

WH-EXCLAMATIVES WITH AND WITHOUT SCALES

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ABSTRACT. There exists a dominant strand of approaches to the semantics and pragmatics of wh-exclamatives which maintains that such structures are inherently scalar in nature. In this paper, we will argue that this view loses credibility once one adopts a cross-linguistic point of view. In particular, we will review an empirical test due to Rett (2011), which is meant to show the lack of non-scalar readings for wh-exclamatives. We show that this test can be used as a tool to clarify cross-linguistic variation in the expression of wh-exclamatives. Using Rett's test, we identify two kinds of wh-exclamatives, those that appear to involve a scalar mechanism and those that do not. In the end we argue that the scalar nature of one type of exclamatives is a side-effect of the evaluative nature of exclamatives generally.

1. INTRODUCTION

This paper concerns matrix wh-exclamatives. These are matrix structures that resemble questions in containing question words, whilst they often (but not always) differ from questions in their word order. There are two question words that can occur in English matrix wh-exclamatives: *what* as in (1), and *how* as in (2).

- (1) What a wonderful song she sang!
- (2) How beautiful the birds sing!

Given the occurrence of wh-expressions in exclamatives, one might wonder whether (wh-)exclamatives and questions share certain grammatical or semantical mechanisms. However, the resemblance between these two types of clauses is quite superficial. Whilst (2) has an obvious corresponding question (*How beautiful do the birds sing?*), there is no such interrogative counterpart to (1). Reversely, not every *what* question can be turned into a *what* exclamative, witness (3).

- (3) a. What did John eat?
- b. *What John ate!

More generally, English lacks *who*, *where*, *which* and *why* matrix exclamatives.

- (4) a. *Who I just saw!
- b. *Where he lives!
- c. *Which book he picked!
- d. *Why John chose to move to the US!

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We could very well imagine what an exclamative like (4-d) would mean. (Roughly, *the speaker is amazed at John's reason for moving to the US*). But despite the fact that there exists a corresponding question, *Why did John choose to move to the US?*, (4-d) is simply ungrammatical. The upshot is that even if there exists some relation between questions and exclamatives, this relation is not going to be a straightforward one.

To make things more complicated, the potential wh-exclamative clauses in (4) are felicitous in embedded contexts; for instance as complements of what are sometimes called *exclamative verbs*, verbs expressing an exclamative stance.

- (5) a. You wouldn't believe who they hired! Michaelis (2001)
 b. I can't believe where he lives!
 c. I am amazed at which book he picked!
 d. I am amazed at why John chose to move to the US!

Michaelis and Lambrecht (1996) as well as Michaelis (2001) discuss an influential intuition of what is behind these data. The idea is that wh-exclamatives have a scalar semantics. Michaelis analyses example (5-a) as being interpreted with respect to a scale of people, ranked in accordance to their incompetence with respect to the job. Thus, (5-a) expresses that the person hired is relatively (or, more accurately, surprisingly) high on that scale. Crucially, Michaelis assumes that such a scalar ranking of individuals corresponding to the question word *who* needs to be triggered by the syntactic context. In (5-a), the *you wouldn't believe* construction does exactly that, whilst in (4) no such context is available and hence no suitable interpretation can be derived. Things are different for *how* exclamatives like (2), which are inherently scalar, given the fact that *how* questions may ask about the degree to which a certain scalar (i.e. gradable) property holds.

We should say immediately, however, that the rough sketch above raises several profound questions. On a technical level, it seems difficult to construct a formal account of how syntactic context enables a wh-expression to adopt a scalar meaning. But more importantly, there are two empirical observations that are left unexplained. Both of these will play an important role below. Firstly, it is not clear why there exist *what* matrix exclamatives in English, since, unlike the case of *how*, there is no independent evidence that *what* can adopt a scalar meaning. Second, some languages allow for a whole range of matrix wh-exclamatives without there being any evidence of a scalar semantics for the corresponding question word. For instance, Dutch allows *who*, *which* and *where* exclamatives. Other similarly more permissive languages include German, Russian, Italian and Turkish.

- (6) (Dutch)
 a. Wie ik gisteren tegenkwam!
 Who I yesterday came-across
 (roughly) 'You wouldn't believe who I met yesterday!'
 b. Welk boek hij nu aan het lezen is!
 Which book he now on it read is!
 (roughly) 'You wouldn't believe which book he's reading now'
 c. Waar hij op vakantie gaat!
 Where he on holiday goes!
 (roughly) 'You wouldn't believe where he goes on holiday to'

- (7) (Turkish, (Michaelis, 2001))
- a. Kimleri gördük!
 who.PL.OBJ saw.PST.1PL
 (roughly) ‘You wouldn’t believe who I saw!’
 - b. Neler bulduk!
 what.PL find.PST.1PL
 (roughly) ‘You wouldn’t believe what we found!’

As we will see below, variants of the idea that wh-exclamatives are scalar play a dominant role in semantic and pragmatic analyses of exclamatives. In this paper, we call into question the empirical and theoretical value of this intuition. We do this by pursuing two goals. First of all, we set out to provide a coherent characterisation of cross-linguistic variation in the expression and meaning of wh-exclamatives, paying particular attention to the role played by scalarity. The result will be a set of new generalisations that capture the role of wh-expressions in wh-exclamatives across languages. Apart from providing a new set of data and generalisations, we also aim to come to a theoretical model. Our main question is whether a pragmase-mantic model of wh-exclamative meaning needs to involve scalar mechanisms. We will provide a negative answer to this.

Before we start, we need to clarify two matters related to the meaning of wh-exclamatives. First of all, it is often descriptively noted that exclamation is about *surprise*. For instance, an exclamation like *what a tall man!* is often described to express that the man in question is taller than the speaker had expected (Elliott, 1974; Castroviejo, 2006; Castroviejo Miró, 2008; Rett, 2008). Other authors (for instance, Zanuttini and Portner (2003)) take the view that such a characterisation is too narrow and instead assume that wh-exclamation covers a much wider range of attitudes, including *surprise*, but also including things like *amazement*, *awe*, and *astonishment*. In our description of wh-exclamatives we will for now side with Zanuttini and Portner and use all sorts of attitudes, postponing discussion of arguments in favour of that view until later in the paper.

The second issue concerns the exclamative speech act. It is tempting to provide truth-conditions for exclamatives, but it should be clear that that will not do. A wh-exclamative is not an assertion and, in fact, there are many reasons to assume that there is no semantic content to wh-exclamatives that ends up being asserted. (See Chernilovskaya (2013) for an extensive argument.) This means that rather than looking at truth-conditions, it is wiser to look at felicity conditions, as indeed we will be doing below. At the same time, however, we will remain agnostic as to what status such conditions have and what exactly the role is they play in the exclamative speech act.

We proceed as follows. In the next section we will introduce a test due to Rett (2011) which is intended to be an empirical test for the scalar basis of exclamatives. We then show in section 3 that this test can more accurately be used to identify two kinds of exclamatives that exist cross-linguistically. In particular, we will suggest that the view that the distribution of wh-exclamative structures is subject to a scalarity constraint is ill-founded. Sections 4 and 5 add further arguments to the relevance of the two kinds of exclamatives. Then, in section 6, we will show in detail how the cross-linguistic data is problematic from the perspective of scalar approaches to wh-exclamatives, in particular that of Zanuttini and Portner

(2003). Next, in section 7, we provide our own non-scalar approach. The final section compares this to other non-scalar analyses that are on the market and suggests some issues for further research.

