Korean *what*-exclamatives and their implications

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What-exclamatives in other languages

- *What*-exclamatives have been extensively studied in other languages, including English ((1a)), German ((1b)), Spanish ((1c)), and Japanese ((1d)) (examples taken from Driemel 2016, Eguren & Pastor 2020, and Hirayama 2021).

(1) a. **What** an expensive car John bought!

    b. **Was** für Schuhe die getragen hat!
       what for shoes   she wears   has
       'What shoes she wore!'

    c. ¡**Qué** tan alta es Ana!
       what so tall is Ann
       'How tall Ann is!'

    d. Taro-wa **nante** oisii   dezaato-o tukuru no-daroo!
       Taro-TOP what delicious dessert-ACC make   FOC-MOOD
       'What delicious desserts Taro makes!'

How about Korean?

- Korean uses sentence ending particles to mark clause types.
- True exclamatives/exclamations are those that have a sentence ending particle like *kwuna*, *ela*, or *e-(yo)* (Noh 1997; Cho 2017; Mun 2013):

  (2) a. Mimi-nun cham yeppu-**kwuna**!
      Mimi-TOP very pretty-EXCL
      'How beautiful Mimi is!'

  b. yeypp-**ela**!
      beautiful-EXCL
      'How beautiful!'

  c. Chelswu pap mek-**e**!
      Chelswu meal eat-EXCL
      '(Wow, it is surprising that) Chelswu is having a meal!'

- To the best of my knowledge, it has not been reported that Korean employs (degree) *what*-exclamatives.

Mwe(-l) {ku/i}lehkey clauses as what-exclamatives

- This study proposes to treat *mwe-l* {*ku/i*}*lehkey* clauses like (3B), (3B′), and (3B″) as variants of Korean (degree) *what*-exclamatives.

  (3) A: 존이 3억짜리 차를 샀대.

    B: wa, **mwe-l   kulehkey** pissan   cha-lul sa-ss-e!
       wow what-ACC so   expensive car-ACC buy-PAST-EXCL
       'Wow, what an expensive car he bought!'

    B′: wa, **mwe-l   kulehkey** pissa!
        wow what-ACC so   expensive
        'Wow, how very expensive it is!'

    B″: wa, **mwe-l   kulehkey** pissakey   sa-ss-e!
        wow what-ACC so   expensively buy-PAST-EXCL
        'Wow, how very expensive it is!'

    A: 그러게!

- They are uttered to express the speaker's surprise at the extreme degree of expensiveness of the car in question.

Main goals of this study

1. To demonstrate the existence of (degree) *what*-exclamatives in Korean, while referring to their counterparts in other languages when relevant and necessary

2. To try to provide a syntactically and semantically precise characterization of the construction and offer a compositional analysis that can account for its regular as well as idiosyncratic properties

3. To provide cross-linguistic implications for the study of *what*-exclamatives

Only reduced *wh*-form

- An exclamative *wh*-expression can appear only in its reduced form, regardless of whether it is case-marked or not:

(4) a.   {**mwe(-l)**/*****mwues(-ul)**} kulehkey maywun kochwu-lul
          what-ACC   so   spicy   pepper-ACC
          mek-ess-e!
          eat-PAST-EXCL
          'What spicy peppers you ate!'

     b.   sakwa-lul {**mwe(-l)**/*****mwues(-ul)**} kulehkey ppalli
          apple-ACC what-ACC   so   quickly
          mek-ess-e!
          eat-PAST-EXCL
          'How quickly you ate the apple!'

An exclamative *wh*-element as a grammaticalized form

- We could interpret the paradigms presented in (4) as an indication that the reduced form *mwe(-l)* has been grammaticalized into a nonargumental exclamative element for some reason, whereas its unreduced version remains as an interrogative element.
  - Park (2023) argues that Korean *why*-like *what mwe-l* has developed from *mwe-(lo)* (because of what) where *-(u)lo* is a particle expressing reason or cause.
- Hereafter, for the sake of convenience, the term MWE is used to refer to both cased and caseless forms of the exclamative *wh*-word (i.e., *mwe(-l)*) in Korean *what*-exclamatives.

Only reduced *wh*-form in Japanese *what*-exclamatives?

- It seems that in Japanese *what*-exclamatives the reduced *wh*-form *nan* 'what', but not its unreduced form *nani*, is allowed to occur as an exclamative *wh*-word, typically with a bound morpheme *-te*:

(5) a. John-wa **nan-te** ookina kuruma-o katta-nodaroo!
        John-TOP what   big   car-ACC bought-EXCL
        'What a big car John bought!' (adapted from Ono 2006)

   b. *John-wa **nani-te** ookina kuruma-o katta-nodaroo!
        John-TOP what   big   car-ACC bought-EXCL
        'What a big car John bought!'

Incompatibility with other grammatical/semantic cases

- An exclamative *wh*-word can bear accusative case -*l*, but not the other grammatical/semantic cases:

(6) a.   **mwe**-{**l**/***ka**/***uy**/***lopwuthe**} kulehkey maywun kochwu-lul
          what-ACC/NOM/GEN/FROM   so   spicy   pepper-ACC
          mek-ess-e!
          eat-PST-EXCL
          'What spicy peppers you ate!'

     b.   John-un   **mwe**-{**l**/***ka**/***uy**/***lopwuthe**} kulehkey ppalli
          John-TOP   what-ACC/NOM/GEN/FROM   so   quickly
          ttena-ss-e!
          leave-PST-EXCL
          'How quickly John left!'

Inherent case & nonargumental status

- The accusative case on the exclamative *wh*-unit *mwe-l* is assumed to be an inherent case, not a structural case.

- This assumption receives support from the observation that the *wh*-expression can occur with a strict transitive construction with the accusative-marked object (see (6a)) or an intransitive construction (see (6b)) in degree *what*-exclamatives.

- The discussion here would be related to the grammaticalized status of the *wh*-exclamative unit.

No interrogativity

- The exclamative *wh*-expression MWE does not contribute an interrogative meaning as in information-seeking *wh*-questions:

  (7) A: 점심에 순대국밥을 5분만에 먹었네.

      B: mwe-l   kulehkey ppalli   mek-ess-e!
          what-ACC so   quickly eat-PAST-EXCL
          'How very quickly you ate it!

      A: 그러게 ㅠ.ㅠ

Various forms of the exclamand

- Korean *what*-exclamatives involve the so-called exclamand (dubbed by Corver 1990), i.e., the gradable predicate whose quality or quantity is characterized as 'noteworthy'.

