exclamative utterances is definitely not limited by declarative and (scalar and non-scalar) wh-exclamatives. Other examples of sentences that can be used to express a noteworthiness evaluation include inversion exclamatives like (9) already mentioned in Chapter 1:

(9) Bill: Is this dessert ever delicious?

utterances starting with “*that*”, like (10) in German (and Scandinavian languages) discussed in Sæbø (2006):

(10) *Dass du dich daran noch erinnerst...!*
That you yourself about this still remember
'It's amazing that you still remember!'

or clauses with “intensified prepositional phrases” like French (11) from Marandin (2008):

(11) *Paul est d'un intelligent | d'une intelligence!*
Paul is of.PREP an intelligent | of an intelligence
'Paul is incredibly intelligent!'

In order to see whether the definition of the exclamative speech act I gave in Chapter 5 is applicable to these kinds of exclamatives, we should proceed in exactly the same way as I suggested in the dissertation: first, study their discourse properties and obtain some insight into how these exclamatives function in discourse, and then suggest a definition in a model of context from which the discourse properties would follow.

In Chapter 5, I suggested that the use of wh-exclamatives is associated with a certain convention, namely, that the speaker uses an exclamative to

show that he is undergoing a certain kind of emotive event. Such an event – and thus an exclamative – must be triggered by something: I cannot utter “*What a delicious dessert John baked!*” out of the blue, without having seen or tasted the dessert. I believe that this convention is what is at the core of exclamativity: irrespective of a syntactic form or semantic denotation, all exclamatives are used to show that their speaker is going through a certain emotional experience. The exact formulation of the exclamative convention and its further applications to exclamative utterances other than wh-exclamatives are left for future research.

Bibliography

- Abels, K.: 2010, Factivity in exclamatives is a presupposition, *Studia Linguistica* **64**(1).
- Amaral, P., Roberts, C. and Smith, E.: 2007, Review of *The Logic of Conventional Implicatures* by Chis Potts, *Linguistics and Philosophy* **30**, 707–749.
- Anand, P.: ms., Kinds of taste, *Linguistics and Philosophy*, under revision.
- AnderBois, S., Brasoveanu, A. and Henderson, R.: 2010, Crossing the appositive/at-issue meaning boundary, in M. Li and D. Lutz (eds), *Proceedings of SALT 20*, pp. 328–346.
- Banuazizi, A. and Creswell, C.: 1999, Is that a real question? Final rises, final falls, and discourse function in yes-no question intonation, *CLS* **35** pp. 1–14.
- Beaver, D. and Condoravdi, C.: 2003, A uniform analysis of Before and After, *Semantics and Linguistic Theory XIII*, pp. 37–54.
- Beyssade, C. and Marandin, J.-M.: 2005, The speech act assignment problem revisited: Disentangling speaker’s commitment from speaker’s call on addressee, in O. Bonami and P. Cabredo Hofherr (eds), *Empirical Issues in Syntax and Semantics 6*.
- Bonami, O. and Godard, D.: 2006, Lexical semantics and pragmatics of evaluative adverbs.
- Borkin, A.: 1971, Polarity items in questions, *CLS* **7** pp. 53–62.
- Bylinina, L.: 2014, *The grammar of standards: Judge-dependence, purpose-relativity, and comparison classes in degree constructions*, PhD thesis, Utrecht University.

