Enigmatic Compounds and Attitudinal Meaning

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1 Enigmatic Compounds in Political Discourse

Ad hoc compounds in political discourse: Speakers/authors (S) in political discourse often exploit ad hoc (coinage) compounds to implicitly convey attitudinal meanings.

(1) *Neue Stelle für Kopftuch-Praktikantin* (SOURCE: BILD, 2016-08-25)
'New position for headscarf-intern'
Attitudinal meaning: Religious practices of Muslims often cause trouble for others.

(2) *Jede 5. China-Maske ist unbrauchbar* (SOURCE: BILD, 2020-05-03)
'Every 5th China-mask is unusable'
Attitudinal meaning: China is notorious for products of low quality.

(3) *Asylanten und Flüchtlinge wollen Österreich meiden und lieber in Merkel-Land einreisen, denn hier dürfen Familien nachgeholt werden.* (SOURCE: Facebook)
'Asylum seekers and refugees avoid Austria and prefer Merkel-Land, because they can bring family members here.'
Attitudinal meaning: German refugee crisis is Merkel's fault.

Dog-whistle-like character of such compounds:

- Deniability: S can easily deny the attitudinal meanings by claiming that the compounds should be interpreted literally, e.g., claiming that *China-Mask* should be simply understood as "mask from China".
- Divergent perception: Different readers may have different perceptions on whether the attitudinal meaning is present and how strong the attitudinal meaning is.

Following Wildgen (1981) (see details below), we refer to such ad hoc compounds that implicitly convey subjective attitudinal meanings as **enigmatic compounds** (ECs).

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Research question: Through what mechanism do ECs give rise to attitudinal meanings, and how are the attitudinal meanings eventually captured by the addressee?

2 Earlier Studies

2.1 Earlier Studies on Ad Hoc Compounds

Wildgen (1981) on *enigmatic compounds*:

- ECs bear a referential function, but refer in a obscure ('*enigmatic*'), metaphoric and/or expressive manner instead of a neutral manner.
  → Two facets of the ECs: 1) referring to the referent; 2) conveying the author's opinion and/or latent attitude towards the referent.

- Reader's understanding of the ECs is a process of understanding the subjective attitudes of the author which motivates the creation of the ECs.

Elsen (2004) on three types of *occasionalisms*:

- Textual occasionalisms: for the aim of concise and economic presentation (e.g., avoid repetition)
  e.g., *Neujahrssturm* 'New Year's storm' vs. *der Sturm, den es auf Neujahr gab* 'storm at the New Year'

- Referential occasionalisms: arise from the need of naming new concepts; refer neutrally; mostly understandable without contexts
  e.g., *Schulranzenschneiderin* 'school bag tailor'

- Stylistic occasionalisms:

  - expressive and/or metaphoric;
  - mostly have neutral alternatives → the more "marked" occasionalisms have appraisive or manipulative effects;
  - sometimes bear meliorative, pejorative or euphemistic functions

  e.g., *Spritfresser* 'gasoline eater': a car that uses a lot of gasoline

Restrictions of earlier studies on ECs:

- Restrict on the taxonomic and descriptive level, but do not provide explanation on the mechanism how...

  - ...ECs can give rise to attitudinal meanings;
  - ...the attitudinal meanings are captured by the addressee.

2.2 Earlier Studies on Compound Meaning

Earlier studies on compound meaning share the common assumption that there is some covert, meaning-decisive *semantic relation* $\mathcal{R}$ between the constituents of a compound:

(4) Let C_1C_2 be a compound where $[\![C_1]\!] = m_1$ and $[\![C_2]\!] = m_2$.
Then: $[\![C_1C_2]\!] = \mathcal{R}(m_1, m_2)$

See, e.g., Levi (1978) and Fanselow (1981) who proposed taxonomies of the semantic relations, and Meyer (1993), Ryder (1994) and Benczes (2009) who proposed different assumptions on how the semantic relations are derivated.

Restrictions of earlier studies on Compound Meaning: Studies based on the assumption in (4) is insufficient to capture ECs' effect of triggering attitudinal meanings:

- In many cases, the attitudinal meanings can not arise from the semantics of the sentimentally neutral constituents (see (1)-(3) above);
- Nor do the attitudinal meanings constitute *semantic relations* between constituents.