2. *What* EXCLAMATIVES AND SCALARITY

What exactly does it mean to say that *wh*-exclamation is, in essence, a scalar phenomenon? Rett (2008; 2011) provides a cogent answer to this question, by devising a test that tells us whether or not an exclamative clause can have a clearly non-scalar meaning. Let us run through an example of such a test.¹

Imagine John is doing a card trick. He blindfolds himself, then shuffles a deck of cards and seemingly randomly picks two cards: the three of diamonds and the six of hearts. He puts the cards back, shuffles again and once more picks two cards. Again, he picks 3♦ and 6♥. Then, he puts the cards back, shuffles again and, lo and behold, he picks the 3♦ and 6♥ for a third time in a row. Witnessing this amazing run of events, Mary now utters:

(8) #What cards John picked!

The intuition is that (8) is infelicitous in this scenario. What, according to Rett, this shows is that a *wh*-exclamative like (8) has to express surprise at a degree property associated with the cards, rather than surprise at the cards themselves. That is, (8) can be used to express (say) how surprisingly beautiful or how surprisingly high in value the cards in question are, but not how (downright) surprising they are.

In Rett's approach this observation is accounted for by assuming that *what* exclamatives always contain gradable predicates. That is, in an example like (9), *what* associates with the degree of beauty of the song that was sung. The exclamative thus ends up conveying the speaker's surprise, amazement, bewilderment, stupefaction, disbelief, etc. of how beautiful a song was sung.

(9) What a beautiful song she sang!

In examples like (8), no overt gradable property is available. The noun *cards* is non-gradable,² as is the verb *to pick*.³ Rett therefore assumes that such examples contain covert measure functions that, effectively, enrich non-gradable expressions with a gradable structure. Although Rett's implementation is more advanced, for ease of exposition we can consider Rett's proposal as stipulating the availability of freely insertable covert adjectives. For instance, the underlying interpretable form of (8) is one of the following:

¹The particular test we use below, involving a card trick, finds its origin in Rett (2008).

²Consider an example like (i):

(i) John is an unbelievable idiot.

This example talks about the degree of idiocy of John. It is not possible to, in a similar way, use the noun *card* to talk about degrees of card-ness, since that is an unavailable concept to start with. That is, it is hard to grasp what (ii) would mean.

(ii) #That is an unbelievable card.

³Compare **he picked a card very much* to *he likes me very much*.

- (10) a. What beautiful cards he picked!
 b. What high-valued cards he picked!
 c. What brightly coloured cards he picked!
 d. etc.

Since the cards in question ($3\heartsuit+6\spadesuit$) are not particularly striking by themselves in any respect, no such form will make (8) a felicitous exclamation in the card trick scenario. That said, Rett goes on to constrain the insertion of covert adjectives in one crucial way: gradable properties are freely insertable as long as they do not correspond to the very properties expressed by exclamatives themselves. So, whilst (8) can be about how *beautiful* or *bright* the cards are, it cannot express the degree of *unexpectedness* that came with the cards, for this is exactly what the card trick test shows to be impossible. In other words, Rett needs to exclude the possibility of (11) being underlying forms for (8).

- (11) a. What unexpected cards he picked!
 b. What surprising cards he picked!

Below, we will suggest a different take on Rett's observations. However, we should first explain that although Rett was the first to offer a thorough empirical argument for the relation between exclamatives and degree, her ideas are closely related to several other proposals in the literature. Rett presents her ideas in terms of gradability, but her observation is also compatible with the following generalisation:

- (12) **Scalarity Generalisation:**
 semantically, wh-exclamatives always involve a scale.

There are many ways to give substance to such a generalisation in a theoretical model. One could view (12) to be the basis for the idea, presented at the very start of this article, in Michaelis and Lambrecht (1996) and Michaelis (2001) that the need for scalar interpretation is responsible for the lack of *who* exclamatives. But equally, (12) is a more neutrally voiced summary of Rett's observation: even in the absence of scalar (i.e. gradable) material, the surfacing interpretation for a *what* exclamation will be one based on a scalar (i.e. degree) property. Technically, scalarity and gradability are very closely linked. It is a common assumption in the degree literature that gradable adjectives as well as other gradable predicates express relations between individuals and degrees. Degrees in turn are points on a scale associated to the predicate. (See, e.g., Kennedy (2007) and references therein.)

A precursor to (12) can be found in the work of Castroviejo-Miró. For instance, in Castroviejo Miró (2010) she argues that the semantics of an exclamation is based on a set of propositions ordered along a scale, where the propositions are formed by filling in a value for the wh word. For instance, *how tall John is!* corresponds (on some level) to the set {..., John is 1m60, John is 1m61, ..., John is 1m79, John is 1m80, ...}. Given the natural scalarity of degrees, such a set is in line with the requirement that exclamatives involve scalar comparison. However, if we do the same to **who John just met!*, we would get the set {John met Charlie, John met Eddie, John met Talulah, ...}. Since there is no natural way to order these propositions (since *Charlie*, *Eddie* and *Talulah* do not in and by themselves form a scale), the exclamation is infelicitous.

Finally, the same kind of idea can be found in the influential work of Zanuttini and Portner (2003). According to these authors, one of the semantic mechanisms at work in exclamatives is that of *domain widening*. The idea is that widening accounts for the intuition that what is expressed by an exclamative “lies at the extreme end of some contextually given scale” (p.47). Domain widening makes explicit use of such a scale. (We’ll see more details of this theory in section 6.)

In summary, whether implemented in terms of degrees, linearly ordered sets of propositions or any other scalar motif, we believe it is safe to say the one dominant strand of research into the meaning of wh-exclamatives adheres to a generalisation along the lines of (12). As far as we know, Rett’s test, of which we presented a card trick version above, is the only independent empirical test for demonstrating the role of scalarity on the market. However, we will provide an alternative way to read the outcome of this test, below.

3. TWO KINDS OF WH-EXCLAMATIVES

In the previous section we presented a family of approaches to the semantics of wh-exclamatives that treat such constructions as essentially scalar in nature. Although the way these approaches implement scalarity differs significantly (for instance, in whether or not they make use of degrees), they share the thought that wh-exclamatives are always based on scalar comparison. Rett’s card trick test gives empirical substance to this idea.

Surprisingly, however, whilst the predictions made by assuming that wh-exclamation is constrained by scalarity are fine for English, they fare less well on many other languages. At the beginning of the paper, we mentioned Turkish and Dutch as two examples of language with *who* exclamatives. Crucially, in these languages, matrix *who* exclamatives do not have a scalar meaning. (Other examples are German, Russian and Hungarian.) As such, these languages do not fall under the Scalarity Generalisation proposed above. Let us illustrate this with a few examples. It is infelicitous in Dutch to utter (13) in a situation in which the speaker has just met an extremely tall man in the street and she wants to communicate her surprise at the man’s height.

- (13) Wie ik net op straat tegenkwam!
 who I just on street encountered

One might think that (13) is infelicitous in this case since the wh-expression leaves no syntactic room to insert a covert adjective (*tall* in this case). However, this is made implausible given the fact that Dutch *which* exclamatives (which obviously include a noun) behave exactly parallel to (13). That is, (14) is also infelicitous in a situation in which the speaker just met an extremely tall man.

- (14) Welke man ik net op straat tegenkwam!
 which man I just on street encountered

Still, both (13) and (14) are grammatical in Dutch and they turn out to be felicitous only in situations that resemble the situations in which English *what* exclamatives are *infelicitous*. For instance, if I know that John called in sick today and thus believe him to be in bed, and I then encounter him in the street, I could felicitously utter (13). But such a situation is very much like the card trick scenario: the referent

that goes with the *wh* expression (John / 3♦+6♥) is in itself completely unremarkable, in the sense that it lacks any features that put it high on some scale. In fact, in the card trick scenario, we can felicitously utter a Dutch *which* exclamation:

- (15) Welke kaarten hij toen (weer) trok!
 which cards he then again picked

In summary, *who* and *which* exclamatives in Dutch differ from English in two ways: (i) they are grammatical, whilst they are not in English; (ii) they are not scalar. However, it would be overly simplistic to now conclude that languages like Dutch simply lack the Scalarity Generalisation. This is because Dutch *what* exclamatives are again completely parallel to the English case. In contrast to (15), and like the case of English presented in the previous section, (16) is infelicitous in the card trick scenario.⁴

- (16) Wat een kaarten hij toen (weer) trok!
 what a cards he then again picked

As in English, (16) is only felicitous in a scenario in which the cards in question are placed high on some scale, because they were exceptionally beautiful or high-valued, etc.