(8) a. mwe-l   kulehkey [$_{Adj}$ **pokcaphan]** mwuncey-lul
         what-ACC so   complex   question-ACC
         mantul-ess-e!
         make-PST-EXCL
         'What complex questions you made!'

   b. iken mwe-l   ilehkey [$_{(Stative) Verb}$ **elye]-we!**
       this what-ACC so   difficult-EXCL
       'How difficult this is!'

   c. Mimi-nun mwe-l   kulehkey [$_{Adv}$ **ppalli]** talli-ess-e!
       Mimi-TOP what-ACC so   quickly run-PST-EXCL
       'How quickly Mimi ran!'

The exclamand in English *what*-exclamatives

- In English *what*-exclamatives, an attributive adjective can function as the exclamand, whereas a predicative adjective or an adverb cannot, in which case *how* stands in for *what* as an exclamative *wh*-unit.

(9) a. {What/*How} a **difficult** question it is!

b. {*What/How} **pretty** she is!

c. {*What/How} **slowly** my mother drove!

The exclamand in Japanese *what*-exclamatives

- Japanese *what*-exclamatives pattern like Korean counterparts in that they allow for various forms of the exclamand (data adapted from Ono 2006 and Hirayama 2021).

(10) a.   Taro-wa   nante **oisii**   dezaato-o   tukuru-nodaroo!
            Taro-TOP what delicious dessert-ACC make-EXCL
            'What delicious desserts Taro makes!'

   b.   John-was nante **kasikoi-ndeshoo!**
            John-TOP what smart-EXCL
            'How smart John is!'

   c.   Kanozyo-wa nante **hayaku** hasiru-nodaroo
            she-TOP   what fast   run-EXCL
            'How fast she runs!'

Co-occurrence of the exclamand with {*ku/i*}*lehkey*

- The exclamand in Korean degree *what*-exclamatives needs to occur with the degree adverb {*ku/i*}*lehkey* 'so'.

(11) a.   *John-un   mwe-l   pokcaphan mwuncey-lul
          John-TOP what-ACC complex   question-ACC
          mantul-ess-e!
          make-PST-EXCL
          'What complex questions John made!'

    b.   *iken mwe-l   elye-we!
          this what-ACC difficult-EXCL
          'How difficult this is!'

    c.   *Mimi-nun mwe-l   ppalli   talli-ess-e!
          Mimi-TOP what-ACC quickly run-PST-EXCL
          'How quickly Mimi ran!'

Degree adverb *tan* 'so' in Catalan *what*-exclamatives

- A similar pattern is observed in Catalan *what*-exclamatives introduced by the *wh*-determiner *quin* 'what/which'.
- If the degree adverb *tan* 'so' is absent in (12a), the result becomes unacceptable, as in (12b).

(12) a. Quin cotxe **tan** rápid que s'ha   comprat en Joan!
          what car   so   fast that self.has bought the John
          'What a fast car John bought!'

   b. ??Quin cotxe rápid que s'ha   comprat en Joan!
          what   car   fast that self.has bought the John
          'What a fast car John bought!' (Castroviejo 2021: (19))

- This restriction is not imposed on English *what*-exclamatives.

(13)   What (*so) complex questions you made!

An exclamative phrase in English *what*-exclamatives

- It has been generally accepted that the exclamative *wh*-word *what* in English *wh*-exclamatives forms a syntactic constituent with the following sequence containing the exclamand, resulting in an exclamative (*wh*-)phrase (Corver 1990, Zanuttini and Portner 2003, Rett 2011, a.o.).

- If *what* moves to Spec-CP (or somewhere in the CP domain), it needs to pied-pipe the rest of the expressions comprising the exclamative NP (to void the left branch island).

(14) a.   [What a nice professor]$_1$ Mary is t$_1$!
      b.   *What$_1$ Mary is [t$_1$ a nice professor]!

An exclamative phrase in Korean *what*-exclamatives

- The exclamative *wh*-word MWE builds a complex exclamative phrase with the phrase headed by the exclamand.
- This view is supported by the fact that the exclamative phrase under discussion can be scrambled as a whole.

(15) a.   [**mwe-l   kulehkey pokcaphan mwuncey-lul**]₁ John-un   t₁
            what-ACC so   complex   question-ACC   John-TPC
            mantul-ess-e!
            make-PST-EXCL
            'What complex questions John made!'

      b.   [**mwe-l   kulehkey ppalli**]₁ Mimi-nun t₁ talli-ess-e!
            what-ACC so   quickly Mimi-TOP   run-PST-EXCL
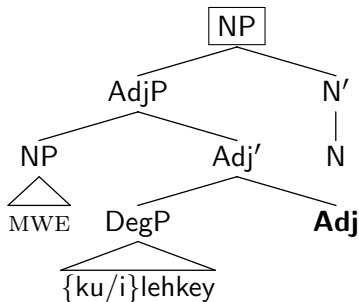   'How quickly Mimi ran!'

The internal structure of an exclamative phrase

In analyzing the internal structure of an exclamative phrase in Korean
what-exclamatives, it is assumed that

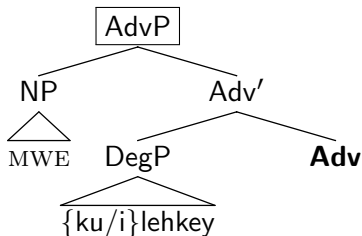- a gradable predicate (adjective, adverb, or (stative) verb) takes as its
  complement a Degree Phrase (DegP) headed by the degree adverb
  {*ku/i*}*lehkey*
- and then the resulting intermediate phrase combines with the nominal
  wh-phrase MWE as its specifier, forming a well-formed exclamative
  phrase.

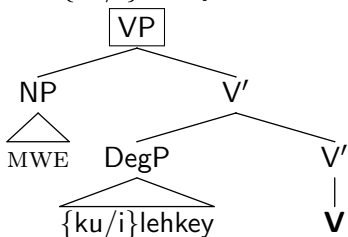# The internal structure of an exclamative phrase (cont'd)

(16)   a.

```
                    NP
            ┌────────┴────────┐
          AdjP               N′
      ┌─────┴─────┐           │
     NP         Adj′          N
    ╱──╲      ┌───┴───┐
   MWE      DegP     Adj
         ┌────┴────┐
      {ku/i}lehkey
```

b.

```
                AdvP
        ┌────────┴────────┐
       NP               Adv′
      ╱──╲          ┌─────┴─────┐
     MWE          DegP         Adv
              ┌────┴────┐
           {ku/i}lehkey
```

c.

```
                VP
        ┌────────┴────────┐
       NP                V′
      ╱──╲          ┌─────┴─────┐
     MWE          DegP         V′
              ┌────┴────┐       │
           {ku/i}lehkey         V
```

Predictions (1)

(17) a.   *[**kulehkey pokcaphan mwuncey-lul**] John-un   mwe-l
           so   complex   question-ACC John-TPC what-ACC
           mantul-ess-e!
           make-PST-EXCL
           'What complex questions John made!'

     b.   *[**kulehkey ppalli**] Mimi-nun mwe-l   talli-ess-e!
           so   quickly Mimi-TOP what-ACC run-PST-EXCL
           'How quickly Mimi ran!'