- Castroviejo Miró, E.: 2006, *Wh-Exclamatives in Catalan*, PhD thesis, Universitat de Barcelona.
- Castroviejo Miró, E.: 2008a, Deconstructing exclamations, *Catalan Journal of Linguistics* **7**, 41–90.
- Castroviejo Miró, E.: 2008b, An expressive answer. Some considerations on the semantics and pragmatics of wh-exclamatives, *Proceedings of CLS 44*.
- Chernilovskaya, A., Condoravdi, C. and Lauer, S.: 2012a, How to express yourself: on the discourse effects of wh-exclamatives, ms.
- Chernilovskaya, A., Condoravdi, C. and Lauer, S.: 2012b, On the discourse effects of wh-exclamatives, in N. Arnett and Ryan Bennett (eds), *Proceedings of the 30th West Coast Conference on Formal Linguistics*, Cascadilla Proceedings Project, Somerville, MA, USA, pp. 109–119.
- Chernilovskaya, A. and Nouwen, R.: 2012, On wh-exclamatives and noteworthiness, in M. Aloni, V. Kimmelman, F. Roelofsen, G. W. Sassoon, K. Schulz and Matthijs Westera (eds), *Proceedings of the Amsterdam Colloquium 2011*, Springer.
- Condoravdi, C.: 2012, The quest for answerhood and exclamative answers, presentation at the Stanford Symposium on Questions.
- Condoravdi, C. and Lauer, S.: 2011, Performative verbs and performative acts, in I. Reich, E. Horch and D. Pauly (eds), *Proceedings of Sinn and Bedeutung 15*, Saarland University Press, Saarbrücken, Germany, pp. 149–164.
- Condoravdi, C. and Lauer, S.: 2012, Imperatives: Meaning and illocutionary force, *Empirical Issues in Syntax and Semantics* **9**, 37–58.
- Crespo, I. and Fernández, R.: 2011, Expressing taste in dialogue, *Proceedings of the 15th Workshop on the Semantics and Pragmatics of Dialogue*, pp. 84–93.
- Davies, M.: 2008, The Corpus of Contemporary American English: 425 million words, 1990-present., Available online at <http://corpus.byu.edu/coca/>.
- d’Avis, F.-J.: 2002, On the interpretation of wh-clauses in exclamative environments, *Theoretical Linguistics* **28**, 5–31.
- Eckardt, R.: 2012, Who is talking? – Narrator and speakers in free indirect discourse, ms.
- Elliott, D. E.: 1974, Towards a grammar of exclamations, *Foundations of Language* **11**, 231–246.
- Farkas, D. and Bruce, K.: 2009, On reacting to assertions and polar questions, *Journal of Semantics* **27**, 81–118.

- Farkas, D. F. and Roelofsen, F.: 2012, Polar initiatives and polarity particles in an inquisitive discourse model, ms.
- Gazdar, G.: 1981, Speech act assignment, in A. Joshi, Bonnie Webber and Ivan A. Sag (eds), *Elements of discourse understanding*, Cambridge: Cambridge University Press, pp. 64–83.
- Ginzburg, J.: 1996, Dynamics and the semantics of dialogue, in J. Seligman and D. Westerstahl (eds), *Language, Logic and Computation*, Vol. 1 of *CSLI Lecture Notes*, CSLI.
- Grice, P.: 1975, Logic and conversation, in P. Cole and J. L. Morgan (eds), *Syntax and Semantics 3: Speech Acts*, New York: Academic Press, pp. 41–58.
- Grimshaw, J.: 1979, Complement selection and the lexicon, *Linguistic Inquiry* (10), 279–326.
- Gunlogson, C.: 2001, *True to form: Rising and falling declaratives as questions in English*, PhD thesis, University of California, Santa Cruz.
- Gunlogson, C.: 2008, A question of commitment, *Belgian Journal of Linguistics* **22**(1), 101–136.
- Gutiérrez-Rexach, J.: 1996, The semantics of exclamatives, in E. Garet and F. Lee (eds), *Syntax at Sunset, UCLA Working Papers in Linguistics*.
- Gutiérrez-Rexach, J.: 2008, Spanish root exclamatives at the syntax/semantics interface, *Catalan Journal of Linguistics* **7**, 117–133.
- Hamblin, C. L.: 1971, Mathematical models of dialogue, *Theoria* **37**, 130–155.
- Han, C.-h.: 2002, Interpreting interrogatives as rhetorical questions, *Lingua* (112), 210–229.
- Kaplan, D.: 1999/2004, The meaning of ‘ouch’ and ‘oops’, Howison Lecture (Berkeley).
- Karttunen, L.: 1977, Syntax and semantics of questions, *Linguistics and Philosophy* **1**(1), 3–44.
- Köbel, M.: 2004, Faultless disagreement, *Proceedings of the Aristotelian Society*, Vol. 104, University of London, pp. 53–73.
- Koev, T.: 2012, On the grounding status of appositve relative clauses, in M. Aloni, V. Kimmelman, F. Roelofsen, G. W. Sassoon, K. Schulz and Matthijs Westera (eds), *Proceedings of the 18th Amsterdam Colloquium*.
- Krifka, M.: 1995, The semantics and pragmatics of polarity items, *Linguistic Analysis* **25**, 209–257.