The non-scalarity of *who* and *which* exclamatives may appear to be a cross-linguistically general pattern: Whenever a language allows a *who* / *which* exclamation, it will assign to such a structure a non-scalar interpretation. Here is an example from Hungarian that supports such a hypothesis.

- (17) (Hogy) kiket láttam az utcán!
 Comp who.PL.ACC saw.1SG the street.on

To illustrate a situation in which such exclamatives are felicitous, imagine a speaker who expects John and Mary to be on holiday somewhere far away, but then runs into them on the street. Once more, this type of exclamation is infelicitous in a situation in which the speaker runs into a couple with a particularly remarkable feature (they are both extremely tall, or they are wearing exactly the same outfit, etc.)

Nevertheless there are cases where *who* exclamatives or *which* exclamatives are clearly scalar. Swedish, for instance, uses *which* where in English exclamatives one would find *what*. Abels and Vangsnes (2010) give the following example.

- (18) Vilken lärare du har!
 which teacher you have

The preliminary conclusion we would like to draw from the above is that there are two kinds of exclamatives:

- (19) Two types of exclamatives—
 Type 1: *wh*-exclamatives in accordance to the scalarity generalisation

⁴The attentive reader may wonder about the singular indefinite *een* combining with the plural noun *kaarten*. Below we will see that this use of the indefinite article is an integral part of this particular exclamative construction.

Type 2: wh-exclamatives not in accordance to the scalarity generalisation

English is in full accordance to the scalarity generalisation: it only hosts type 1 wh-exclamatives. Swedish is exactly comparable. That is to say that *who* and *what* exclamatives are simply ungrammatical in Swedish, witness (20) and (21) (L.-O. Delsing, p.c.).

(20) *Vem jag träffade igår!
Who I met yesterday

(21) *Vad jag köpte igår!
What I bought yesterday

Other languages we looked at above have both type 1 and type 2 exclamatives. Here is a partial overview:⁵

		Type
English	what (a)	1
Swedish	which	1
Dutch	what (a)	1
	who	2
	which	2
	what	2
	...	2
Hungarian	what kind	1
	who	2
	which	2
	what	2
	...	2

In summary, we have shown that there exist wh-exclamatives that fail Rett's test for scalarity. As such, the Scalarity Generalisation quickly loses its appeal. At best, it could now be seen to accurately describe languages like English and Swedish, which lack type 2 exclamatives. Below, however, we will show that even such a view is untenable. Before we discuss the theoretical consequences of the data introduced in this section, we would like to explore the data in support of the type 1 / 2 distinction in somewhat more detail.

4. THE NATURE OF THE TYPE 1 / 2 DISTINCTION

The type 1/2 distinction is not just reflected in the semantics. In languages like Dutch, the two kinds of exclamatives have different word order. Dutch has SVO for main clauses, with V2, and SOV for embedded clauses. As the following examples show, Dutch type 1 exclamatives may either be V2 or verb-final, whilst type 2 exclamatives are exclusively verb-final.

⁵For reasons of exposition, this is an extremely limited overview of type 2 exclamatives. We have refrained, for instance, of giving any details about *when*, *where* and *why* exclamatives, although in languages like Dutch these are perfectly acceptable in type 2 exclamatives. What is important, however, is that the table below exhausts the type 1 exclamatives of these languages. Note, that we have not classified adverbial *how* exclamatives. See below for discussion.

- (22) Wat maakte Jan een herrie!
 What made Jan a racket
 “What a racket Jan made!”
- (23) Wat Jan een herrie maakte!
 What Jan a racket made
 “What a racket Jan made!”
- (24) Wie ik net zag!
 Who I just saw
- (25) *Wie zag ik net!
 Who saw I just

Another discerning property for the type 1/2 property is *reducibility*. Type 1 exclamatives can and type 2 exclamatives cannot be reduced to structures containing only a wh phrase.

- (26) What a book!
- (27) Wat een boek!
 what a book!
- (28) *Wie!
 who
- (29) *Welk (mooi) boek!
 which beautiful book

In summary, there is some initial evidence that the type 1 / 2 distinction reflects two different structures. In fact, data like these may be seen as to support a view where exclamatives of the type 1 variety or the only *true* type of exclamatives. That is, one could hold on to a tight connection between wh-exclamation and scalarity by dismissing type 2 exclamatives, with their more restricted word order and their non-scalar semantics, as simply a phenomenon entirely different in nature from type 1 exclamatives. It should be clear however that there is also a lot of common ground between type 1 and 2 exclamatives. Firstly, in many languages it is not that type 1 and 2 exclamatives have an entirely different word order, it is just that type 1 exclamatives have the additional option to be phrased in a different word order. Second, both type 1 and type 2 exclamatives express the same kinds of emotions/attitudes of the speaker, viz. that of surprise, amazement, etc. Third, type 1 and 2 exclamatives have the same speech act properties: they are non-assertive, non-interrogative, one might say *expressive* speech acts. (See (Chernilovskaya, 2013) for extensive discussion.)

Given these considerations we believe we should strive for a comprehensive pragmasemantic theory of wh-exclamatives, one which moreover includes an account of what makes the two types different. In any case, as we will be arguing next, whilst from the perspective of English, it is tempting to consider type 1 exclamatives as the prototypical exclamative wh-constructions and type 2 exclamative as the more exotic species, there are reasons to believe that quite the opposite is the case. Let us turn to Dutch once more to illustrate a quirky aspect of type 1. Above, we noted that (16), repeated here, is felicitous in a card trick scenario. However, note that it is wrong to call this a *what* exclamative. A more appropriate term for

such a structure would be a *what a* exclamation: The indefinite article *een* ('a') cannot be part of the *wh* noun phrase, since it only goes with singular nouns and *kaarten* (cards) in this example is plural. (That is, **een kaarten* is an ungrammatical noun phrase.) Dutch *what* exclamatives that lack such an indefinite behave similar to *who* and *which* exclamatives. For instance, in contrast to (16), (30) is felicitous in the card trick scenario.

(16) Wat een kaarten hij toen (weer) trok! (type 1)
 what a cards he then again picked

(30) Wat hij toen weer trok! (type 2)
 what he then again picked

Similarly, Dutch has an archaic usage for *welke* (which) that shows a similar pattern:

(31) %Welk een kaarten hij toen (weer) trok! (type 1)
 which a cards he then again picked
Infelicitous in the card trick scenario; archaic

(15) Welke kaarten hij toen (weer) trok! (type 2)
 which cards he then again picked
Felicitous in the card trick scenario

In English, the indefinite article in a *what a* exclamation does import a number semantics. That is, (32) is simply ungrammatical.

(32) *What a cards John picked!

Nevertheless, there is some evidence that type 1 exclamatives in English are marked not just by the presence of *what*. For instance, whilst (33-a) and (to a lesser extent) (33-b) are grammatical, using respectively singular *a* and a null determiner, the use of other determiners is prohibited.

- (33) a. What a song!
 b. What songs!
 c. *What three songs!
 d. *What the song!
 e. *What some song!