(18) a.   [**kulehkey pokcaphan mwuncey-lul**] John-un   way
           so   complex   question-ACC John-TOP why
           mantul-ess-e?
           make-PAST-QUE
           'Why did John make such complex questions?'

     b.   [**kulehkey ppalli**] Mimi-nun way talli-ess-e?
           so   quickly Mimi-TOP why run-PST-QUE
           'Why did Mimi run so quickly?'

Predictions (2)

(19) a. **mwe-l**$_1$ John-un   [$_{NP}$ t$_1$ kulehkey pokcaphan
         what-ACC John-TOP   so   complex
         mwuncey-lul] mantul-ess-e!
         question-ACC make-PST-EXCL
         'What complex questions John made!'

   b. **mwe-l**$_1$ iken [$_{VP}$ t$_1$ ilehkey elye]-we!
       what-ACC this   so   difficult-EXCL
       'How difficult this is!'

   c. **mwe-l**$_1$ Mimi-nun [$_{AdvP}$ t$_1$ kulehkey ppalli] talli-ess-e!
       what-ACC Mimi-TOP   so   quickly run-PST-EXCL
       'How quickly Mimi ran!'

Predictions (2) (cont'd)

- Japanese *what*-exclamatives behave similarly w.r.t. scrambling of an exclamative *wh*-unit (data adapted from Oda 2008).

(20) a.   John-wa   **nante** kasikoi-na-ndeshoo!
           John-TOP what   smart-COP-EXC
           'How smart John is!'

   b.   **nante**$_1$ John-wa   t$_1$ kasikoi-na-ndeshoo!
        what   John-TOP   smart-COP-EXC
        'How smart John is!'

(21) a.   John-wa   **nante** takusanno hon-o   yonda-ndeshoo!
           John-TOP what   many   book-ACC read-EXC
           'How many books John read!"

   b.   **nante**$_1$ John-wa   t$_1$ takusanno hon-o   yonda-ndeshoo!
        what   John-TOP   many   book-ACC read-EXC
        'How many books John read!'

Sentence exclamation vs. *wh*-exclamatives

- By defining exclamations as "a natural class of utterances which express that a particular proposition has violated the speaker's expectations (p. 412), Rett (2011) argues that whereas sentence exclamations receive propositional interpretations, (*wh*-)exclamatives can only have degree interpretations (specifically, degree properties), which she calls the *degree restriction*.

(22) a.   (Wow,) John bakes delicious cookies!   (sentence exclamation)
      b.   (My,) What delicious cookies John baked!   (*wh*-exclamative)

More on the degree restriction

- As Rett notes, the degree restriction holds even for *wh*-exclamatives that do not contain overt gradable or amount predicates whose quality or quantity is exclaimed about.

(23)   What cookies John baked!

- The *wh*-exclamative above can be felicitously uttered to express that the degree to which the cookies John baked instantiate some gradable property (e.g., deliciousness) surpassed the speaker's expectation.

- Rett accounts for this by positing a measurement operator (M-Op) of the same semantic type as gradable predicates.

(24)   What M-Op cookies John baked!

(Non-)scalar expectations

- According to Rett's view, sentence exclamations involve non-scalar expectations, where the speaker expected p, but the expectation has been violated (i.e., $\neg p$).

- By contrast, *wh*-exclamatives are associated with scalar expectations, where the speaker expected a particular degree of a gradable property, but the expected degree has been surpassed by the actual degree.

(25) a.   (Wow,) John bakes delicious cookies! {I guessed that he would not bake delicious cookies! / #I guessed that he would bake delicious cookies, but not this delicious!}

   b.   (My,) What delicious cookies John baked! {I guessed that he wouldn't bake delicious cookies / I guessed that he would bake delicious cookies, but not this delicious!}

Degree readings of Korean *what*-exclamatives

- Korean *what*-exclamatives, as with English counterparts, have an interpretation of speaker unexpectedness and only have degree readings.

(26)   ku khemphyuthe-nun mwe-l   kulehkey pissa!
         the computer-TOP   what-ACC so   expensive
         'How (very) expensive the computer is!'

- The *wh*-exclamative is felicitously uttered only in a context in which the actual degree of expensiveness of the computer in question has surpassed the standard established by the speaker's expectation.

Degree readings of Korean *what*-exclamatives (cont'd)

- The expectation contravention is empirically verified by the fact that it is odd to continue the exclamative (31) by saying something like *The price is exactly what I expected*:

(27)   ku   khemphyuthe-nun mwe-l   kulehkey pissa!   (#nay-ka
         the computer-TOP   what-ACC so   expensive I-NOM
         cenghwakhi yeysangha-n kakyek-i-ney.)
         exactly   expect-MOD price-COP-EXCL
         'How expensive the computer is! The price is exactly what I expected.'

- It can be associated with scalar expectation: it is naturally followed by a clarifying sentence like *I guessed that it would be expensive, but not this expensive!* 비쌀 줄 알았지만 이렇게 비쌀 줄은!

An overt gradable predicate as an essential element

- Unlike in English *what*-exclamatives, in Korean counterparts the absence of an overt gradable predicate as the exclamand (alongside {*ku/i*}*lehkey* 'so') leads to ungrammaticality:

(28) a. mwe-l   kulehkey *(**pissan**) cha-lul   sa-ss-e!
         what-ACC so   expensive car-ACC buy-PST-EXCL
         'What an expensive car you bought!'

   b. mwe-l   kulehkey *(**maywun**) kochwu-lul   mek-ess-e!
         what-ACC so   spicy   pepper-ACC eat-PST-EXCL
         'What a spicy pepper you ate!'

(29)   What a (nice) car you bought!

- M-Op would be of no help in saving Korean what-exclamatives with no overt gradable predicates.

Emotional attitudes expressed by English *wh*-exclamatives

- Exclamatives necessarily convey expressive attitudes on the part of the speaker, such as surprise, amazement, and unexpectedness (Gutiérrez-Rexach 2008; Nouwen & Chernilovskaya 2015; Rett 2008, 2011; Villalba 2008).

- Such emotive attitudes are assumed to be pragmatically evoked by the speaker's unexpectedness towards the high/extreme degree of the individual/event in question.