- Ladusaw, W.: 2003, Framing the issues: The biasing effect of polarity items in questions, in M. East Lansing (ed.), *Where semantics meets pragmatics*.
- Lasersohn, P.: 2005, Context dependence, disagreement, and predicates of personal taste, *Linguistics and Philosophy* **28**, 643–686.
- Lauer, S.: 2013, *Towards a dynamic pragmatics*, PhD thesis, Stanford University.
- Levinson, S. C.: 1983, *Pragmatics*, Cambridge: Cambridge University Press.
- Lewis, D.: 1969, *Convention: A philosophical study*, Harvard University Press, Cambridge.
- Malamud, S. and Stephenson, T.: 2012, Three ways to avoid commitments, in A. Aguilar Guevara, A. Chernilovskaya and R. Nouwen (eds), *Proceedings of Sinn and Bedeutung 16*, MITWPL.
- Marandin, J.-M.: 2008, The exclamative clause type in french, in S. Müller (ed.), *Proceedings of the HPSG08 Conference*.
- Mayol, L.: 2008, Catalan "déu n'hi do" and conventional implicatures in exclamatives, *Catalan Journal of Linguistics* **7**.
- Merin, A. and Nikolaeva, I.: 2008, Exclamative as a universal speech act category, ms.
- Michaelis, L.: 2001, Exclamative constructions, in M. H. et al. (ed.), *Language Typology and Language Universals*, Vol. 2, pp. 1038–1050.
- Michaelis, L. and Lambrecht, K.: 1996, Toward a construction-based theory of language function: the case of nominal extraposition, *Language* **72**(2), 215–247.
- Milner, J.-C.: 1978, *De la syntaxe à l'interprétation: Quantités, Insultes, Exclamations*, Edition du Seuil, Paris.
- Moltmann, F.: 2006, Generic *one*, arbitrary PRO, and the first person, *Natural Language Semantics* **14**, 257–281.
- Murray, S.: 2010, *Evidentiality and the Structure of Speech Acts*, PhD thesis, Rutgers.
- Murray, S.: 2012, Varieties of update, ms.
- Nouwen, R. and Chernilovskaya, A.: submitted, Wh-exclamatives with and without scales.
- Pearson, H.: 2012, A judge-free semantics for predicates of personal taste, *Journal of Semantics* pp. 1–52.

- Potts, C.: 2005, *The Logic of Conventional Implicatures*, Oxford Studies in Theoretical Linguistics, Oxford University Press, Oxford.
- Potts, C.: 2007, Conventional implicatures, a distinguished class of meanings, in G. Ramchand and Charles Reiss (eds), *The Oxford handbook of linguistic interfaces*, Oxford University Press, pp. 475–501.
- Rett, J.: 2008a, A degree account of exclamatives, *Proceedings of SALT XVIII*, CLC Publications.
- Rett, J.: 2008b, *Degree modification in natural language*, PhD thesis, Graduate School New Brunswick Rutgers, The State University of New Jersey.
- Rett, J.: 2011, Exclamatives, degrees and speech acts, *Linguistics and Philosophy* In press.
- Roberts, C.: 1996, Information structure in discourse, in J. H. Yoon and A. Kathol (eds), *OSU Working Papers in Linguistics*, Vol. 49 of *Papers in Semantics*.
- Roberts, C.: 2011, Solving for interpretation, ms.
- Roberts, C. and Tonhauser, J.: 2011, What projects and why, *ESSLLI course*.
- Rohde, H.: 2006, Rhetorical questions as redundant interrogatives, *San Diego Linguistic Papers* 2, 134–168.
- Sadock, J.: 1971, Queclaratives, *CLS* 7, pp. 223–231.
- Sadock, J. M.: 1974, *Towards a linguistic theory of speech acts*, New York, Academic Press.
- Sæbø, K. J.: 2006, Explaining clausal exclamatives, *handout*.
- Sæbø, K. J.: 2010, On the semantics of “embedded exclamatives”, *Studia Linguistica* 64(1), 116–140.
- Schlenker, P.: 2007, Expressive presuppositions, *Theoretical Linguistics* 33(2), 237–246.
- Schlenker, P.: 2009, Supplements within a unidimensional semantics II: Epistemic status and projection, *Proceedings of NELS*.
- Searle, J.: 1969, *Speech Acts*, Cambridge University Press.
- Searle, J. R.: 1979, *Expression and Meaning: Studies in the Theory of Speech Acts*, Cambridge University Press.
- Simons, M., Tonhauser, J., Beaver, D. and Roberts, C.: 2011, What projects and why, in N. Li and David Lutz (eds), *Proceedings of SALT XX*, CLC Publications, eLanguage, Ithaca, NY, pp. 309–327.