In sum, it is too simplistic to divide the set of *wh*-exclamatives in a language into two types purely on the basis of which *wh*-word is involved. In many cases, type 1 exclamatives will crucially involve some kind of marker⁶ and in this way type 1 exclamatives are structurally more enriched than type 2 clauses. Another way to say this is that type 2 exclamatives, typically, bear more of a resemblance to questions. Recall for instance that English lacks an interrogative correlate of *What a tall man John is!*. To illustrate this point a bit further let us introduce another language at this, German, and review its use of *which* in exclamatives. The following

⁶Independent of type 1 exclamative markers like indefinite articles, the exclamative speech act is often marked by the presence of other material as well, such as particles or particle clusters or expletive negation. However, such markers are not particular to one of the two types of *wh*-exclamatives.

discussion is based on Repp (2013) (who incidentally draws conclusions from the German data that are rather different from our overall conclusions).

In German questions, *wh*-determiners like *which* inflect for gender and number. This inflection may disappear in exclamatives.

- (34) Welch*(er) Mann hast du geholfen? (German)
 which.MASC.SG man have you helped.
 Which man did you help?
- (35) Welch schwerer Irrtum! (German, Repp 2013)
 which serious.MASC.SG mistake
 ‘What a serious mistake!’
- (36) *Welcher schwerer Irrtum! (German, Repp 2013)
 which.MASC.SG serious.MASC.SG mistake

Notice that (35) and (36) are reduced and therefore candidates for type 1. Non-reduced exclamatives may indeed contain the inflected *which*.

- (37) Welches Buch der Jan gelesen hat! (German, Repp 2013)
 Which.MASC.SG book the J. read has
 ‘The book Jan read!’

Crucially, non-inflected *which* involves scalarity. An example like (35) communicates how serious the mistake in question was. It cannot be used to remark on the surprising (or amazing) nature of which serious mistake was made. This obviously contrasts with (37), which may express the speaker’s surprise at the fact that Jan read the book he did. In summary, the picture for German exclamatives is as in (38):

		Type
German	<i>which</i> (uninflected)	1
	<i>which</i> (inflected)	2
	<i>who</i> (inflected)	2
	<i>was</i> (inflected)	2
	...	2

This picture provides a compelling illustration of the main point of this section: type 1 exclamatives involve non-standard *wh*-constructions, whereas type 2 exclamatives more accurately resemble questions.

5. ADVERBIAL WH-EXCLAMATIVES

Note that, so far, we have only considered *wh*-phrases that function as arguments. We have not discussed any adverbial cases, such as English *how* exclamatives, for instance. Such exclamatives are typically *degree* related. The following examples all express that the man in question is considerably tall:

- (38) How tall he is!
- (39) Wat is hij lang! (Dutch)
 what is he tall
- (40) Kor høg han er! (Norwegian)
 How tall he is

- (41) Vad han är lång! (Swedish)
 what is he tall
- (42) milyen magas embert (Hungarian)
 how tall man.ACC

Although we will briefly discuss such exclamatives at the very end of this article, we will not consider them in our discussion of the type 1 / 2 distinction. This is because this distinction is incapable of saying anything about such adverbial exclamatives. Since such constructions operate within the AP domain it is obvious that they are necessarily scalar. That is, such exclamatives are ungrammatical without a gradable predicate. This is best seen using Dutch adverbial *what* exclamatives. In (43) and (44), we use a numeral to make sure that we are not dealing with a *what a / wat een* exclamation.

- (43) Wat heeft Jan drie *(prachtige) boeken gelezen!
 What has Jan three beautiful books read
- (44) *Wat heeft Jan drie symfonische werken gecomponeerd!
 what has Jan three symphonic works composed

Being degree exclamatives, adverbial wh-exclamatives escape the scope of Rett's card trick test. This is because this test is designed to tell the difference between exclamation on the basis of scalar extremeness and exclamation on a different basis. In Rett (2008) we do find a completely separate empirical argument for the inherently scalar nature of wh-exclamatives, one that involves English *how*. Rett points out that *how* questions may ask after degrees, manners and evaluations.

- (45) How tall is John? degree
- (46) Q: How does Buck ride his horse? (Rett, 2008)
 a. A: elegantly evaluation
 b. A: bare-backed manner

In contrast to *how* questions, *how* exclamatives cannot involve manners. That is, (47) can only be used to express that the speaker is surprised or amazed at how elegantly / beautifully / clumsily etc. Buck rides his horse.

- (47) How Buck rides his horse!

It is infelicitous to use (47) to express surprise at the fact that Buck rides his horse bare-backed. Since evaluations, but not manners, are gradable, Rett concludes from these data that *how* exclamatives are necessarily about degree. We fully agree with this, but we disagree with the wider conclusion that this shows that exclamatives are generally scalar. A good illustration once more comes from Dutch. Adverbial (degree) exclamatives are expressed using *wat* (what).

- (48) Hoe lang is Jan? (Dutch, degree question)
 how tall is J.
 'How tall is Jan?'
- (49) Wat is Jan lang! (Dutch, degree exclamation)
 what is J. tall
 'How tall Jan is!'

When we now turn to Dutch *how* exclamatives, we see that they behave different from English ones. Crucially, (50) is fully compatible with either a manner or an evaluation reading.

- (50) Hoe Jan zijn paard berijdt!
how J. his horse rides

On an evaluation reading, (50) may for instance mean that the speaker is impressed at how beautifully or how clumsily Jan rides his horse. Additionally, (50) may also be used to express the speaker's surprise or amazement at the manner at which Jan rides his horse. For instance, (50) could express that the speaker did not expect Jan to ride his horse bare-backed.

So far, we have seen evidence that type 1 exclamatives are scalar in nature, whilst type 2 exclamatives are not. One may then conclude from this that type 1 exclamatives are cases where the *wh*-word acts like an adverb of degree. There are several reasons to believe that this is too simplistic.

First of all, consider the following Dutch example:

- (51) Wat heeft Jan een (prachtige) boeken gekozen!
What has Jan a beautiful books chosen

This is a type 1 exclamative, as can be seen by the singular indefinite article going with a plural noun. In contrast to the adverbial *what* exclamative in (43) (repeated here), the adjective in (51) is optional.

- (43) Wat heeft Jan drie *(prachtige) boeken gelezen!
What has Jan three beautiful books read

This is a first clue that *wat* in (50) is not a degree adverb. As (43) shows, degree adverbial *wh*-words depend on the availability of (overt) gradable material. The *wh* construction in (50) does not.

In English, type 1 *what a* exclamatives adjectives are also optional.

- (52) What a car!

Interestingly, when the adjective *is* present, a *what a* exclamative need not necessarily be used to express surprise (or whatever) at the extent to which the adjective applies. For instance, the following discourse is felicitous.

- (53) Someone already told me that John had bought an outrageously expensive car, but, o boy, what an expensive car! This is more a racing car than anything else!

Granted, you need some help from intonation to get this right, but this is only to be expected if we want to set up a context in which the information that the car is ridiculously expensive is given. What (53) shows, once more, is that type 1 exclamatives are not constructions that involve a degree adverb. Clearly, *what* in (53) is independent of the AP in the *wh* phrase.

A final argument against a degree adverbial analysis of type 1 exclamatives comes from Dutch indefinite quantity noun phrases (comparable to English *a lot*, see below), illustrated in (54).

- (54) Jan heeft een boel meegemaakt.
 Jan has a BOEL experienced
 ‘Jan has been through a lot’

Een boel is not gradable, as (55) shows. Also, there is no way to modify the noun *boel*.

