

On *wh*-exclamatives and noteworthiness^{*}

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1 Introduction

We explore a new approach to the semantics of *wh*-exclamatives, like (1).

- (1) What a beautiful song John wrote!

We will aim for two things: (1) extend the empirical focus beyond English *what*- and *how*- exclamatives, to include exclamatives common in other languages that are based on other *wh*-words; (2) counter the common assumption that exclamative semantics needs to involve some kind of scalar mechanism.

Before we motivate and present our analysis, a word of caution is in order. To simplify matters for this short paper, we will be discussing the semantics of exclamatives like (1) in terms of truth-conditions. Such a move blatantly ignores the fact that an utterance of (1) counts as a speech act that comes with its own intricate and interesting properties, properties which will be quite different from those of an assertion. For the purpose of this short paper, however, we will remain agnostic as to what role the truth-conditions play in the pragmatics of exclamatives. (See Rett, 2011; Zanuttini and Portner, 2003, for extensive discussion.)

2 Background: scalarity in exclamative semantics

Rett 2011 proposes that the semantics of *wh*-exclamatives involves degree intensification (Cf. Castroviejo, 2006; Rett, 2008a,b, for related approaches). On her approach, the logical form of (1) will specify the (derived) degree predicate in (2). (See Rett's paper for details of the derivation.)

- (2) $\lambda d. \exists x [song(x) \wedge wrote(j, x) \wedge beautiful(x, d)]$

According to Rett, an utterance of a *wh*-exclamative involves the speaker expressing that it is noteworthy that the degree property corresponding to the exclamative is instantiated by some value that exceeds the relevant contextual standard (in the case of (1) the standard of beauty w.r.t. songs).

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If, as in (3-a), a *wh*-exclamative lacks an overt gradable adjective, a measurement operator $\lambda d.\lambda x.\mu_\alpha(x) = d$ is inserted. This operator basically plays the role of a silent adjective, where the relevant measurement dimension α is determined contextually. Via this operator, (3-a), too, ends up expressing a degree property, namely how α , or specifically how *beautiful* or *weird* or *complex*, etc. John's song was. This is the predicate in (3-b). An utterance in (3-a), then, means that the speaker expresses that it is noteworthy that the degree of α of John's song exceeds the standard.

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

Rett's approach is to treat a *wh*-exclamative as a degree phenomenon and she argues that it could really be nothing else. In particular, she argues that the noteworthiness evaluation that is part of the *wh*-exclamation is necessarily directed at an instantiation of a degree predicate. She does so by turning to scenarios like the one in (4).

- (4) *Imagine that by some strange coincidence someone repeatedly picks out the same two cards (say, the 3♦ and the 6♥) from a (repeatedly reshuffled) pack of cards. Mary has seen this happen and now witnesses this person pick 3♦ and 6♥ yet again.*

Rett observes that it is now infelicitous for Mary to utter (5):

- (5) What cards he picked!

What is essential to this scenario is that no matter how noteworthy the events of picking these cards were, there is nothing particularly special about the cards that were picked. That is, there is no α such that $\mu_\alpha(3♦ \oplus 6♥)$ returns a particularly high degree and this is why (5) is infelicitous. Rett concludes that *wh*-exclamatives are subject to a *degree restriction*: they always express that the degree to which something holds is deemed noteworthy by the speaker.

It is worth remarking that it is not necessary to interpret Rett's observation concerning (4) and (5) as saying something about the involvement of degrees in the semantics of *wh*-exclamatives, but that instead one could argue that it just shows that *wh*-exclamatives always involve some kind of *scalar* mechanism. For instance, we believe that the influential approach of Zanuttini and Portner (2003), although compositionally less specific, is in principle suitable for dealing with examples like (5) equally well (pace Rett's own assessment of that work). Zanuttini and Portner assume that the *wh*-word is associated to a partially ordered and restricted domain of quantification. Domains are restricted in that they consist of *ordinary* entities only. In *wh*-exclamatives this domain is then widened to also include entities that are somehow extra-ordinary, entities that exceed the part of the range of the partial order that is normally taken into account. In other words, for (3-a) the exclamative expresses that there is an

entity that instantiates the predicate in (6) that is above and beyond the normal domain.

$$(6) \quad \lambda x.[\text{song}(x) \wedge \text{wrote}(j, x)]$$

For instance, in the case of (6), there is widening from the normal domain of songs to a domain that also includes unusual songs (songs that are unusually beautiful, or unusually weird, or unusually complex, etc.) The exclamative then expresses that John's song is part of this widened part of the domain. In sum, Rett's degree approach and Zanuttini & Portner's domain widening approach share an essential ingredient, namely scalarity.