- Stalnaker, R. C.: 1978, Assertion, in P. C. et al. (ed.), *Syntax and Semantics*, Vol. 9, Pragmatics, Academic Press, pp. 315–332.
- Stojanovic, I.: 2007, Talking about taste: disagreement, implicit arguments, and prediactes of personal taste, *Linguistics and Philosophy* **30**, 487–525.
- Villalba, X.: 2003, An exceptional exclamative sentence type in Romance, *Lingua* **8**, 713–745.
- von Stechow, K.: 2004, Would you believe it? The king of France is back! (presuppositions and truth-value intuitions), in M. Reimer and Anne Bezuidenhout (eds), *Descriptions and beyond*, Oxford University Press.
- Zanuttini, R. and Portner, P.: 2003, Exclamative clauses: at the syntax-semantics interface, *Language* **79(1)**, 39–81.

Samenvatting

Het onderzoeksobject van mijn proefschrift is wh-exclamatieven zoals (1) in het Engels:

- (1) *Piet: What a delicious desert Jan baked!*
Piet: ‘Wat een lekker toetje heeft Jan gemaakt!’

Op een heel intuïtief niveau drukt Piet, als hij de wh-exclamatief in (1) gebruikt, twee dingen uit: het eerste bevat zijn subjectieve beoordeling van Jans toetje, namelijk dat het heel lekker is, en het tweede betreft Piets gevoelens, bijvoorbeeld dat hij verbaasd is over hoe lekker Jans toetje is. Mijn proefschrift gaat verder dan deze descriptieve intuïtie van wat een wh-exclamatief uitdrukt: naast het streven om precies te karakteriseren wat de inhoud van een wh-exclamatief is, is het belangrijkste doel van mijn proefschrift om te bepalen wat Piet *doet* als hij zo’n wh-exclamatief gebruikt. Met andere woorden, ik wil een definitie van de exclamatieve taalhandeling voorstellen die toegepast kan worden op alle soorten exclamatieven. In dit proefschrift concentreer ik me tot het bestuderen van wh-exclamatieven, omdat ze “prototypische exclamatieven” zijn en omdat ze makkelijker in corpora te vinden zijn dan andere soorten exclamatieven.

Het doel om de exclamatieve taalhandeling te definiëren benader ik vanuit een discourse-perspectief. Dat betekent dat ik wil formaliseren hoe het gebruik van een wh-exclamatief zijn context verandert. Dit perspectief is geïnspireerd door discourse-eigenschappen van wh-exclamatieven: door te kijken naar de context waarin een wh-exclamatief gebruikt wordt, kunnen we nieuwe dingen over de exclamatieve taalhandeling leren. In andere woorden, in mijn proefschrift beschouw ik taalhandelingen als discourse-zetten. Vervolgens stel ik een formeel model van discourse voor waarin het effect van de exclamatieve taalhandeling gedefiniëerd kan worden.

In Hoofdstuk 2 formuleer ik twee belangrijke vragen over wh-exclamatieven waar ik in dit proefschrift op inga, de *wat-vraag* en de *hoe-vraag*:

- (2) a. *Wat-vraag*: Wat voor propositionele inhoud drukken wh-exclamatieven uit?
 b. *Hoe-vraag*: Hoe drukken wh-exclamatieven deze inhoud uit?

Beide vragen in (2) zijn behandeld in de literatuur over wh-exclamatieven, en de voorgestelde antwoorden daarop worden in Hoofdstuk 2 besproken.