- (55) Jan heeft erg { veel / *een boel } meegemaakt.
 J. has very much / a BOEL experienced
 ‘Jan has been through a lot’ (intensified)
- (56) *Jan has een { grote / enorme / erge / mooie } boel meegemaakt.
 Jan heeft a big / enormous / very / beautiful BOEL experienced.
 Intended: ‘Jan has been through a great many things’

Despite the restrictions in (55) and (56), Dutch *what a* exclamatives with such nouns are felicitous.

- (57) Wat heeft Jan toch een boel meegemaakt.
 What has Jan PRT a BOEL experienced.
 ‘What a lot of things Jan has been through’

Since we cannot assume that *wat* in this example is adverbial to some degree predicate inside *een boel* and since we know that *een boel* itself is not gradable, we must conclude that *what* in (57) is not a degree adverb. These data extend to English. In English, *a lot* is also not gradable.

- (58) a. John ate a lot of apples.
 b. *John ate very (much) a lot of apples.
 c. John ate very many apples.
- (59) What a lot of apples John ate!

Despite the non-gradable nature of *a lot*, (59) is grammatical. The wh-words in type 1 exclamatives are not degree adverbs.

6. THE TYPE 1 / 2 DISTINCTION AND DOMAIN WIDENING

So far, we have shown that rather than distinguishing what is and is not the basis of a felicitous wh-exclamative, Rett’s card trick test can be used to identify two kinds of exclamatives: those that fail the test (type 1) and those that pass it (type 2). This means that the Scalarity Generalisation is too strong, for there exist languages that host exclamatives that pass the card trick test. In fact, we have suggested that such structures are the norm and that type 1 exclamatives are often marked not just by the choice of a certain wh-word, but moreover by additional morphology in the wh-construction. On top of that, it is clear that they are not degree adverbial constructions. In the following we will propose a characterisation of these data that dispenses with any explicit role to be played by scalarity.

In order to explain our own approach we would like to contrast it to a particular implementation of the scalar approach we discussed above. In section 2, we briefly remarked on the theory in Zanuttini and Portner (2003). In this section, we will discuss this approach in somewhat more detail and evaluate it with respect to the type 1 / 2 data.

Zanuttini and Portner (henceforth ZP) argue for two interacting semantic mechanisms that, together, account for the meaning of a wh-exclamative: (i) domain widening and (ii) factivity. The latter manifests itself in two ways. First of all, wh-exclamatives typically only embed under factive verbs: *John knows what a good cook Mary is* versus **John wonders what a good cook Mary is*. Second, ZP assume that, semantically, factivity results in existential import. That is, wh-exclamatives presuppose that the wh-variable is instantiated. It will become clear what this means once we see how factivity works in tandem with domain widening. Here is our version of ZP's domain widening operator, which we write DW:

- (60) Let D be the domain of quantification. If a clause S contains DW, then widen this domain to D' in such a way that:
- a. The domain widening effectively extends the interpretation of S
 - b. There exists a salient ordering such that any entity in the widened part of the domain (the set theoretical difference of D' and D) outranks all entities in D .

This says that DW causes interpretation in a domain that results in a larger set of propositions in the denotation of the clause S that contains DW. Moreover, the widened part of the domain contains only entities that on some salient scale *outrank* the entities in the original domain. Factivity, which we will write as FACT, interacts with DW in a compositionally opaque way (more on this below):

- (61) Let S be a clause containing FACT as well as DW, where the original domain is D and the widened domain is D' , then S presupposes that:

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

This formula says that any proposition that concerns entities in the widened part of the domain is true. Let us illustrate how ZP's system works with a *how*-exclamative.

- (62) How tall John is!

The assumption is that the exclamative denotes a set of true answers in the style of the question semantics of Karttunen (1977). Thus, ignoring DW and FACT, (62) will correspond to a singleton set including the proposition that expresses what John's height is. The relevant domain of quantification here is made up of degrees of height, and the natural order is simply the one that is lexically associated to the adjective *tall*. The combination *FACT + DM* now says that John's actual height must be in the widened part of the scale. If we now additionally assume that the standard (non-widened) domain of quantification contains normal, regular objects (heights, in this case), the combination of *FACT + DM* results in attributing to John a height that we would normally not consider. In other words, John's height must be *off the scale*.

The more interesting case, however, is that of a *what (a)* exclamative. Take (63), once more.

- (63) What cards John picked!

In the theory of ZP, this presupposes that there are cards that John picked and that these cards are outside the domain of quantification in the sense of (60). To be a bit more precise, (63) presupposes that the cards John picked outrank other

cards on some salient ordering. The result is that (63) is (rightly) predicted to be infelicitous in the card trick scenario, since the cards in question, $3\heartsuit$ and $6\heartsuit$, are not particularly high on any scale.

What is interesting about the domain widening mechanism is that it introduces a scalar dimension to the semantics on a purely semantic level (namely that of the selection of the domain of quantification). This means that, contrary to the approach of Rett (2011) and others, there is no need to assume that, on some syntactic level (such as LF), there is an adjective-like element modifying the noun.

Despite this elegant feature, there is a serious question for ZP regarding an example like (63), namely: What does the initial (non-widened) domain look like? Is it reasonable to expect that *any* card is excluded from the non-widened domain of quantification? A positive answer would amount to saying that when we quantify over cards, we routinely exclude high-ranking cards like aces from the domain. This seems wrong. It is hard to imagine *All cards are in the pack* to mean anything other than *all 52 cards are in the pack*. ZP may reply that the domain is context dependent and that, although the domain would normally contain all 52 cards in the pack, in a poker game, for instance, you'd not expect to get four aces and that, thus, this combination is excluded from the domain. Hence, you can say of a player holding $A\heartsuit + A\spadesuit + A\clubsuit + K\heartsuit$: *What cards she has!*. But if it is a reasonable assumption to exclude such combinations from the domain, then surely, in the card trick scenario, $3\heartsuit + 6\heartsuit$ would be outside the domain of quantification too, and we would come to predict, wrongly, that (63) is felicitous in that scenario.

Even if we found a way to regulate what is included and excluded from the non-widened domain, as soon as we turn to type 2 exclamatives, ZP framework is sure to make faulty predictions, just like any other scalar approach would. Take the Dutch *who* exclamative in (64).

- (64) Wie ik net op straat tegenkwam!
 who I just on street encountered

Recall that (64) is only felicitous if it is somehow remarkable that I met the person in question on the street, irrespective of (other) properties this person may have. That is, whether or not the individual ranks high on some contextual scale is no factor in determining the felicity of (64). In ZP's system, however, (64) would presuppose that the person the speaker met in the street is outside of the default domain of quantification and that he or she thus outranks individuals in that default domain with respect to some salient scale.

ZP could try to assume that in a context in which the speaker does not expect to see John in the street, it is likely that John is not part of the domain of quantification. This will make (64) felicitous in contexts in which it indeed is (though the underlying assumption appears quite unlikely to us). Nevertheless, such a move does nothing to stop the prediction that (64) is felicitous in scenarios in which it is not. That is, ZP would still predict that (64) is fine in case I met a particularly tall, or amazingly weirdly dressed person in the street.

We believe there are two very simple intuitions that can account for what goes wrong for ZP and other scalar approaches in (64). Firstly, and in line with how we have presented matters so far, one could say that scalar approaches cannot account for type 2 exclamatives, since such exclamatives are simply not scalar. Second, we could alternatively say that the issue is rather that the scalar mechanism is applied

in the wrong place. What is *off the scale* in (64) is not the individual the speaker met, but rather *the fact* that the speaker met this person in the street. These ways of looking at the data are not independent, and we will explore a hybrid view that may offer a unified theory of both type 1 and type 2 exclamatives.