3 The scope of noteworthiness

There is a caveat to the degree (or scalarity) restriction. Rett claims that in order to prevent her approach from predicting *What cards he picked!* to be felicitous in the card picking scenario of (4), the range of possible dimensions α needs to be restricted. In particular, it should not be possible to derive a degree predicate on the basis of how *surprising*, *unexpected* or *noteworthy* the picked cards were.¹ This seems not entirely accurate to us. Recall that the scenario in (4) is set up in such a way that there is nothing special about the two cards, other than the fact that they keep on being picked. So, unlike (say) $A\heartsuit \oplus A\diamondsuit \oplus A\clubsuit \oplus A\spadesuit$, the pair $3\diamondsuit \oplus 6\heartsuit$ lacks any noteworthy features. So even if we inserted an overt measurement relation based on noteworthiness, as in (7-a), we would still expect the exclamative *What cards he picked!* to be infelicitous in the given scenario. In fact, we predict the same if we inserted a silent measure of unexpectedness, as in (7-b), for it is the fact that these cards were picked that is unexpected. It seems to us that there is nothing intrinsically unexpected about the particular group of cards.

$$(7) \quad \begin{array}{ll} \text{a.} & \lambda d.\exists x[\text{cards}(x) \wedge \text{picked}(h, x) \wedge \mu_{\text{noteworthy}}(x) = d] \\ \text{b.} & \lambda d.\exists x[\text{cards}(x) \wedge \text{picked}(h, x) \wedge \mu_{\text{unexpected}}(x) = d] \end{array}$$

In sum, we conclude that there is no need to put a cap on the general scalarity involved in the *wh*-exclamatives we have seen so far. This conclusion point in the direction of our main argument: cases like (5)/(4) are not evidence of a degree (or scalarity) restriction, but rather point out that the noteworthiness evaluation is always directed at the referent of the *wh*-phrase. Call this the *locality restriction*: readings in which the μ applies to a structure that properly contains the *wh*-phrase, as in (8), are unavailable. Such degree predicates would incorrectly predict (5) to be felicitous in (4).

$$(8) \quad \lambda d.\exists x[\mu_{\text{noteworthy}}(\wedge \text{card}(x) \wedge \text{picked}(h, x)) = d]$$

¹ A similar move in the domain widening approach would mean excluding such properties from determining the ordering on the domain.

4 Beyond English *what*-exclamatives

Whilst English only has *what*- and *how*-exclamatives, languages like Dutch, German and Russian allow for exclamatives based on other *wh*-words too. The example in (9) presents a Dutch *who*-exclamative, and (10) a Dutch *which*-exclamative. There are similar examples in other languages, but not in English.

- (9) Wie ik net gezien heb! (10) Welke vrouw ik net gezien heb!
 who I just seen have which woman I just seen have

The meaning of these examples shows a contrast with English *what*-exclamatives. It is infelicitous to utter (9) or (10) in response to seeing a woman with some noteworthy feature, e.g. an exceptionally tall woman. These exclamatives *can* be used when the very fact that the speaker just saw the woman in question is unexpected; for instance, as a reaction to seeing Mary, an in all senses absolutely normal woman, of whom everybody thought that she had left the country.

The approaches discussed in the previous study will have a hard time accounting for these examples.² This is first of all because these exclamatives lack the readings that these approaches account for in the case of *what*-exclamatives. Moreover, the available readings are close to the readings that were meant to be excluded a possible interpretations of *what*-exclamatives. For instance, (11) is felicitous in the card picking scenario in (4).