3 Experiment: Readers' Perception of Enigmatic Compounds

To empirically validate ECs' effect of triggering attitudinal meanings, we conducted an experiment on readers' perception of ECs.

Experimental Settings:

- We selected 21 text snippets containing ECs from newspaper articles and social media posts as material. All ECs are expected to trigger negative attitudinal meanings.
- From each text snippet, 3 variants (conditions) were created:
  - Compound condition: The original text snippet with EC
    e.g., *headscarf-intern, China-masks, Merkel-land*
  - Phrasal condition: EC is substituted with a corresponding phrasal formulation
    e.g., *intern wearing a headscarf, masks from China, the country governed by Merkel*
  - Neutral condition (baseline): EC is substituted with a sentimentally neutral formulation
    e.g., *intern, masks, Germany*

  Appendix A shows an example of the stimulus *China-mask*.
- All 21*3=63 text snippets were allocated to three lists by a Latin square design.

- Each participant was asked to rate the sentiment of 19 text snippets by answering the question "*How does the author talk about ___?*" on a Likert scale from 1=*very positive* to 7=*very negative* (see Appendix A).
  → In many cases, the contexts also include attitude-conveying factors, but with a fine-grained 7-point Likert scale, we could compare whether the compound condition is judged as conveying stronger attitudinal meaning.

Result:
283 German native speakers participated in the experiment. We applied *cumulative link model* (a model for ordinal-scale observations; see Christensen 2018) to examine the effect of different conditions on the rating:

$$\text{logit}(P(Y \leq j)) = \log \frac{P(Y \leq j)}{P(Y > j)} = \theta_j - \beta_1 x_1 - \beta_2 x_2 - ... - \beta_n x_n \quad (1)$$

(Y: the categorical dependent variable; j: a level of Y; x: dependent variables; θ_j: intercept of level j; β: estimated coefficients)

Specifically, we used the R package `clmm` to fit a *cumulative link mixed model* (Christensen 2018), which was able to incorporate random effects:

- Dependent variable: ratings (1-7)
- Fixed effect: conditions (*compound/phrasal/neutral*, *compound* as reference level)
- Random effect: text snippets, participant IDs

The three conditions show significant difference (see Table 1): Specifically, when phrasal alternative is used instead of EC, the logit of the text snippet being rated more positive is significantly higher (as indicated by the negative coefficient β=−0.5231).

	β	Std. Error	z value	p
phrasal condition	-0.5231	0.1503	-3.482	0.000498 ***
neutral condition	-0.8515	0.2366	-3.599	0.000320 ***

Table 1: Estimation of the fixed-effect factor (i.e., the conditions).

In short: phrasal forms are perceived as more positive than compound forms.
→ An EC E_1E_2 do not refer to the referents in the same way as its phrasal alternative P does:

(5) $[\![E_1E_2]\!] = [\![P]\!] + \phi$ (ϕ: the extra attitudinal meaning conveyed by E_1E_2)

4 A Unified Analysis of Ad Hoc Compounds

We propose a unified analysis to interpret an ad hoc compound C_1C_2 as Enigmatic or Referential compound. Assuming an utterance $U(C_1C_2)$ by speaker S to addressee A, our model builds on the following doxastic spaces:

- Common ground $CG_{S,A}$ (Stalnaker 2002): the set of propositions that both interlocutors believe;
- Sets of propositions Bel_S and Bel_A, coding the speaker's and addressee's beliefs.

Furthermore, we use the following sets of propositions:

- $\{p_1, ..., p_n\}$ is a set of propositions coding the recent steps in discourse, current topic and context facts (e.g. time/space limitations).
- $\{r_1, ..., r_k\}$ is a set of propositions coding beliefs about people/things that are C_2 in the C_1-way; e.g., that they, or a subclass of these has certain (negative) properties or fulfills (negative) stereotypes. These beliefs justify an ad-hoc kind in C_2.
- As before, we abbreviate additional attitudinal content as ϕ.