(30) a.   What an expensive wine it is! #Which doesn't surprise me at all, because it's kosher.

   b.   The wine is extremely expensive, which doesn't surprise me at all, because it's kosher.

Emotional attitudes in Korean *what*-exclamatives

- Korean *what*-exclamatives express the speaker's emotional feelings such as surprise and amazement:

(31) a.   mwe-l   kulehkey pissan   wain-ul   sa-ss-e!
           what-ACC so   expensive wine-ACC   buy-PST-EXCL
           'What an expensive wine you bought!'

   b.   mwe-l   kulehkey pissan   wain-ul   sa-ss-e!
         what-ACC so   expensive wine-ACC   buy-PST-EXCL
         (#cenhye nollap-ci   ahn-a).
         at all   surprise-CONN   not-DECL
         'What an expensive wine you bought! I'm not surprised at all.'

English *wh*-exclamatives as non-assertives

- Previous literature on exclamatives has produced no consensus on the matter of whether the propositional content of exclamatives is presupposed to be true, i.e., whether they are factive or not.
- This debate has extended to the issue of whether exclamatives can serve as responses to information-seeking questions.
- A defender of the factivity analysis (e.g., Grimshaw 1979; Zanuttini & Portner 2003) argues that exclamatives cannot be used as answers to information-seeking questions, since they lack assertive content.

(32) A: Did John buy a big car?
    B: #What a big car John bought!
    B′:   John bought a big car.

English *wh*-exclamatives as assertives

- Trotzke & Giannakidou (2021) argue against the view that the descriptive content of exclamatives is presupposed.

- Instead, they propose to analyze exclamatives as what they call "emotive assertions", which are semantically equivalent to assertions of declarative sentences with emotive predicates such as *be surprised/amazed*.

(33) a.   How fast Eliud Kipchoge was!
     b.   I am amazed at how fast Eliud Kipchoge was.

- They both assert the speaker's emotional attitude towards the believed proposition that Eliud Kipchoge was extremely fast, and presuppose the speaker's belief in the truth of the proposition.

Korean *what*-exclamatives as assertives

- Korean *what*-exclamatives are analyzed as expressing assertive speech acts.
- The content of the MWE-exclamative can be denied/rejected:

(34) A: mwe-l   ilehkey pissan   senmwul-ul sa-ss-e!
         what-ACC so   expensive gift-ACC   buy-PST-EXCL
         'What an expensive gift you bought!'

    B: **ani**. pyello an pissa.
         not much not expensive
         'No. It's not that expensive.'

Korean *what*-exclamatives as assertives (cont'd)

- The content of the MWE-exclamative can be referred to by the propositional anaphor *kulehkey* 'so':

(35) A: Mimi-ka   ecey   lampolukini-lul   sa-ss-tay.
         Mimi-NOM yesterday Lamborghini-ACC buy-PST-DECL
         '(I heard that) Mimi bought a Lamborghini yesterday.'

   B: wa, mwe-l   kulehkey pissan   cha-lul sa-ss-e!
       wow what-ACC so   expensive car-ACC buy-PST-EXCL
       'Wow, what an expensive car she bought!'

   A: na-to **kulehkey** sayngkakhay!
       I-also so   think
       'I think so!'

Korean *what*-exclamatives as assertives (cont'd)

- The MWE-exclamative can be used as a response to the information-seeking question:

(36) A: nay senmwul ettay?
            my gift   how
            'How do you like my gift?'

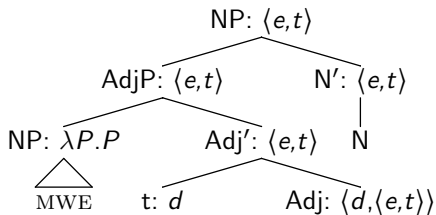   B: mwe-l   ilehkey yeyppun senmwul-ul sa-ss-e!
            what-ACC so   pretty   gift-ACC   buy-PST-EXCL
            komawe!
            thank you
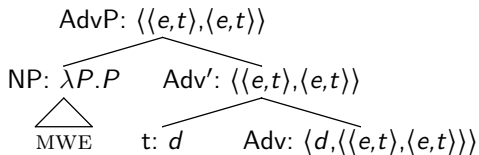   'What a pretty gift you bought! Thank you!'

The semantics of an exclamative *wh*-phrase

- The exclamative *wh*-expression MWE denotes an identity function (see Rett 2011 and Castroviejo 2021 for a similar point in English exclamatives and Catalan exclamatives, respectively).

- Gradable predicates denote relations between degrees and individuals/properties (Heim 1985, 2000; Kennedy & McNally 2005; von Stechow 1984).

- The degree adverb {*ku/i*}*lehkey* 'so', which will be analyzed as a maximality operator based on Heim (2000) and Rullmann (1995), raises at LF up to the CP domain.
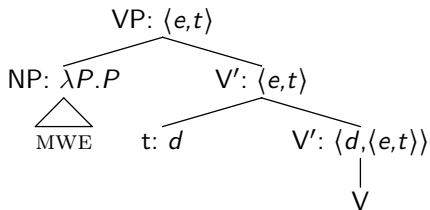
(37) a.

$$\text{NP: } \langle e,t \rangle$$

AdjP: $\langle e,t \rangle$ N': $\langle e,t \rangle$

NP: $\lambda P.P$ Adj': $\langle e,t \rangle$ N

MWE   t: d Adj: $\langle d,\langle e,t \rangle \rangle$

b.

AdvP: $\langle \langle e,t \rangle,\langle e,t \rangle \rangle$

NP: $\lambda P.P$ Adv': $\langle \langle e,t \rangle,\langle e,t \rangle \rangle$

MWE   t: d Adv: $\langle d,\langle \langle e,t \rangle,\langle e,t \rangle \rangle \rangle$

c.

VP: $\langle e,t \rangle$

NP: $\lambda P.P$ V': $\langle e,t \rangle$

MWE   t: d V': $\langle d,\langle e,t \rangle \rangle$

V

Predictions (1)

- Non-gradable adjectives cannot be used in Korean degree *what*-exclamatives, as illustrated below:

(38) a.   mwe-l   kulehkey {**pissan**/#**suphochu**} kapang-ul
           what-ACC so   expensive/sports   bag-ACC
           cohahay!
           like
           'What an {expensive/sports} bag you bought!'

   b.   namwu-ka mwe-l   ilehkey {**ssek**/#**cwuk**}-ess-e!
         tree-NOM what-ACC so   rotten/die-PST-EXCL
         'How {rotten/dead} the tree is!'