Uit de antwoorden die in de literatuur worden gegeven op de wat-vraag komt een aantal kenmerken naar voren. Ten eerste zijn de meeste analyses van wh-exclamatieven scalair. In de theorie van bijvoorbeeld Rett (2011) worden wh-exclamatieven geassocieerd met een gradueel predicaat dat expliciet aanwezig is in een exclamatief (zoals “*lekker*” in (1)) of duidelijk naar voren komt in de context. Ter illustratie van dat laatste bevat de wh-exclamatief in (3) geen expliciet gradueel predicaat. Het toetje kan bijvoorbeeld heel lekker, heel mooi of heel raar zijn:

- (3) Piet: *What a dessert Jan baked!*
 Piet: ‘Wat een toetje heeft Jan gemaakt!’

Het tweede kenmerk van de bestaande theorieën over wh-exclamatieven is dat er een verschil wordt gemaakt tussen het *gevoel* dat een exclamatief uitdrukt en de *oorzaak* van dit gevoel. Castroviejo Miró (2008a) bijvoorbeeld onderscheidt de *descriptieve* en *expressieve* inhoud van een wh-exclamatief. De twee soorten inhoud zijn geïllustreerd in (4):

- (4) Piet: *What a delicious desert Jan baked!*
 Piet: ‘Wat een lekker toetje heeft Jan gemaakt!’
 a. *descriptieve inhoud*: Het toetje dat Jan gemaakt heeft is heel lekker
 b. *expressieve inhoud*: Piet is onder indruk van het feit dat het door Jan gemaakte toetje heel lekker is

Het derde kenmerk van de bestaande analyses van wh-exclamatieven is dat er beweerd wordt dat exclamatieven een gevoel van verrassing uitdrukken (Elliott 1974, Castroviejo Miró 2006, Castroviejo Miró 2008a, Rett 2011, onder anderen). Ten slotte worden de twee soorten exclamatieve inhoud in de literatuur op een specifieke manier geformuleerd wat betreft het evaluatieperspectief: de descriptieve inhoud in (4-a) is een *generieke* evaluatie van het toetje als “*lekker*”, terwijl de expressieve inhoud in (4-b) is gerelateerd aan Piet, de *spreker* van de wh-exclamatief.

Op alle vier de kenmerken die de analyses van wh-exclamatieven met elkaar gemeen hebben valt wat af te dingen. Ten eerste zijn er talen, waaronder het Nederlands, die niet-scalaire wh-exclamatieven hebben. Een Nederlands voorbeeld daarvan is (5):

- (5) Jan: Wie ik net gezien heb!

Dit wh-exclamatief drukt uit dat Jan onder indruk is van het feit dat hij een bepaalde persoon gezien heeft, en is niet verbonden aan een gradueel predicaat:

de persoon die Jan net gezien heeft hoeft niet bijzonder mooi of lang te zijn. In plaats daarvan moet *het feit dat Jan deze persoon gezien heeft* bijzonder zijn. Dit kan bijvoorbeeld zijn omdat Jan weet dat deze persoon in een ver land op vakantie is. Scalaire theorieën zoals Zanuttini and Portner (2003), Castroviejo Miró (2006), Castroviejo Miró (2008a) of Rett (2011) doen verkeerde voorspellingen met betrekking tot niet-scalaire wh-exclamatieven.

Ten tweede wordt er in de literatuur geen motivatie gegeven voor het apart beschouwen van de twee soorten exclamatieve inhoud (descriptieve en expressieve, in de terminologie van Castroviejo Miró (2008a)). Ten derde kunnen wh-exclamatieven, ondanks de beweringen van verschillende auteurs, naast verrassing ook andere gevoelens uitdrukken. Het is bijvoorbeeld mogelijk dat de spreker de situatie goed kent en toch een wh-exclamatief kan gebruiken, zoals in (6):

- (6) [A en B zitten in As mooie tuin, en beiden weten dat B deze tuin heel erg mooi vindt. Plotseling:]
B: Wat een mooie tuin heb je!