We assume that the doxastic basis of insinuations – triggered by the compound – can be identified as a specific body of beliefs; granting that it may be difficult in practice to list the exact propositions in play. As the interlocutors S, A share knowledge about the ongoing discourse, $\{p_1, ..., p_n\} \subset CG_{S,A}$.

Flouting: We assume that the use of a innovated compound flouts the Gricean Maxim of Manner (Grice 1975); specifically the submaxim 'avoid obscurity of expression' and its modern counterpart *M-heuristic* (Levinson 2000).

> M-heuristic: 'What's said in an abnormal way, isn't normal; Marked message indicates marked situation'.

The addressee A has various options to react to Flouting. These options depend on whether A and/or S entertain the critical beliefs $\{r_1, ..., r_k\}$. As a consequence, different interpretations of $U(C_1C_2)$ arise. We predict four possible constellations.

Case 1: Insinuation understood

- A receives utterance $U(C_1C_2)$
- $\{r_1, ..., r_k\} \subset Bel_A$
- $\{r_1, ..., r_k\} \subset Bel_S$

A assumes that S, by flouting the manner submaxim, aims to implicate that C_1C_2 is meant to denote the salient ad-hoc kind. Stereotypes apply to the referent, and therefore attitudinal content arises. $CG_{S,A} + [\![U(C_1C_2)]\!] \models \phi$.

Example: S uses *headscarf-intern* and believes {*Headscarfs are typically worn by Muslimas, Religious practices of Muslims often cause trouble for others*}. A shares this belief. This invites the more narrow interpretation 'muslima intern' and, together with the shared belief, entails ϕ = 'the referent is likely to cause trouble'.

Case 2: No insinuation — Referential compound

- A receives utterance $U(C_1C_2)$
- Neither A nor S believe $\{r_1, ..., r_k\}$
- $\{p_1, ..., p_n\} \subset$ CG
- CG entails: Discourse is time/space limited. C_1 contributes novel information; phrasal alternatives of C_1C_2 would be longer.

Conflict between maxims: Flouting of 'Avoid ambiguity' is counterbalanced by the maxim of quantity ('Be as informative as required') together with manner ('Be brief'). The referential reading is justified, no attitudinal meaning arises.

Example: S uses *Rathauspraktikant* 'town hall intern' in a text under space limits. Neither A nor S have beliefs about interns at the town hall. The intern's work place was not mentioned before (= new information) and phrasal alternatives eat up more space. The neutral interpretation 'intern who works at the town hall' is therefore justified.

Case 3: Insinuation misfires
ECs have a dog-whistle-like character, as some addressees fail to capture their attitudinal meanings, i.e., the attitudinal meaning intended by S "misfires".

- A receives utterance $U(C_1C_2)$
- $\{r_1, ..., r_k\} \nsubseteq Bel_A$
- $\{r_1, ..., r_k\} \subset Bel_S$

A interprets $U(C_1C_2)$ based on the referential reading of the compound. The shared knowledge about the ongoing discourse $\{p_1, ..., p_n\}$ may or may not support current importance of 'Be brief' over 'Avoid ambiguity'. A assumes that S, by flouting the manner submaxim, aims to sound original or puts more weight on the submaxim 'Be brief', see Case 2.

Example: S uses *headscarf-intern* and believes {*Headscarfs are typically worn by Muslimas, Religious practices of Muslims often cause trouble for others*}. A is not aware of this belief. A interprets the compound in the neutral sense; A assumes that S aimed to sound original or felt under time/space pressure.

Case 4: Unintended insinuation

- A receives utterance $U(C_1C_2)$
- $\{r_1, ..., r_k\} \subset Bel_A$
- $\{r_1, ..., r_k\} \nsubseteq Bel_S$

A assumes that S aims to implicate that C_1C_2 denotes the salient ad-hoc kind and entails insinuation ϕ. What A understands is not what S meant to say. Let CG^*_A be the set of propositions that A assumes (erroneously) to be the common ground.