Before we do so, we would like to point out one final issue that we would like to improve on. The semantic mechanism behind the crucial combination of DW and FACT in ZP's theory is compositionally opaque. The main problem is that factivity is not defined independent of widening. Rather than saying that FACT amounts to presupposing that the complement has existential import, it instead specifies that the presupposition depends on the widened part of the domain. Worryingly, ZP assume a syntactic structure where FACT is in the scope of DW, instead of the other way around. We see no way to make sense of this, given normal assumptions on compositionality.⁷

7. EXCLAMATION AS *noteworthiness*

What is a speaker saying if she exclaims a reduced type 1 exclamative like *What a song!*? Most generally, one could say that she's saying that she thinks the song in question is *remarkable*, *amazing* or in some other way *noteworthy*. From Zanuttini and Portner's perspective this intuition is derived indirectly. The presence of a domain widening mechanism, in tandem with factivity, make it that the exclamative expresses that the song in question is outside the normal domain of quantification. In other words, in some sense, the song is *off the scale* and things that are off the scale are naturally surprising, amazing, remarkable, astonishing, etc.

We would like to adopt this perspective in reverse. What exclamatives do is that they directly predicate an evaluation of *noteworthiness*. For instance, in the case of *What a song!*, the exclamative expresses that the song is *noteworthy*. Why is a song noteworthy? Well, most likely because there the song has features that make it special. In some sense, the song would have to be *off the scale*. So, whilst Zanuttini and Portner assumed that exclamatives are about high positions on a scale and thus indirectly express *noteworthiness*, we assume the opposite: exclamatives express *noteworthiness*, which is naturally associated to scalar extremeness.

If this were the whole story, one would come to expect that we share ZP's prediction that all wh-exclamatives are in some sense scalar. We do not. The reason for this has to do with *scope*. Notice that what we claimed for *What a song!* is similar to what Zanuttini and Portner claimed about such examples: the *off-the-scale-ness* / *noteworthiness* assessment made in such an exclamative involves the wh noun phrase. That is, the evaluation made by the speaker in such a wh-exclamative is made with respect to the referent of the wh phrase and *not* with respect to some proposition. What we would like to suggest is that things are different for type 2 exclamatives:⁸ a Dutch *who* exclamative of the form *Who I just met in the street!* expresses an evaluation of the proposition that the speaker has just met the relevant individual in the street as *noteworthy*. As we have seen above, it cannot express that the speaker find the individual itself in any sense *remarkable*.

⁷Although our own proposal will dispense of DW, we will assume that the role played by the mechanism that replaces it is in the scope of FACT.

⁸As the reader may recall, these cannot be reduced, which is insightful for this discussion.

Central to our proposal is the idea that the evaluation expressed by an exclamative can be either on an individual or on a propositional level. That such evaluations are compatible with both types is not a strange assumption to make. Assessments like *remarkable*, *noteworthy*, *amazing* etc. all share the property of being applicable on both propositional and individual level. For instance:

- (65) a. John is amazing.
 b. This is a remarkable book.
 c. Minted prunes are a noteworthy idea for dramatising your meat platter.⁹
- (66) a. It is amazing that John managed to stop smoking.
 b. It is remarkable that no-one complained.
 c. It is noteworthy that many Biblical characters bore animal names.¹⁰

We believe that underlying any exclamation is an assessment like those in (65) or (66). Our strategy is one of generalising to the worst case. We assume that exclamation expresses a *noteworthiness evaluation* and that the concept of *noteworthiness* subsumes a multitude of other evaluations that have been associated with exclamation, in particular *surprise*, *amazement* or whatever emotive stance. We'll say a bit more about what we think *noteworthiness* means below, but let us first explain a bit more why we think it is important that this notion is applicable both at the individual and at the propositional level. Recall that what we called the *scalarity generalisation* accounted for wh-exclamatives by saying that wh-exclamative meaning requires the presence of a scale:

- (67) **Scalarity Generalisation:**
 semantically, wh-exclamatives always involve a scale.

On the basis of the type 1 / 2 distinction, we have suggested that this generalisation should be abandoned. In its place, we propose the following two characterisations:

- (68) **Noteworthiness Generalisation:**
 semantically, wh-exclamatives always involve a noteworthiness evaluation.
- (69) **Scope Generalisation:**
 semantically, wh-exclamatives may involve a noteworthiness evaluation either on DP-level or on clause-level. The former is a type 1 exclamative. The latter is a type 2 exclamative.

The Noteworthiness Generalisation is the reversal of ZP's domain widening idea. In the rest of the literature, however, such a generalisation is commonly accepted, albeit often in a more restricted version where exclamatives are thought to always involve unexpectedness. The core of our proposal, however, is the scope generalisation. It replaces the Scalarity Generalisation by claiming that language like English, which seem to adhere to this generalisation, lack type 2 exclamatives. This entails that Rett's card trick test should not be seen as a test for scalarity, but

⁹The spokesman review, December 25th, 1945, via <http://news.google.com>.

¹⁰en.wikipedia.org/wiki/Caleb

rather as a test of scope. Once more, consider (70) and (71). Recall that (70) is infelicitous and (71) is felicitous in the card trick scenario.

- (70) What cards he picked!
 (71) Welke kaarten hij toen weer trok! (Dutch)
 which cards he then again picked

Abstracting away from details, both (70) and (71) will underlyingly have the following core semantic structure:

- (72) x is a group of cards & he picked x

One could see this structure as an open proposition, i.e. a proposition that denotes a truth-value only once the value for x is filled in.¹¹ We will assume that at a high level, some operation akin to ZP's factivity transforms (72) into a presupposition of existential import: there exists a value for x which makes the structure in the scope of the factivity operator true. Within the scope of factivity, however, we assume not widening, but a noteworthiness evaluation: either of the referent or of the proposition itself. So, for (70) and (71) we would get respectively (73) and (74).

- (73) FACT [x is noteworthy & x is a group of cards & he picked x] (type 1)
 (74) FACT [it is noteworthy that [x is a group of cards & he picked x]] (type 2)

Here FACT takes an open proposition and presupposes that its existential closure is true. So, (73) says that there exists a group of cards, picked by 'him' that is noteworthy, whilst (74) expresses that for some x it is true that it is noteworthy that this is a group of cards picked by 'him'. Note that (74) would need to involve factivity twice. That is, whilst FACT is the factivity standardly associated to exclamatives, (74) would only make sense if the propositional *noteworthy* is factive as well. If it is noteworthy that *he picked a group of cards x* , then it is also true that he picked that group of cards.

It should be clear that (73) and (74) make crisp predictions with respect to Rett's card trick test: (74), but not (73), is felicitous in the card trick scenario, since in that scenario the fact that the cards were picked, but not the cards themselves were noteworthy.

Now consider (75) and a sketch for its interpretation in (76).

- (75) Wie ik net op straat tegenkwam!
 who I just on street encountered
 (76) FACT [it is noteworthy that [I encountered x in the street]]

The structure in (76) rightly predicts that (75) is felicitous only in a situation in which it is unexpected (amazing, etc.) that the person the speaker encountered was

¹¹Alternatively, one could think of this as a set of propositions, along the lines of the Karttunen question semantics adopted by, for instance, Zanuttini and Portner. That is (72) could be thought to correspond to the set of true propositions of this form with a value substituted for x .

in fact encountered. If the speaker wants to report the noteworthiness of a person she met, the Dutch *who* exclamative is inappropriate.

In summary, we propose that wh-exclamatives differ not with respect to whether or not there is an underlying scalar semantics, but rather with respect to the scope of the speaker-related evaluation that is inherent to exclamation. Languages differ with respect to how this scope is marked. In most languages, simple exclamatives are routinely associated to clausal scope, whilst referent scope is somehow marked. Dutch (and perhaps English) *what* (*a*) exclamative are a prime example of this. Whilst run of the mill wh-exclamatives in Dutch are associated to clausal noteworthiness evaluations, the presence of exclamative *een* ('a') marks a DP-level evaluation. The pie could of course be cut many different ways. For instance, Swedish *vilken* ('which') exclamatives are type 1, but not in any sense clearly marked.