Predictions (2)

- As noted before, the occurrence of overt gradable predicates as the exclamand is necessary in licensing Korean degree *what*-exclamatives:

  (39) a.   mwe-l   kulehkey *(**pissan**/**khun**) kapang-ul
            what-ACC so   expensive/big   bag-ACC
            sa-ss-e!
            buy-PST-EXCL
            'What an (expensive/big) bag you bought!'

      b.   mwe-l   kulehkey *(**swipkey**) mwuncey-lul
            what-ACC so   easily   question-ACC
            phwul-ess-e!
            solve-PST-EXCL
            'How easily you solved the question!'

What as a degree operator in English *wh*-exclamatives

- Rett (2011) treats *what* as a degree operator that denotes a type-flexible identity function in *wh*-exclamatives.

(40)   [what$_j$ [[$t_{j_{\langle d \rangle}}$ delicious cookies]$_i$ John baked $t_{i_{\langle x \rangle}}$]]

   a.   [[John baked $t_{i_{\langle x \rangle}}$]] = baked$'$(j,$x$)

   b.   [[$t_{j_{\langle d \rangle}}$ delicious cookies]] = λx.cookies$'$(x) $\wedge$ delicious$'$(x, d)

   c.   [[$t_{j_{\langle d \rangle}}$ delicious cookies]] (λx_i.[[John baked $t_{i_{\langle x \rangle}}$]])
         = λx.baked$'$(j, x) $\wedge$ cookies$'$(x) $\wedge$ delicious$'$(x, d)

   d.   [[what]] (λd_j.[[$t_{j_{\langle d \rangle}}$ delicious cookies John baked $t_{i_{\langle x \rangle}}$]])
         = $\lambda d \lambda x$.baked$'$(j, x) $\wedge$ cookies$'$(x) $\wedge$ delicious$'$(x, d)

   e. $\leadsto_{\exists closure}$ $\lambda d \exists x$[baked$'$(j, x) $\wedge$ cookies$'$(x) $\wedge$ delicious$'$(x, d)]

Tan 'so' as a degree operator in Catalan *wh*-exclamatives

- In Catalan *quin*-exclamatives the *wh*-word *quin* 'what/which' as a determiner head cannot be adjacent to a gradable adjective; the two expressions are separated by the degree quantifier *tan* 'so' (and the head noun).

(41) [$_{DP}$ Quines [$_{NP}$ postres [$_{DegP}$ tan [$_{AP}$ delicioses]]]] que ha
          what   desserts   so   delicious   that has
      preparat en Joan!
      prepared the John
      'What delicious desserts John prepared.'

- Castroviejo proposes to treat the degree quantifier *tan* as a degree operator in obtaining the degree property.

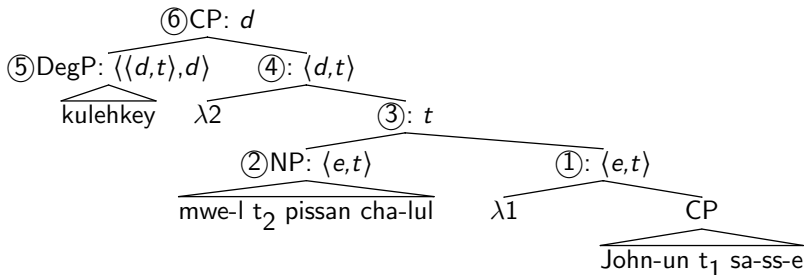## Maximality operator $\{ku/i\}lehkey$ 'so'

- Korean *what*-exclamatives are superficially similar to Catalan counterparts in that the degree adverb $\{ku/i\}lehkey$ 'so' intervenes between the exclamative *wh*-element MWE and a given gradable predicate.

- I propose to analyze the degree adverb $\{ku/i\}lehkey$ 'so' as a maximality operator.

- In doing so, I follow Rullmann (1995) in claiming that the maximality operator denotes a function from a set of degrees to the maximal degree in the set, as defined in (42).

(42)   Lexical entry for $\{ku/i\}lehkey$:
$[[\{ku/i\}lehkey]] = \lambda D_{\langle d,t \rangle} \,.\, \text{MAX}(D)$, where $\text{MAX}(D) = \iota d[d \in D \land \forall d' \in D[d' \leq d]$.
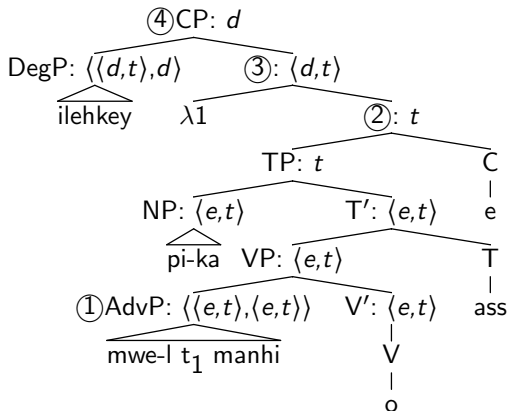
Maximality operator $\{ku/i\}lehkey$ 'so' (cont'd)

(43)

```
                    ⑥CP: d
        ⑤DegP: ⟨⟨d,t⟩,d⟩      ④: ⟨d,t⟩
         ‾‾‾‾‾‾        ‾‾‾‾   ‾‾‾‾‾‾‾
         kulehkey     λ2        ③: t
                           ‾‾‾‾‾‾‾‾‾‾‾‾‾‾‾
                      ②NP: ⟨e,t⟩        ①: ⟨e,t⟩
                   ‾‾‾‾‾‾‾‾‾‾‾‾‾      ‾‾‾    ‾‾‾‾‾
                   mwe-l t₂ pissan cha-lul   λ1      CP
                                                 ‾‾‾‾‾‾‾‾‾‾
                                                 John-un t₁ sa-ss-e
```

$[[①]] = \lambda x \,.\, \text{bought}(x)(\text{J})$

$[[②]] = \lambda x \,.\, \text{car}(x) \wedge \text{expensive}(d)(x)$

$[[③]] = \lambda x \,.\, \text{car}(x) \wedge \text{expensive}(d)(x) \wedge \text{bought}(x)(\text{J})$

$\qquad = \rightsquigarrow_{closure} \exists x[\text{car}(x) \wedge \text{expensive}(d)(x) \wedge \text{bought}(x)(\text{J})]$

$[[④]] = \lambda d \,.\, \exists x[\text{car}(x) \wedge \text{expensive}(d)(x) \wedge \text{bought}(x)(\text{J})]$

$[[⑤]] = \lambda D_{\langle d,t \rangle} \,.\, \text{MAX}(D)$

$[[⑥]] = \text{MAX}(\lambda d \,.\, \exists x[\text{car}(x) \wedge \text{expensive}(d)(x) \wedge \text{bought}(x)(\text{J})])$