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

As we discussed above, in the scenario there is no property such that $3\Diamond \oplus 6\heartsuit$ have this property to a particularly high degree. What appears to be needed to account for the fact that (11) is felicitous in the given scenario is to break with the locality restriction and assume that the exclamative expresses the degree predicate in (8). This is not unproblematic, for we need the locality restriction to avoid predicting the Dutch *what*-exclamatives in (12) to be felicitous in scenarios like (4), while in fact it behaves in complete parallel to its English counterpart.

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

5 Proposal

We propose that exclamatives directly express a noteworthiness evaluation and that no overt degree morphology or domain widening is needed. In other words, our approach lacks a degree or scalarity restriction. We furthermore categorise all *wh*-exclamatives in two distinct classes:

² Rett assumes that *wh*-exclamatives can only be formed with *wh*-words ranging over degrees, i.e. *who*-exclamatives are predicted to be ungrammatical. This is a fine prediction for English, but obviously not for other languages. Even if this restriction is lifted for such languages, the desired readings for examples like (9) and (10) are not derived.

Type 1: expressing the noteworthiness of a referent of the *wh*-word

Type 2: expressing the noteworthiness of the proposition referenced in the exclamative

In addition to this, each *wh*-word introducing a *wh*-exclamative is specified for a kind of noteworthiness it can mark. For example, both English and Dutch *what* *a*-exclamatives are type 1. Dutch *who* and *which* introduce *wh*-exclamatives of type 2.

Some initial suggestive data for the type 1/type 2 distinction is that type 1 exclamatives can typically be reduced while type 2 exclamatives can not. This would be expected since the latter but not the former are dependent on a larger propositional structure.

Type 1

Type 2

(13) What a (beautiful) book!

(15) *Wie!
who

(14) Wat een (mooi) boek!
what a (beautiful) book

(16) *Welk mooi boek!
which beautiful book!

Moreover, in Dutch, word order seems to reflect the type 1/2 distinction. Dutch has SVO for main clauses, with V2, and SOV for embedded clauses. Type 1 exclamatives are V2, whilst type 2 exclamatives are verb-final.

(17) wat heeft-i een toetjes gemaakt! (type 1, V2)
what a desserts has-he made!

(18) wie ik net gezien heb! (type 2, verb-final)
who I just saw have

5.1 Wh-exclamatives of type 1

According to our proposal, the key ingredient to exclamative meaning is a noteworthiness evaluation. The meaning that we propose for (19-a) is in (19-b) (though we will refine this shortly):

- (19) a. What a song John wrote!
b. $\exists x[song(x) \wedge wrote(j, x) \wedge noteworthy(x)]$

In some sense, our proposal is similar to that of Rett in that we insert a predicate that evaluates the *wh*-referent (for type 1 *wh*-exclamatives), but in our analysis it is always the same predicate, namely *noteworthy*. We think that roughly the following concept is behind the label *noteworthy*:

*an entity is **noteworthy** iff its intrinsic characteristics (i.e. those characteristics that are independent of the factual situation) stand out considerably with respect to a comparison class of entities*

Examples of noteworthy things include *the titanic*, *Frank Zappa's discography* and *blackberry, chicken liver and cauliflower cake*. Also, $3\heartsuit \oplus 6\spadesuit$ is not noteworthy, and we will later use the fact that the proposition that these cards were picked several times in a row *is* noteworthy.

Given the characterisation above, (19-b) is true if and only if the song written by John stands out in some sense, compared to other songs. This can be because it is particularly good, or particularly weird, or particularly beautiful, etc.

Of course, *noteworthy* is a gradable predicate. We will take this into account by adopting a vague predicate approach to degree predicate (but nothing hinges on this). So we will write $noteworthy(x)(c)$ to express that among the members of comparison class c , x will be deemed as noteworthy. The comparison class will normally be the class described by the *wh*-phrase.

$$(20) \quad \exists x[song(x) \wedge wrote(j, x) \wedge noteworthy(x)(\lambda x.song(x))]$$

In case there is a gradable predicate present in the *wh*-phrase, this predicate will become part of the comparison class, as in (21) (where c is the contextually determined comparison class for *beautiful*).