We believe this characterisation of variation in wh-exclamation is an important step forward from the naïve scalarity based view we discussed in the introduction of this article. Rett's card trick test offers an important tool to investigate cross-linguistic variation, but as we have argued, rather than providing an insight into which exclamatives are available or not, the test actually determines the scope of the evaluation the speaker makes through performing the exclamative speech act.

8. DISCUSSION

In this final section we will fill in some more details of the characterisation of the cross-linguistic data we have offered.

8.1. Noteworthiness versus unexpectedness. As we said above, we intend *noteworthiness* to be an umbrella term for all sorts of more specific evaluations that may lay at the basis of a wh-exclamative utterance. That is to say this notion is deliberately vague. One may wonder whether this generality of the notion of noteworthiness is welcome. As we briefly remarked in the introduction, it is often assumed that wh-exclamatives are about *surprise* or, perhaps, more specifically about *unexpectedness*. Zanuttini and Portner (2003), however, claim that while this characterisation is certainly accurate in some, if not most, cases, wh-exclamatives may in fact express attitudes other than *surprise* or *unexpectedness*. With our notion of *noteworthiness assessment* we clearly side with this view, so let us briefly look at Zanuttini and Portner's arguments. A central role is played by examples like (77), which is a case of wh-exclamation used as flattery.

(77) What a nice house!

Zanuttini and Portner's point is that someone who utters (77) whilst given a tour of someone's home will, in all probability, not be out to express that she didn't expect the house to be nice. On the contrary, she simply intends to express that she is in awe of how nice the house is, or that the degree to which the house is nice is amazing. Zanuttini and Portner conclude from this that wh-exclamatives convey a much broader set of attitudes than simply surprise. However, Rett (2011) notes that things are more subtle. Even flattery exclamatives like (77) could in principle be characterised in terms of unexpectedness, as long as the surprise is not directed to *being a nice house* per se, but rather toward *the house being as nice as it is*. That is, according to Rett's theory, (77) is paraphrasable as *the house in question is (even)*

nicer than expected. Such a meaning does not entail that the speaker did not expect the house to be nice, and so it is compatible with the flattery use described above.

Rett's rebuttal is not to be interpreted as a victory for the narrow perspective on the attitude expressed by wh-exclamation that she advocates, but rather as a stalemate. What Rett has shown is that Zanuttini and Portner's argument on the basis of (77) is only effective for a certain kind of theory concerning the rest of the semantics of exclamatives. Rett's particular degree semantics for (77) is compatible with its use as flattery. The terrain of this discussion is very slippery and we feel that it is very hard, if not impossible, to give a definitive answer to the question which attitude is expressed in a wh-exclamative like (77). Notions like *surprise* and *amazement* are interrelated: what is expected is usually not amazing and one tends not to expect the amazing. It is exactly this intuition that is behind the domain widening of ZP: *being off the scale* is likely to be both surprising and amazing. Similarly, our choice to have wh-exclamative express noteworthiness has a similar motivation, for this notion abstracts away from subtle differences between being *unexpected* and being *astonishing*.

To be clear, we *could* have made a different claim. Our theory would have worked just as well if we had proposed that at the core of the semantics of wh-exclamation there is an unexpectedness evaluation by the speaker. However, whilst we think that the issue of the exclamative attitude is not a settled one, we do believe it is somewhat unlikely that wh-exclamation is so tightly connected to what is expected only.¹² This is because as soon as we turn to non-scalar exclamatives, an argument parallel to ZP's argument based on (77) turns out easier to evaluate. Take the card trick scenario again and a Dutch type 2 exclamative felicitous in that scenario, like (78).

- (78) Welke kaarten hij toen (weer) trok!
Which cards he then again picked

If the speaker is fully aware that he is being shown a card trick, he may in fact expect $3\heartsuit+6\clubsuit$ to be picked by the conjurer for a third time in a row. Despite this expectation, upon witnessing that this indeed is the case the speaker may still be amazed, astonished, indeed she may still find it noteworthy that the conjurer picked these cards. That is to say that we can find scenarios in which (78) is felicitous in which the speaker expected the propositional content to be true. As such, this example is parallel to Zanuttini and Portner's example (77), but since (78) is a type 2 exclamative, it avoids the problems posed by the semantics of the degree aspect of (77).

8.2. Relation to other non-scalar approaches to wh-exclamatives. Our theory of type 2 exclamatives (clause-level noteworthiness) is closely related to the only type of non-scalar approach to wh-exclamation that we are aware of. In d'Avis (2001) and d'Avis (2002), an analysis of embedded exclamatives is developed that assigns to the exclamative clause a pure (Karttunen-style) question semantics and

¹²One more intuitive reason for this is that declarative exclamatives appear to be able to express a much wider set of attitudes, including, for instance, joy. On Friday afternoon at 5pm, one can exclaim *It's weekend!* to express joy about the work week being over. Such an exclamative utterance does not entail that the speaker did not expect the weekend to come when it did.

which claims that the exclamative semantics of an embedded exclamative is derived from the embedding verb only.¹³ Matrix exclamatives are similarly interpreted as questions embedded under an exclamative predicate. Let us illustrate d’Avis’s theory with regard to the following two Dutch examples: (79) (embedded) and (80) (matrix).

- (79) Jan is verbaasd wie Marie net tegengekomen is.
 Jan is surprised who Marie just encountered is.
 ‘Jan is surprised at who Marie just met’
- (80) Wie Marie net tegengekomen is!
 Who Marie just encountered is!

Starting point for d’Avis is that the structure *wie Marie net tegengekomen is* (“who Marie just met”), the verb-final version of the question *wie is Marie net tegengekomen* (“who is Marie just encountered”), denotes the same as that question, namely the set of true answers to this question Karttunen (1977). So, if Marie met Charlie, Eddie and Talulah on the street, the denotation of the embedded clause in (79) and of (80) will be the set {Marie met Charlie, Marie met Eddie, Marie met Talulah}.¹⁴ Omitting various details specific to the proposals in d’Avis (2002) and (especially) Abels (2004), the idea is that exclamatives express a surprise-like attitude towards the conjunction of all the propositions in this set.¹⁵ For our running example this means that *John is surprised at who Marie met* is true if and only if John did not expect Marie to meet Charlie, Eddie and Talulah. This is valid in many scenario’s, as long as John didn’t expect to meet (at least) one of these three individuals.

It should be clear that there is no scalar mechanism in this proposal: the semantics of a *who* exclamative is fully derived from the question denotation and the semantics of *surprise*. Note, however, that a theory along these lines is problematic for type 1 exclamation. In the card trick scenario, our running example (81) will be interpreted as expressing (82), which wrongly predicts (81) to be felicitous in that situation.

- (81) What cards he picked!
- (82) It is surprising that he picked $3\heartsuit+6\clubsuit$

This failure is to be expected given that d’Avis worked on English embedded exclamatives (which do allow type 2 exclamatives) and German matrix exclamatives (which, like Dutch, also have type 2). In other words, what we stumble upon here is a peculiarity of the literature. Those who study embedded exclamatives, or Dutch/German *who* exclamatives have devised a non-scalar analysis of wh-exclamation d’Avis (2002); Abels (2004), suitable for type 2 exclamatives only. Those who focus on type 1 exclamatives have devised a purely scalar analysis of wh-exclamation Zanuttini and Portner (2003); Castroviejo (2006); Rett (2011), suitable for type 1 exclamatives only.

¹³See also Abels (2004).