Maximality operator {*ku/i*}*lehkey* 'so' (cont'd)

(44)

④CP: d

DegP: $\langle\langle d,t\rangle,d\rangle$ ③: $\langle d,t\rangle$

ilehkey $\lambda 1$ ②: t

TP: t C

NP: $\langle e,t\rangle$ T': $\langle e,t\rangle$ | e

pi-ka VP: $\langle e,t\rangle$ T

①AdvP: $\langle\langle e,t\rangle,\langle e,t\rangle\rangle$ V': $\langle e,t\rangle$ | ass

mwe-l t_1 manhi | V

| o

$[[①]] = \lambda P_{\langle e,t\rangle}\lambda x \text{ . quickly}(P(x))(d)$

$[[②]] = \lambda x \text{ . rain}(x) \wedge \text{quickly}(\text{come}(x))(d)$

$\quad = \leadsto_{\exists closure} \exists x[\text{rain}(x) \wedge \text{quickly}(\text{come}(x))(d)]$

$[[③]] = \lambda d \text{ . } \exists x[\text{rain}(x) \wedge \text{quickly}(\text{come}(x))(d)]$

$[[④]] = \text{MAX}(\lambda d \text{ . } \exists x[\text{rain}(x) \wedge \text{quickly}(\text{come}(x))(d)])$

Maximality operator $\{ku/i\}lehkey$ 'so' (cont'd)

(45)
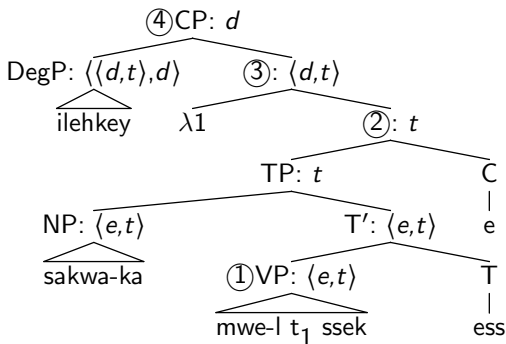
$$[[①]] = \lambda x \, . \, \text{rotten}(x)(d)$$
$$[[②]] = \lambda x \, . \, \text{apple}(x) \wedge \text{rotten}(x)(d)$$
$$= \leadsto_{\exists closure} \exists x[\text{apple}(x) \wedge \text{rotten}(x)(d)]$$
$$[[③]] = \lambda d \, . \, \exists x[\text{apple}(x) \wedge \text{rotten}(x)(d)]$$
$$[[④]] = \text{MAX}(\lambda d \, . \, \exists x[\text{apple}(x) \wedge \text{rotten}(x)(d)])$$

Predictions (1)

- The degree adverb *maywu* 'very' (type $\langle\langle d,t\rangle,\langle d,t\rangle\rangle$) cannot be used in Korean *what*-exclamatives:

(46) a. mwe-l {**kulehkey**/*****maywu**} pissan cha-lul
          what-ACC so/very   expensive car-ACC
          sa-ss-e!
          buy-PST-EXCL
          'What an expensive car you bought!'

  b. pi-ka mwe-l {**ilehkey**/*****maywu**} manhi
      rain-NOM what-NOM so/very   much
      o-ass-e!
      come-PST-EXCL
      'what heavy rain it was! '

  c. sakwa-ka mwe-l {**ilehkey**/*****maywu**} ssek-ess-e!
      apple-NOM what-ACC so/very   rotten-PST-EXCL
      'What a rotten apple it is!'

Predictions (2)

- If a non-degree adverb like *tto* 'again' is used in place of $\{ku/i\}$*lehkey*, the given sentence only receives a propositional interpretation, but not a degree interpretation even in the presence of MWE.

(47) a.　mwe-l　　**tto**　pissan　　cha-lul sa-ss-e!
　　　　what-ACC again expensive car-ACC buy-PST-EXCL
　　　　'You bought an expensive car again!'

　　b.　sakwa-ka mwe-l　　**tto**　ssek-ess-e!
　　　　apple-NOM what-ACC again rotten-PST-EXCL
　　　　'The apple is rotten again!'

Korean *what*-exclamatives as assertives

(48) A: 뭘 이렇게 비싼 선물을 샀어!
     B: 아니. 별로 안 비싸.

(49) A: 미미가 어제 람보르기니를 샀대
     B: 와, 뭘 그렇게 비싼 차를 샀어!
     A: 나도 그렇게 생각해!

(50) A: 내 선물 어때?
     B: 뭘 이렇게 예쁜 선물을 샀어! 고마워!

An assertive force operator

- In order to capture the assertive force of Korean *what*-exclamatives, I propose that they involve an assertive force operator, EXCL-OP, in the Force head that takes the CP as its complement. The operator is defined in (51).[1]
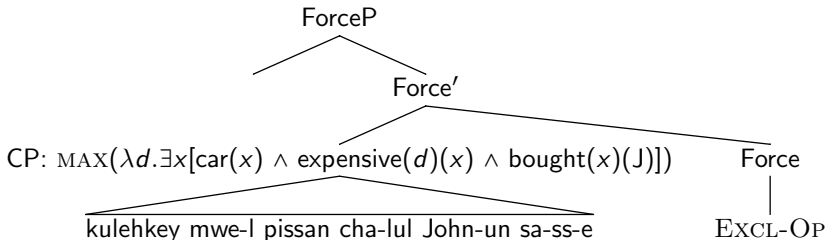
(51)   EXCL-OP(d) counts as an assertion that $d \geqslant s$, where s refers to a contextually provided standard established by the speaker's expectation.

---

[1]The speaker's expectations could follow common-ground norms or socially-accepted standards, or they could be ones reflecting his/her personal assessment (Gutiérrez-Rexach 2008).

An assertive force operator (cont'd)

(52)   John-un   mwe-l   kulehkey pissan   cha-lul sa-ss-e!
       John-TOP what-ACC so   expensive car-ACC buy-PST-EXCL
       'What an expensive car John bought!'

(53)

```
                              ForceP
                            /        \
                                   Force'
                                 /        \
CP: MAX(λd.∃x[car(x) ∧ expensive(d)(x) ∧ bought(x)(J)])      Force
    |_____|       |
    kulehkey mwe-l pissan cha-lul John-un sa-ss-e             EXCL-OP
```

- The *what*-exclamative in (52) is interpreted as expressing an assertion that
  the maximal degree *d* such that John bought a *d*-expensive car runs counter
  to the speaker's expectation.

Predictions (1)

- In (48), using the negative particle *ani* 'no', the speaker B negates A's assertion, asserting that the maximal degree of expensiveness of the gift in question does not exceed A's expectation, meaning that the gift is not that expensive.