- $CG^*_A \cup [\![U(C_1C_2)]\!] \vDash \phi$
- $CG_{S,A} \cup [\![U(C_1C_2)]\!] \nvDash \phi$

At first sight, the constellation looks unlikely. S must have a reason to use a novel compound. S should be aware of the unjustified interpretive burden for A (unless there is a clear benefit for Brevity/Informativity). However, the constellation *does* play a role when A accuses S of incorrect speech. Speakers typically use the Case 4 constellation as their excuse strategy.

5 Conclusion

- Our large-scale experiment compared ECs with their neutral and phrasal alternatives. We showed that compounding significantly increases additional attitudinal meanings.
- We proposed a unified analysis of the interpretation of ad hoc compounds. It explains how received and intended message depend on beliefs shared by A,S and how these lead to referential or enigmatic interpretation. The analysis also captures the dog-whistle character of ECs.
- The model might be extendable to other interpretation processes that depend on shared belief, specifically the interpretation of metaphor.

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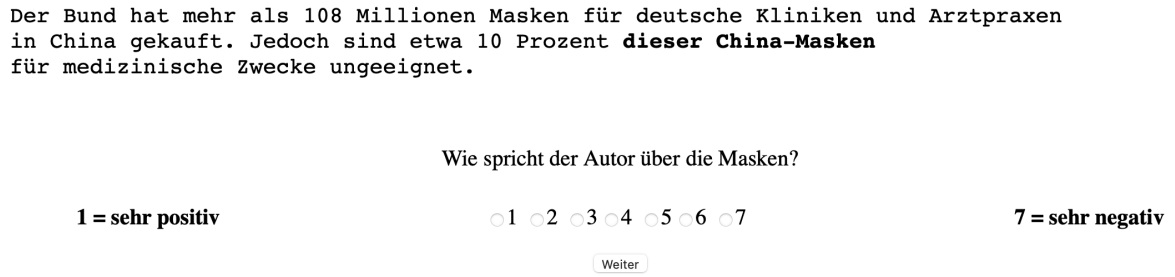
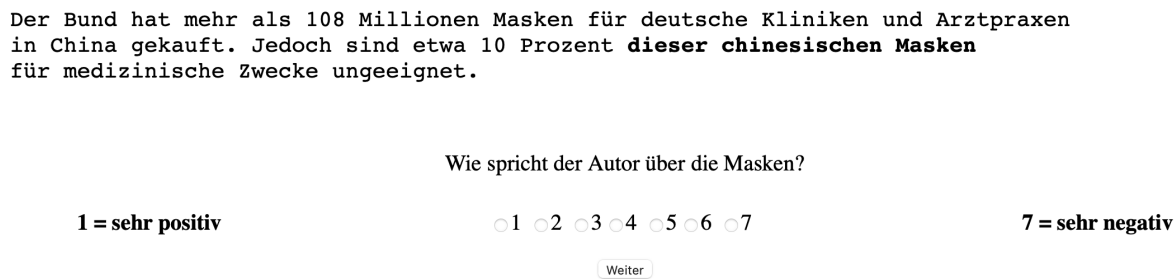
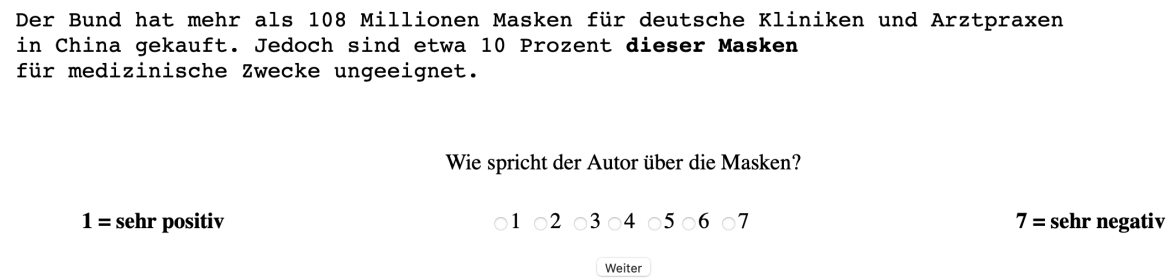
A Sample stimulus of the study



(a) Compound condition.



(b) Phrasal condition.



(c) Neutral condition.