Ten slotte kunnen, wat het perspectief van de evaluatie betreft, in principe zowel de descriptieve als de expressieve inhoud van een wh-exclamatief een generieke of een spreker-gerelateerde evaluatie bevatten. Dit is niet eerder in de literatuur opgemerkt. De vier mogelijkheden zijn in (7) weergegeven:

- (7) Piet: *What a delicious desert Jan baked!*
Piet: ‘Wat een lekker toetje heeft Jan gemaakt!’
- a. *externe descriptieve inhoud*: Het toetje dat Jan gemaakt heeft is heel lekker voor mensen in het algemeen
 - b. *interne descriptieve inhoud*: Het toetje dat Jan gemaakt heeft is heel lekker voor Piet
 - c. *externe expressieve inhoud*: Het is opmerkelijk voor mensen in het algemeen dat Jans toetje heel lekker is
 - d. *interne expressieve inhoud*: Het is opmerkelijk voor Piet dat Jans toetje heel lekker is

In de literatuur worden alleen de eerste en de vierde mogelijkheid onderscheiden, zonder verklaring waarom de tweede en derde mogelijkheid buiten beschouwing worden gelaten.

In Hoofdstuk 2 doe ik een voorstel om de wat-vraag te beantwoorden, gebaseerd op het werk van Chernilovskaya and Nouwen (2012) en Nouwen and Chernilovskaya (submitted). Dit voorstel houdt een verbetering in wat betreft alle vier de aspecten die hierboven zijn genoemd. Het idee achter de nieuwe analyse van wh-exclamatieven is dat exclamatieven sprekers opmerkelijkheid uitdrukken. Voor het exclamatief in (3) stel ik bijvoorbeeld de volgende inhoud voor:

- (8) a. Piet: Wat een toetje heeft Jan gemaakt!

$$b. \exists x \left(\text{toetje}(x) \wedge \text{gemaakt}(\text{Jan}, x) \wedge \text{opmerkelijk}(\text{Piet}, x) \right)$$

(8) drukt uit dat Piet Jans toetje opmerkelijk vindt. Het toetje kan opmerkelijk zijn om verschillende redenen: bijvoorbeeld omdat het bijzonder lekker is, er bijzonder mooi uitziet, van bijzondere ingrediënten gemaakt is enzovoort. Het idee daarachter is dat een object opmerkelijk is als het, door één of meer van zijn kenmerken, opvalt in vergelijking met gelijksoortige objecten. De aangeboden exclamatieve inhoud bevat zowel het gevoel dat opgeroepen wordt (d.w.z. de expressieve inhoud) als de oorzaak daarvan (d.w.z. de descriptieve inhoud).

Zoals Hoofdstuk 3 laat zien, gedragen de vier soorten potentiële exclamatieve inhoud uit (7) zich op dezelfde manier in een gesprek. Daarom is er geen reden om deze vier soorten inhoud apart te erkennen, in plaats van ze in één inhoud als (8-b) te combineren. Daarnaast bevat de exclamatieve inhoud in (8) het concept van *opmerkelijkheid*, wat verklaart dat er verschillende gevoelens (zoals *verrassing*, *bewondering*, *blijdschap*) met een wh-exclamatief uitgedrukt kunnen worden. Ten slotte kan het voorstel dat ik in Hoofdstuk 2 doe met betrekking tot de wat-vraag op zowel scalaire als niet-scalaire wh-exclamatieven toegepast worden. Mijn analyse is kortom simpeler, beter gemotiveerd en heeft bredere toepassingen dan andere analyses uit de literatuur.

Naast de vraag over *wat* wh-exclamatieven uitdrukken, willen we weten *hoe* ze dat doen. In de literatuur worden twee belangrijke alternatieven besproken die ik in Hoofdstuk 2 samenvat. Eén manier om de hoe-vraag te beantwoorden is om te beschrijven in welke contexten het gebruik van een wh-exclamatief acceptabel is en wat het effect daarvan is. In de theorie van Rett (2011) bijvoorbeeld geldt het gebruik van een wh-exclamatief als “een uitdrukking van het verrast-zijn van een spreker”. Dit is gerelateerd aan de taxonomie van taalhandelingen van Searle (1979). Naast andere taalhandelingen identificeert Searle een *exclamatieve taalhandeling*, die dient om de “psychologische staat” van de spreker uit te drukken.