¹⁴Actually, there are more true answers, like *Marie met Charlie and Eddie*. We’ll ignore these here for ease of exposition.

¹⁵This conjunction is known as the *weak answer concept* corresponding to the questions and applying it to embedding verbs like *surprise* originates from Heim (1994).

Nevertheless, there is a way out for theories in the style of d'Avis (2002). One could simply assume that *what* in (81) is adverbial to a silent adjective in the wh-phrase. Let us do so for the slightly simpler example in (83).

(83) What a tall man Bill is!

In order to derive the semantics for these examples using a d'Avis-style proposal, we first need to find out what the underlying question denotation is of these structure. Conceptually, this is of course problematic for (83), since *what a tall man is Bill?* is not a grammatical English question. Let us for now ignore such issues, however, and focus on the semantic mechanism. The d'Avis-style semantics is closely related to our semantics for clause-level (type 2) noteworthiness/surprise. In fact, we could simply adopt our own strategy and analyse (83) as a type 2 exclamative with a degree rather than an individual variable. This would look as follows.

(84) FACT [It is noteworthy that [Bill is a *d* tall man]]

This presupposes that there is a *d* such that it is noteworthy that Bill is so tall (whilst also presupposing that Bill is indeed so tall). So, in case Bill is 1m61, the effect of (84) is to express that it is noteworthy that Bill is 1m61. This, it turns out, will not do. Imagine for instance that John has never met Bill, but has seen pictures of him. Judging by the picture he has always thought Bill to be a very tall man, in the 1m90 or over range. However, when he finally meets Bill, Bill turns out to be 1m61, much shorter than expected. In such a scenario, (83) would be infelicitous.¹⁶ However, on the basis of (84), we wrongly come to expect the opposite.

A satisfactory analysis results if we adopt the reasoning presented in Nouwen (2005, 2010) for adverbial degree modifiers like *surprisingly*. (This was, in fact proposed in Chernilovskaya (2010)). The idea is to make use of the common assumption that gradable predicates are *monotonic*. This means that if someone is tall to degree *d*, this individual is also tall to all lower degrees. In other words, there is a difference between someone's height and the degrees that satisfy this person's tall-predicate von Stechow (1984); Heim (2000); Beck (2009). Additionally, we may also assume that predicates like *surprising*, or indeed *noteworthy*, are *monotonic* (e.g. (Kadmon and Landman, 1993)). What this means is that if *x* finds it surprising that *p*, *x* will also find any proposition that entails *p* surprising. If finding out that John is married to someone were to surprise you, it would have equally surprised you to find out that John married Mary (even though that once you have overcome my surprise at John's marital status, you may admit that you are not surprised that it was Mary and not someone else he married). For our degree case, this has a profound consequence. If the propositions tall(*b*, *d*1m61) were to surprise you, you would be equally surprised by the truth of the proposition tall(*b*, *d*1m81). This is because if someone is tall to the degree *d*1m81, then s/he is also tall to the degree *d*1m61. The net result is that if Bill being *d* tall surprised me, Bill being (even) taller would surprise me too. This explains why one cannot exclaim *What a tall man Bill is!* if Bill is shorter than expected.

¹⁶Such arguments are familiar from the literature on the degree modifying role of evaluative adverbs like *surprisingly* Morzycki (2008); Katz (2005); Nouwen (2005, 2010). This particular way of reasoning is due to Morzycki (2008).

Assuming this can be worked out into a satisfactory analysis of examples like (84), we could extend it to examples like (85), by assuming the presence of covert gradable material in such cases.

(85) What cards he picked!

We then arrive at an alternative view to the one we proposed above by saying that the difference between type 1 and 2 exclamatives is not a matter of scope, but rather a matter of whether or not the *wh* word ranges over degrees. So, the difference between (85) (infelicitous in the card trick scenario) and (86) (felicitous in that scenario) is based on what the *wh* expression ranges over. The respective analyses are in (87-a) and (87-b).

(86) Welke kaarten hij toen weer trok!
which cards he then again pulled

(87) a. FACT [It is noteworthy that he picked *d*-ADJECTIVE cards]
b. FACT [It is noteworthy that he picked cards *x*]

Ultimately, however, such an analysis is untenable. As we argued in section 5, it is wrong to characterise the role of *what* in (85) as a degree adverb. For instance, the analysis in (87-a) does not extend to (88), since *a lot* is not gradable and the occurrence of covert gradable material is unlikely.

(88) What a lot of apples John ate!

(89) FACT [It is noteworthy that John ate *d* a lot of apples] (unsemantical)

Rather, such examples are better treated as DP-level evaluations.

(90) FACT [John ate *x* & *x* is a lot of apples & noteworthy(*x*)]

Note that this does not entail that the apples themselves are noteworthy, but rather that the *lot*, i.e. the quantity, is.

8.3. Adverbial *wh*-exclamatives. We have dismissed a degree adverbial treatment of *what a* exclamatives as unlikely. The question arises, however, how our analysis of type 1 and type 2 argument *wh*-exclamatives fares with respect to adverbial exclamatives. In particular, we need to give an account of degree adverbial *how* exclamatives (or Dutch and Swedish adverbial *what* exclamatives).

We propose the following. Since there is no relevant DP in a *how* exclamative, such structures can not fall under the type 1 rubric. Consequently, an English *how*-exclamative involves clause-level noteworthiness over an open proposition where the variable corresponds to a degree. For instance, (91) is to be interpreted as (92).

(91) How tall he is!

(92) FACT [It is noteworthy that he is *d*-tall]

We can now assume that the monotonicity mechanisms we introduced above are at play. As a consequence, (92) indicates that the person in question is taller than expected / normal.

What is slightly unexpected under this analysis is that *how*-exclamatives are reducible, just like type 1 exclamatives are. For instance, upon seeing an impressive

sky scraper for the first time, one could exclaim (93) in English, or similarly (94) in Dutch.

- (93) How tall!
 (94) Wat hoog!
 what high!

We have presented no real theory of what makes reducibility possible in these cases and we will leave an analysis of these facts for future research. The following are our intuitions, however. In type 1 exclamatives the core of the semantic contribution of the sentence is the noteworthiness of the referent of the *wh* phrase. Because of this, type 1 exclamatives are in no need of a propositional structure. A DP is enough to successfully perform the exclamative speech act. It seems to us that the reducibility of (93) and (94), and the non-reducibility of other type 2 structures like (95) are for entirely independent reasons.

- (95) Wie ik net op straat tegenkwam!
 who I just on street encountered

In particular, the same contrast in reducibility is found in non-exclamative contexts too. One can assess a movie by simply asserting the words *completely overrated*, but not by uttering *I hate*. Languages like Dutch and English simply do not routinely allow the dropping of verbal arguments, but they do allow omitting the subject of a copula predicate.

In summary then, we would like to suggest that the possibility of reducing a type 1 exclamative is due to the content of such a structure: the noteworthiness of a DP. In contrast, the possibility of reducing a how exclamative is comparable to the grammaticality of bare (copula) predicates.

8.4. To conclude. We started this article with the question why English lacks *who*, *why* and *where* exclamatives. The dominant answer to this question in the literature is that exclamatives are inherently scalar and that *wh* expressions like *who*, *why* and *where* lack a scalar semantics. We showed that this misrepresents the cross-linguistic data. There are two kinds of exclamatives and languages differ with respect to which *wh* expressions are involved in which kind of exclamatives (and whether both kinds are available in the first place). We have furthermore offered a new perspective on different kinds of *wh*-exclamatives, one which completely dispenses with a scalar mechanism. Scalarity is a side-effect of the evaluation that is expressed by the exclamative. It is the scope of this evaluation, rather than the presence of scalarity, that is at the heart of variation in availability and in the meanings of *wh*-exclamative structures.

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