- In (50), the speaker B's assertion—that the maximal degree of prettiness of the gift in question surpasses her expectations—is taken to mean that the gift is extremely pretty, expressing her gratitude to the speaker A.

Predictions (2)

- As noted before, Korean *what*-exclamatives, as with their counterparts in other languages, express a sense of surprise or amazement on the part of the speaker.

- The assertive content ($d \geqslant s$) yielded by EXCL-OP entails a violation of the speaker's expectation, since the contextually determined standard is consistent with the speaker's expectations.

- The speaker unexpectedness then naturally gives rise to a sense of surprise, amazement or awe (Zanuttini & Portner 2003).

The speaker's evaluation of $d \geqslant s$

- Depending on the context, the assertive content ($d \geqslant s$) obtained by EXCL-OP can be evaluated by the speaker as positive/good or negative/bad.

(54)   [Context 1: My parents gave me a very expensive gift that I
          wanted for my birthday.]

          [Context 2: I wanted John to buy a cheap gift, but he bought a
          very expensive gift.]

    Me: mwe-l   ilehkey pissan   senmwul-ul sa-ss-e!
          what-ACC so   expensive gift-ACC   buy-PAST-DECL
          'What an expensive gift you bought!'

Correlation of MWE-L with the evaluative attitudes

- Notice that the speaker's evaluative attitude towards the assertive content ($d \geqslant s$) may not arise if the *wh*-expression MWE-L is absent.

(55)   kulehkey pissan   senmwul-ul sa-ss-e!
        so   expensive gift-ACC   buy-PST-EXCL
        'You bought such an expensive gift!'

- By uttering (55), the speaker just expresses his/her surprise at the high price of the gift, but does not judge whether the price is too expensive or not.

- As noted before, this would suggest that the non-standard *wh*-phrase MWE may contribute to expressing evaluative attitudes of the speaker, rather than providing a degree argument as a degree operator to the gradable predicate.

An evaluative operator

- In order to account for how such evaluative attitudes are derived, I propose that Korean *what*-exclamatives involve an evaluative operator, EVAL-OP, which maps propositions onto evaluative attitudes on the part of the speaker, as defined (56).

  (56)   EVAL-OP(p) = The speaker evaluates p as E, where $E \in$ {positive/good, negative/bad}.

An evaluative operator (cont'd)

(57) John-un   mwe-l   kulehkey pissan   cha-lul sa-ss-e!
      John-TOP what-ACC so   expensive car-ACC buy-PST-EXCL
      'What an expensive car John bought!'

(58)

EvalP

mwe-l[Eval+]$_1$ Eval'

ForceP: MAX($\lambda d.\exists x$[car(x) $\wedge$ expensive(d)(x) $\wedge$ bought(x)(J)]) $\geqslant s$ Eval

kulehkey t$_1$ pissan cha-lul John-un sa-ss-e   EVAL-OP
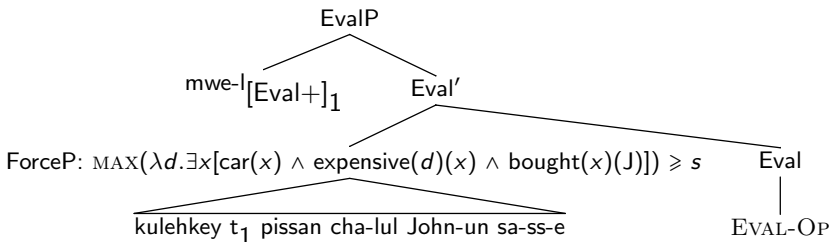
- The exclamative *wh*-element MWE is endowed with an evaluative feature [Eval +] and undergoes covert movement to Spec-EvalP to activate the evaluative operator by feature checking.

Two types of *wh*-exclamatives

- Nouwen & Chernilovskaya (2015) propose that *wh*-exclamatives can receive two different scalar interpretations depending on the type of scalarity, namely *i*-level and *e*-level interpretations.

(59) a. **i-level interpretation**: an exclamative attitude towards the *wh*-referent. We will call this *i*-level exclamation: the expressive attitude targets the individual singled out by the *wh*-phrase.

b. **e-level interpretation**: an exclamative attitude towards the event the *wh*-referent is said to take part in. We will call this *e*-level exclamation: the expressive attitude targets the event rather than the *wh*-referent.

(60) Type 1: *wh*-exclamatives that are scalar in the *i*-level sense

Type 2: *wh*-exclamatives that are scalar in the *e*-level sense

Two types of *wh*-exclamatives (cont'd)

- English employs only Type 1 *wh*-exclamatives that receive *i*-level interpretations.
- Languages like Dutch, German, Turkish, Russian, and Hungarian allow Type 2 *wh*-exclamatives .
- Dutch examples (taken from Nouwen & Chernilovskaya 2015: 203):

(61) 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!'

Two types of Korean *wh*-exclamatives

- Korean is another language that employs both *i*-level and *e*-level *wh*-exclamatives.

- Specifically, I argue that exclamatives involving {*ku/i*}*lehkey* 'so' involve *i*-level exclamation, while those involving a non-degree expression like *tto* 'again' or *pelsse* 'already' involve *e*-level exclamation.

(62)   *i*-level exclamation:

  a.   mwe-l   **kulehkey** kin nonmwun-ul se-ss-e!
      what-ACC so   long paper-ACC write-PST-EXCL
      'What a long paper you wrote!'
      e-level exclamation:

  b.   mwe-l   {**tto**/**pelsse**} kin nonmwun-ul se-ss-e!
      what-ACC again/already long paper-ACC   write-PST-EXCL
      'You wrote a long paper again/already!'

Predictions (1)

- On the proposed analysis, this lack of degree readings is simply due to the absence of the maximality operator.

- The *e*-level exclamation of (62b) is supported by the fact that it can be naturally followed by a clarifying sentence like *I'd guessed that you would not write a long paper again* (non-scalar expectation), but not by a sentence like *I'd guessed that you would write a long paper again, but not this long!* (scalar expectation).

- The same reasoning also applies to the *mwe-l-pelsse*-exclamative in (62b).

Predictions (2)

- In Korean *what*-exclamatives, the presence of an overt gradable predicate is necessary:

(63) *mwe-l **cenki** cha-lul sa-ss-e!
   what-ACC electric car-ACC buy-PAST-DECL
   '(int.) What an electric car you bought!'