- (21) a. What a great song John wrote!
 b. $\exists x[song(x) \wedge great(x)(c) \wedge wrote(j, x) \wedge$
 $noteworthy(x)(\lambda x.great(x)(c) \wedge song(x))]$

Of course, the most salient reason for John's beautiful song to be a noteworthy beautiful song is that it was particularly beautiful, which accounts for the most natural reading of (21-a). However, there also exists a reading in which this *wh*-exclamative does not express how beautiful the song was, but that the beautiful song in question was noteworthy for some other reason (e.g. because it was very weird, unusually structured, or abnormally long):

- (22) Q: Did John write a beautiful song?
 A: Yes he did, and whàt a beautiful song he wrote! It contained 36 verses!
 A': Yes he did, and whàt a beautiful song he wrote! It has just one chord!

Note that we do not predict *What cards he picked!* to be felicitous in the card-picking scenario of (4). This is because, as we remarked above, in that scenario there is nothing noteworthy about the cards themselves.

5.2 Wh-exclamatives of type 2

According to our proposal, Dutch *who* and *which* exclamatives differ from examples like (21-a) in that they do not involve the noteworthiness of the referent corresponding to the *wh*-phrase, but rather the noteworthiness of a proposition. For instance, for Dutch examples of the form *Who/which I just saw!* the interpretation in (23-a) is unavailable. Instead, the predicted reading is in (23-b), where the noteworthiness evaluation takes propositional scope. (We will leave

the comparison class implicit. It suffices to assume it contains the speaker's experience.)

- (23) a. $\exists x[saw(I, x) \wedge noteworthy(x)]$
 b. $\exists x[noteworthy(\wedge saw(I, x))]$

We will assume *noteworthy* to be factive. The form in (23-b) is true if and only if for some person, the true proposition that I saw this person stands out considerably.

6 Discussion

6.1 No interaction with degree constructions

In our proposal, *wh*-exclamatives are not a degree phenomenon in the sense of containing a mechanism that targets degree arguments of gradable predicates. The high degree reading of exclamatives is due to the fact that noteworthy objects are objects that stand out by possessing some attribute to an exceptionally high degree. But this high degree is lexically accessed, not compositionally. The result is that we predict that proper degree constructions, i.e. those that target degree slots of adjectives, will not stand in the way of forming a *wh*-exclamative. For instance, the degree slot in (24) is presumably saturated by *extremely*, witness the incompatibility of having further degree modification if *extremely* is there, as in (25). On a degree approach, it would be difficult to account for why (24) is felicitous, since *extremely* and *what* would target the same degree slot. (Cf. Castroviejo-Miro (2008) for discussion.)

- (24) What an extremely nice man John is!
 (25) a. *John is more extremely nice than Bill.
 b. *John is too extremely nice.
 c. *How extremely tall is John? Answer: 7 feet.

In our proposal, however, the degree slot of *nice* in (24) plays no role in the exclamative semantics. We derive something along the lines of (26). (Here, we represent the function of *extremely* as the indicating that there is a degree that is higher than the standard by some considerable margin (γ).

- (26) $\exists x \exists d[man(x) \wedge nice(x, d) \wedge d > s(nice) + \gamma \wedge noteworthy(x)]$

6.2 An extension to *how*-exclamatives

In English, questions with *how* may form degree questions, as in (27-a). Given our proposal to abandon a degree semantics for *wh*-exclamatives, the question arises how we could account for exclamatives like (27-b).

- (27) a. How tall is John!
 b. How tall John is!

In particular, one might ask whether English *how*-exclamatives are type 1 or type 2. Although, we do not have any clearcut arguments for either choice, there is one reason to think that they are of type 1, and that is because they can be reduced, as in *How tall!*, *How bizarre!*, etc. We will leave a more decisive argumentation for a choice between type 1 and type 2 to further research. It will be informative, however, to explore the two options a little bit.