Een andere manier om te zeggen hoe wh-exclamatieven hun inhoud overbrengen is door ze labels te geven als bijvoorbeeld “presuppositie”, “conventionele implicatuur” of “voor waar aangenomen” (Grimshaw 1979, Michaelis and Lambrecht 1996, Gutiérrez-Rexach 1996, Michaelis 2001, d’Avis 2002, Zanuttini and Portner 2003, Beyssade and Marandin 2005, Castroviejo Miró 2006, Castroviejo Miró 2008a, Castroviejo Miró 2008b, Gutiérrez-Rexach 2008, Merin and Nikolaeva 2008, Marandin 2008, Abels 2010). Het grootste nadeel van zo’n benadering is dat het verschil tussen bijvoorbeeld presupposities en conventionele implicaturen alleen zichtbaar is qua bereik, wat alleen bestudeerd kan worden door een inhoud in te bedden in verschillende soorten contexten. Dat laatste is echter onmogelijk voor wh-exclamatieven in een hoofdzin, omdat wh-exclamatieven in een hoofdzin en ingebedde wh-exclamatieven verschillende fenomenen zijn (Rett 2011).

In mijn proefschrift kies ik voor een compleet andere benadering voor het definiëren van de exclamatieve taalhandeling. In plaats van me te concentreren

op filosofische aspecten van taalhandelingen, zoals Searle (1979) doet, ga ik uit van een *taalkundig*, of *discourse-perspectief*. Het doel is om een taalhandeling als een discourse-zet te definiëren in een bepaald contextmodel. Daarbij neem ik aan dat het bestuderen van het discourse-gedrag van wh-exclamatieven ons nuttige informatie geeft over de exclamatieve taalhandeling. Een vergelijkbare redenering is te vinden in Stalnaker (1978) met betrekking tot asserties. In de rest van dit proefschrift wordt deze benadering verder uitgewerkt. De focus van Hoofdstuk 3 is het beschrijven van de discourse-eigenschappen van wh-exclamatieven. In Hoofdstuk 4 wordt een formeel contextmodel voorgesteld, op basis waarvan ik in Hoofdstuk 5 een analyse geef van het effect van de exclamatieve taalhandeling op de context.

In Hoofdstuk 3 bekijk ik wat discourse-eigenschappen ons kunnen zeggen over de aard van de exclamatieve inhoud, in vergelijking met geasserteerde, presuppositionele of conventioneel geïmpliceerde inhoud. Sommige van de discourse-eigenschappen die ik beschouw zijn al eerder in de literatuur benoemd, maar ze worden altijd aan de hand van zelfbedachte voorbeelden geïllustreerd. In mijn onderzoek baseer ik de observaties op voorbeelden uit het COCA (Corpus of Contemporary American English). Hierdoor kan het discourse-gedrag van wh-exclamatieven op een grondige manier geanalyseerd worden.

De eerste discourse-eigenschap (*ontkenning door de spreker*) laat zien dat de exclamatieve inhoud een implicatie is, net als geasserteerde, appositieve of presuppositionele inhoud. De eigenschap die geasserteerde en niet-geasserteerde inhoud van elkaar onderscheidt is *directe ontkenning door de hoorder*: in tegenstelling tot op asserties, kan er op wh-exclamatieven niet gereageerd worden met “*Nee, (dat is niet waar).*” Dezelfde conclusie – dat de exclamatieve inhoud niet geasserteerd wordt – kan ook op basis van andere discourse-eigenschappen getrokken worden. Geasserteerde inhoud kan bijvoorbeeld geaccepteerd worden door de hoorder, maar exclamatieve inhoud niet. Verder worden de twee soorten inhoud op verschillende manieren bevestigd, en reageren ze verschillend op vragen. Na het bestuderen van het discourse-gedrag van wh-exclamatieven kan er geconcludeerd worden dat de exclamatieve inhoud niet geasserteerd wordt, maar dat het verschil tussen exclamatieve en appositieve of presuppositionele inhoud niet zichtbaar is op het niveau van de discourse.

