The debate on gradable possibility

- The gradability of modals has received considerable attention in recent literature.
- Some modals are indisputably gradable: *Men are more likely to be incarcerated than women.*
- But there is disagreement about possibility modals:
  1. English possible is gradable (Laszsi 2011)
     
     \[ \text{possible} \]
     
     - It is possible that the Jets will win, but it could be more possible.
     
     \[ \text{possible} \]
     
   2. *Possible* is not gradable (Klecha 2012, Portner 2009)
     
     Only 0.18% of uses of possible in the spoken COCA corpus (Davies 2008) were in the comparative [K12]
     
     - Like dead, American, right . . . (= 0.15%)
     - Unlike likely (18%)
     - Unlike gradable adjectives (big, small, tall . . .) (≈ 9%)

### Puzzle: German eher + possibility modals

Data from German have been taken to suggest that *eher* is an ordinary comparative and that the limited availability of English *more possible* is an uninteresting gap (Krätzer 1981, 2012):

1. *Der G.-M. kann eher der Mörder sein als der K.*
   
   The G.-M. can *eher* the murderer be than the K.
   
   ‘Gauner-Michl is more likely to be the murderer than Kastenjakl’ [Kr81]

2. *Dies ist auf regional/lokaler Ebene eher möglich, als der auf* der
   
   This is on regional/local level *eher possible* than on the
   
   staatlichen Ebene.
   
   national level [Web]

   ‘This is more likely possible on a regional than on a national level.’

### Eher is not -er

- Ordinary comparative -er is ungrammatical with *möglich* ‘possible’:

  *Base form*  
  
  *Comparative form*  
  
  häufig  
  
  häufig-er ‘more frequent’  
  
  groß  
  
  groß-er ‘bigger’  
  
  wahrscheinlich  
  
  wahrscheinlich-er ‘more probable/likely’

- Dies ist auf regionaler Ebene *möglicher* als auf staatlicher Ebene. (Cf. (3))
  
  The fact that *möglicher* can seemingly combine with eher but not -er parallels prototypical non-gradable adjectives:

- Nach diesem Experiment werden (eher) die Mäuse in Gruppe 1
  
  after this experiment will *eher* the mice in group 1
  
  (eher) tot/*tot-er* sein als die Mäuse in Gruppe 2.
  
  *eher* dead/dead-er be than the mice in group 2.

### The meaning of eher vs. -er

Though gradable adjectives appear with both *eher* and -er, the resulting interpretations differ:

<table>
<thead>
<tr>
<th>tall COMP:</th>
<th>eher tall:</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Eva’s height &gt; Maria’s height</em></td>
<td><em>Claim expresses more confidence that Eva is tall than that Maria is</em></td>
</tr>
<tr>
<td><em>Eva’s height need not exceed the contextual standard for tallness</em></td>
<td><em>If conjecture is true, [Eva [pos tall]] is true</em></td>
</tr>
</tbody>
</table>

### Main claims

1. **Eher is semantically complex, not a simple comparative morpheme**
   
   - Its internal complexity explains why it can combine with modals of possibility
   
   - The combination of eher with possibility modals is not an argument that these modals are gradable

### Analysis: eh + er

*Eher* is semantically complex, consisting of *eh* and -er:

1. *Eh* is an epistemic predicate relating a proposition *p* to the degree to which *p* is epistemically clear to a contextually salient individual *z*. In a declarative, *z* is typically the speaker; in a question, it is the addressee. (cf. Zimmermann 2004, McCready 2007).
   
   \[(7) \quad [eh]^z = \lambda p. \lambda d. p \text{ is d-clear to } z\]

   Clarity relates to inference or deliberation on the part of *z* (like epistemic *must*; von Fintel and Gillys 2011). It is instructive to compare propositions that are obviously true with *eher*.

2. **-er in eher-er is a clausal comparative** (consistent with Lechner 2001, 2004): it takes two sets of degrees as arguments, and requires the maximal degree of the second to be greater than the maximal degree of the first (von Stechow 1984).
   
   \[(8) \quad [er]^z = \lambda p. \lambda d. \lambda Q. \lambda M. \lambda Q. \lambda M. Q. \lambda M. \lambda Q. \lambda M. Q. \lambda M. Q. (Q > max(P))\]

   Derivation of *Eva ist eher groß als Maria*:
   
   \[\text{[er than [eh tall Maria] is] [eh Eva is tall]]}\]
   
   \[\text{[eh Maria/Eva is tall] = \lambda d. [Eva/Maria is tall]] is d-clear to } z]\]
   
   \[\text{[er] [than [eh tall Maria] is] [eh Eva is tall]] = max(\lambda d. [Eva/Maria is tall] is d-clear to ) > max(\lambda d. [Eva/Maria is tall] is d-clear to )}\]

   **Degrees of clarity:** Intuitively, a proposition has a higher degree of clarity than another if an individual has better or more reasons to infer it from their indirect evidence (possible implementations: credence function, differentiation of ordering source propositions).

### Immediate consequences

- Doubling the comparative: unlike ‘more taller’, ‘eher taller’ is grammatical and sensible since *eher* does not grade the adjective.

- *Der Hirscher ist eher schneller als der Ligety als der Matt*

  The Hirscher is *eher* faster than the Ligety than the Matt

  ‘Hirscher is more likely than Matt to be faster than Ligety.’

- *Eher on its own: due to its decomposition, eher need not grade any (additional) predicate. (Compare with (2))

- *The gradability of modals has received considerable attention in recent literature.*

### More possible?

- When a modal of possibility (*möglicher, kann*) appears with *eher*, what is compared is not possibility itself but epistemic commitment to the possibility of the embedded proposition.
   
   \[\text{[er than [eh possible on the national level]] (LF of (3))}\]
   
   \[\text{[eh possible on a regional/local level]}\]

   \[\text{max(\lambda d. [It is possible on a regional/local level] is d-clear to ) > max(\lambda d. [It is possible on the national level] is d-clear to )}\]

   - Similarly with deontic modals, *eher* does not grade permissibility: ‘*eher* permissible’ = ‘more clearly permissible’

   - Analyses that attribute gradability to ‘possible’ lead us to expect the modal in comparative constructions; expectation is not met.

   - A traditional view of the modal as an existential quantifier is supported (coercion aside).

### Further issues

1. *Eh* is not found on its own except as a discourse particle meaning ‘anyways, obviously’.

- Hast Du *eh* die Fenster zugemacht?
  
  Have you *eh* the window closed

  ‘You did close the window, didn’t you?’ (Austrian, Bavarian)

- Meaning seems related to (7): there is no reason to doubt the prejacent

- But not grade the adjective.

- Possible’ = ‘more clearly permissible’

- Temporal meaning is archaic but partially available to speakers (set *eh* and *je* ‘from time immemorial’).

### Conclusions

- *Eher* is complex: *eh* ‘epistemically clear’ + clausal comparative.

- Like in English, ‘possible, can’ seem to be ungradable in German.

- The inference from *wahrscheinlich ‘likely’ to möglich ‘possible’ is clearly valid but does not prove that the items share a scale.

We gratefully acknowledge support by NSF grant BCS-1053038 “The Semantics of Gradable Modal Expressions” and the Scholion Interdisciplinary Research Center.