How-exclamatives as type 1 If *how*-exclamatives are indeed of type 1, we get the following semantics for (27-b).

$$(28) \quad \exists d[tall(j, d) \wedge noteworthy(d)(c)]$$

There are some problems with these truth-conditions. First of all, it is not clear what the comparison class c should look like, but let us assume that this is just some set of degrees of tallness that makes contextual sense. Second, and more seriously, it is unclear when a degree is or is not noteworthy. For instance, it makes no sense to assume that (29) is true because people that tall are remarkable, for that would make 210cm towers exclamation-worthy.

$$(29) \quad noteworthy(210cm)(c)$$

But it is not completely inconceivable that we can have attitudes to degrees. What we need is a notion of degree that expresses the relative positions entities take up in the relevant ordering. We could, for instance, use the universal scale of Bale (2008), where every entity is mapped to a universal degree representing its relative position in the (finite) weak order of entities under discussion. For now, however, we'll use a different mechanism originating from Klein (1980). We'll assume that *how* in exclamatives does not range over a fine-grained scale of degrees, but rather over a coarse-grained set of so-called degree functions. Instead of interpreting adjectives a degree relations, we take them to be relations between comparison classes and entities. Degree modifiers like *very* are manipulators of the comparison class argument (Klein, 1980; Kennedy and McNally, 2005).

$$(30) \quad \llbracket tall \rrbracket = \lambda c \lambda x.tall_c(x) \quad \text{“}x \text{ is tall in class } c\text{”}$$

$$(31) \quad \llbracket \text{very tall} \rrbracket = \lambda c \lambda x.tall_{\lambda y.tall_c(y)}(x)$$

So, begin *very tall* just means being tall with respect to the class of tall individuals. Functions like that expressed by *very* are called degree functions. We can create an ordering of degree functions as follows.

$$(32) \quad \begin{array}{ll} \text{a.} & D_0 = \lambda P \lambda c \lambda x.P(c)(x) \\ \text{b.} & D_1 = \lambda P \lambda c \lambda x.P(P(c))(x) \quad \text{ (“very”)} \\ \text{c.} & D_2 = \lambda P \lambda c \lambda x.P(P(P(c)))(x) \\ \text{d.} & \text{for } n > 0: D_n = \lambda P \lambda c \lambda x.P(D_{n-1}(P))(c)(x) \end{array}$$

The exclamative semantics could now be given in terms of such functions:

$$(33) \quad \exists D[(D(tall))(c)(j) \wedge noteworthy(D)]$$

Assume that things that are *very very* A are noteworthy, as are things that are *very very very* A, etc. In other words, *noteworthy*(D_n) is true for $n \geq 2$. This means that (27-b) is felicitous if John is *very very tall*. In this setup we now do not predict that towers of John's height are exclamation-worthy, since those towers will not count as *very very tall*.

Note that in this setup we have no problem with *how*-exclamatives that contain other degree manipulators as in (34-a), for which we would derive the meaning in (34-b).

- (34) a. How very tall John is!
 b. $\exists D[(D(D_1(tall)))(c)(j) \wedge noteworthy(D)]$

How-exclamatives as type 2 When we consider the option of *how*-exclamatives being of type 2, we get (35) for (27-b).

- (35) $\exists d[noteworthy(^{tall}(j, d))]$

This is completely parallel to the semantics that Nouwen (2010) gives for (36-a), as in (36-b). (Assume that the predicate *surprising* is factive).

- (36) a. John is surprisingly tall.
 b. $\exists d[surprisingly(^{tall}(j, d))]$

The parallel is intuitively attractive. Both evaluative adverbs of degree like *surprisingly* and exclamatives seem to combine high degree with some sort of attitude. The page limit for this paper does not allow for a more thorough comparison of (27-b) and (36-a), nor for a proper evaluation of the semantics in (35).

7 Conclusion

We have identified two kinds of *wh*-exclamatives: those that involve the noteworthiness of the *wh*-referent and those that involve a noteworthiness evaluation of the open proposition in the exclamative. Our approach simplifies the semantic mechanism and improves the empirical coverage over competing, scalar approaches.

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