In Hoofdstuk 4 wordt een contextmodel besproken uit het werk van Farkas and Bruce (2009), waarin de volgende componenten onderscheiden worden: de gemeenschappelijke achtergrond in een gesprek, discourse commitments van elke gespreksdeelnemer (d.w.z. de proposities waar een individuele participant in de discourse voor in staat), de vraag die ter discussie staat, en de verzameling van de toekomstige gemeenschappelijke achtergronden. In dit model is het effect van de assertie van propositie p drievoudig: de spreker committeert zich aan de inhoud p van zijn assertie, p wordt een nieuwe vraag die ter discussie staat die afgehandeld moet worden voordat het gesprek door kan gaan, en p wordt meegenomen in de toekomstige gemeenschappelijke achtergrond.

Voor niet-geasserteerde inhoud, zoals die van appositieven, volg ik het voorstel van AnderBois, Brasoveanu and Henderson (2010): de appositieve inhoud zorgt voor een onmiddellijke update van de gemeenschappelijke achtergrond. Hier is echter een voorwaarde aan verbonden, namelijk dat de informatie waarmee de gemeenschappelijke achtergrond geüpdatet wordt oncontroversieel moet zijn.

De overeenkomsten in het discourse-gedrag van wh-exclamatieven en appositieve inhoud vormen een reden om een vergelijkbare analyse aan te nemen van het effect dat ze hebben op de context. Daarom stel ik voor dat de het effect van de exclamatieve taalhandeling – net als bij appositieve inhoud – is dat de gemeenschappelijke achtergrond meteen geüpdate wordt. Merk op dat dit een beperking met zich meebrengt met betrekking tot het evaluatieperspectief van de exclamatieve inhoud: deze inhoud moet gerelateerd zijn *aan de spreker* en niet *generiek* zijn, omdat alleen de eerste oncontroversieel is.

Mijn definitie van de exclamatieve taalhandeling levert een belangrijke bijdrage aan de literatuur. Ik verwoord het informele idee van Searle over de exclamatieve taalhandeling op een formele manier – namelijk in een contextmodel. In plaats van te stellen dat een wh-exclamatief de verrassing van de spreker uitdrukt, stel ik voor dat de exclamatieve inhoud leidt tot de onmiddellijke update van de gemeenschappelijke achtergrond van het gesprek. Dankzij de formele definitie van alle soorten discourse-zetten in het contextmodel, is het mogelijk om het discourse-gedrag van wh-exclamatieven te verklaren. Dit zou onmogelijk zijn in de theorie van bijvoorbeeld Rett (2011). Het belangrijkste verschil met het tweede soort antwoord op de hoe-vraag zit hem in de gebruikte methodologie. Theorieën die aan een bepaald soort inhoud een label geven benaderen de hoe-vraag vanuit een *top-down* perspectief, terwijl mijn voorstel is om te bestuderen wat het effect van een inhoud op context is zonder daaraan van tevoren een label te geven. Dit is een *bottom-up* benadering van de hoe-vraag.

Daarnaast bespreek ik in Hoofdstuk 5 de aard van exclamativiteit. Ik stel voor dat het gebruik van een exclamatief aan een bepaalde conventie is verbonden, namelijk dat de spreker zo'n exclamatief gebruikt om te laten zien dat hij of zij een bepaald soort emotionele gebeurtenis ondergaat. Zo'n gebeurtenis moet door iets veroorzaakt worden. Ik kan bijvoorbeeld niet zeggen “*Wat een lekker toetje heeft Jan gemaakt!*” zonder het toetje gezien, geproefd of daarover gedacht te hebben. Ik geloof dat dit soort conventie in de aard van exclamativiteit ligt, onafhankelijk van de syntactische vorm of semantische denotatie van het exclamatief. De exacte formulering van de exclamatieve conventie en zijn verdere toepassingen zijn onderwerpen voor verder onderzoek.

Curriculum Vitae

Anna Chernilovskaya was born on December 6, 1983, in Novosibirsk, former Soviet Union. In 2001, she started studying Mechanics and Mathematics at Novosibirsk State University. In 2004, she continued her studies at Moscow State University. In 2007, she graduated with honours with an MSc degree in Mathematics. In January 2009, Anna started a PhD programme in Linguistics at Utrecht University within Rick Nouwen's NWO project "Degrees under Discussion". This dissertation is the result of her work in the project.

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