- This gradability restriction, however, is not imposed on *e*-level MWE-exclamatives:
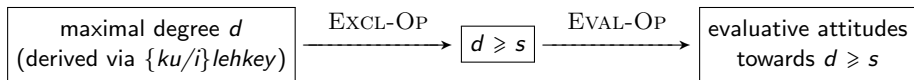
(64) a. mwe-l tto **cenki** cha-ul sa-ss-e!
   what-ACC again electric car-ACC buy-PAST-DECL
   'You bought an electric car again!'

   b. John-un mwe-l {tto/pelsse} hankwuk-ey
   John-TOP what-ACC again/already South.Korea-to
   ka-ss-e!
   go-PAST-DECL
   'John went to South Korea again/already!'

Summary and implications

- The compositional semantic derivation of Korean *what*-exclamatives that I have proposed is sketched below:

maximal degree d (derived via $\{ku/i\}lehkey$)	$\xrightarrow{\text{EXCL-OP}}$	$d \geqslant s$	$\xrightarrow{\text{EVAL-OP}}$	evaluative attitudes towards $d \geqslant s$

- The maximal degree denoted by the MWE-clause feeds the assertive force operator (EXCL-OP), resulting in an assertion that the maximal degree exceeds a standard established by the speaker's expectation. The assertive content then feeds the evaluative operator (EVAL-OP) and returns the speaker's evaluative attitude towards it.

Summary and implications (cont'd)

- We have seen that in Korean *what*-exclamatives, the exclamative *wh*-expression MWE, unlike its English counterpart, does not function as a degree operator in deriving their degree interpretations; instead, I have argued that the degree adverb {*ku/i*}*lehkey* 'so' does such a job as a maximality operator.

- From a cross-linguistic perspective, this view is consistent with Castroviejo's (2021) view that in Catalan *quin*-exclamatives, the degree quantifier *tan* 'so', but not the determiner *quin* 'what/which', plays a pivotal role in obtaining their degree properties.

Summary and implications (cont'd)

- We have observed that a measurement operator (M-Op)—one proposed by Rett (2011) to account for the degree readings of English *wh*-exclamatives with no overt gradable predicates (e.g., *What cookies John makes!*)—does not work for Korean *what*-exclamatives.

- Although I could not provide a solution to the issue, the observation offers a new perspective on the availability and validity of M-Op from a cross-linguistic point of view.

Summary and implications (cont'd)

- The other important implication of this study is that the two types of Korean *what*-exclamatives—MWE-{*ku/i*}*lehkey*-exclamatives and MWE-{*tto/pelsse*}-exclamatives—have provided cross-linguistic support for Nouwen & Chernilovskaya's (2015) claim that *wh*-exclamatives can be divided into *i*-level and *e*-level *wh*-exclamatives.

Selected references

- Castroviejo, Elena. 2021. On *wh*-exclamatives and gradability: An argument from Romance. *Journal of Linguistics* 57: 41-82.

- Grimshaw, Jane. 1979. Complement selection and the lexicon. *Linguistic Inquiry* 10(2): 279-326.

- Nouwen, Rick & Anna Chernilovskaya. 2015. Two types of wh-exclamatives. *Linguistic Variation* 15(2): 201-224.

- Rett, Jessica. 2011. Exclamatives, degrees and speech acts. *Linguistics & Philosophy* 34(5): 411-442.

- Rullmann, Hotze. 1995. *Maximality in the Semantics of WH-Constructions*. Ph.D. dissertation, University of Massachusetts, Amherst.

- Trotzke, Andreas & Anastasia Giannakidou. 2021. Exclamation, intensity, and the assertion of emotion. Manuscript. lingbuzz/006137.

- Zanuttini, Raffaella & Paul Portner. 2003. Exclamative Clauses at the Syntax–Semantics Interface. *Language* 79: 39-81.

Backup slides

- *Mwe(-l)* {*ku/i*}*lehkey* clauses, depending on the context and intonation, can be construed as so-called *why*-like *what*-questions asking about the reason or cause of the described event.

- For example, (3B) can be construed as *Why (the hell) did he buy such an expensive car?*

- In the reason/causal reading, its proper answer cannot be something like *kulekey* 'yeah'.

(65) A: 뭘 그렇게 비싼 차를 샀어? (*why*-like *what*-question)
      B: #그러게.

(66) A: Why (the hell) did he buy such an expensive car?
      B: #Yeah!

Backup slides

- Such a morpho-syntactic ambiguity between *wh*-interrogatives and *wh*-exclamatives is also observed in other languages like Italian (Kellert et al. 2018).

(67)   Italian *wh*-interrogatives:

a.   Quanti   romanzi ha scritto la tua amica?
How many novels   has written the your friend
'How many novels did your friend write?'

     Italian *wh*-exclamatives:

b.   Quanti   romanzi ha scritto la tua amica!
How many novels   has written the your friend
'How many novels your friend wrote!'

Backup slides

- When *mwe-l*-clauses are used as *why*-like *what*-questions, they can be embedded under predicates like *kwungkumha* 'wonder'.

(68)   mwe-l   kulehkey pissan   cha-lul sa-ss-nunci
        what-ACC so   expensive car-ACC buy-PAST-QUE
        kwungkumha-ta.
        wonder-DECL
        'I wonder why (the hell) you bought such an expensive car.

- One thing to note here is that the embedding of *mwe-l*-clauses like (5) blocks them from being interpreted as *what*-exclamatives.

Backup slides

(69) a. Wat een **benen** heeft Marie!
          what a legs has Mary
          'What legs Mary has!'

      b. Wat **mooi**   was ze vroeger!
          what beautiful was she formerly
          'How beautiful she was in the past!'

      c. Maar wat **getranspireerd** had Jan!
          But what perspired   had John
          'How John had perspired!' (adapted from Corver 1990)

Backup slides

- Trotzke & Giannakidou (2021) argue against the view that the descriptive content of exclamatives is presupposed.
- Instead, they propose to analyze exclamatives as what they call "emotive assertions", which are semantically equivalent to assertions of declarative sentences with emotive predicates such as *be surprised/amazed*.

(70) a. How fast Eliud Kipchoge was!
  b. I am amazed at how fast Eliud Kipchoge was.

- They both assert the speaker's emotional attitude towards the believed proposition that Eliud Kipchoge was extremely fast, and presuppose the speaker's belief in the truth of the proposition.

Backup slides

- According to Trotzke & Giannakidou's account, the ill-formedness of (71B′) is due to mismatch in information structure, regardless of assertive force.

(71) A: How fast was Eliud Kipchoge?
    B: Eliud Kipchoge was [very]$_{\mathrm{F}}$ fast.
    B′:   #[How fast Eliud Kipchoge was!]$_{\mathrm{F}}$

- (71B′) presupposes the speaker's belief that Eliud Kipchoge was extremely fast, which in turn makes it inappropriate as the response providing new information.