

**Anaphoric Potential of Weak Definites  
contrasted with Implicit Entities and Indefinites in German**

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Weak definites (WDs) as in *going to the cinema* (Poesio 1994, Carlson & Sussman 2005, Schwarz 2013, 2014) differ from regular definites in various respects: They have a number-neutral reading (cf. *Mary took the train to Munich* – could be one or more trains), they co-vary in conjunctions (as in *Peter went to the cinema and Mary too*) and they take narrow scope under quantifiers (as in *everybody went to the cinema* – it could be different cinemas in either case). As such, WDs appear to be similar to narrow-scope indefinites (IDs) as in *going to a cinema*. However, WDs differ from IDs as they support anaphoric uptake to a reduced degree (Scholten & Aguilar-Guevara 2010). For example, in German, which marks WDs different from regular definites as objects of certain prepositions, (1a) with an ID antecedent is generally judged better than (1b) with a WD antecedent.

- (1) a. *Dann gingen wir in **ein Kino**. Wir haben **es** schon von weitem gesehen.*  
‘Then we went to **a cinema**. We already saw **it** from afar.’  
b. *Dann gingen wir **ins Kino**. Wir haben **es** schon von weitem gesehen.*  
‘Then we went **to.the cinema**. We already saw **it** from afar.’

We present two experiments. The first shows that anaphoric reference to WDs by pronouns as in (1b) is indeed possible, and is distinct from associative anaphora, which strongly prefer full noun phrases. The second shows that anaphoric reference to WD antecedents as in (1b) is less straightforward than anaphoric reference to ID antecedents as in (1a) (cf. Authors, 2023).

The results of the first, but also the second experiment argue against theoretical proposals for WDs, that analyze them as kind-referring (Aguilar-Guevara & Zwarts 2010), as property denoting (van Geenhoven 1992, McNally 1995), or as involving predicate restriction instead of argument saturation (Ladusaw & Chung 2003, Dayal 2015), or as having no discourse referents (Farkas & de Swart 2003). These theories do not assume that any entity-level discourse referent (DR) is introduced. Based on these theories, anaphoric uptake as in (1b) would have to rely on a process different from direct uptake, one plausible option being associative anaphora (also called bridging or inferable anaphora, cf. Gundel et al. 1993).

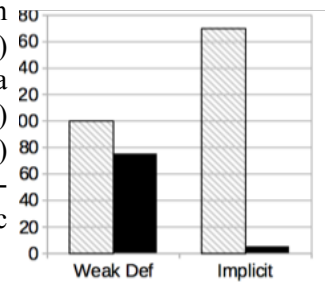
If WDs uptake were due to bridging, then there should be no difference in anaphoric uptake between (2)(a) and (b): *dem Flugzeug* in 2(a) is a clear case of a WD, as no airplane was mentioned or is implied by general world knowledge (contraction to *mit’m* is possible in the spoken register). *Fliegen* in (b) implicitly invokes an airplane as the prototypical means of airborne transportation.

- (2) *Susanne ist Journalistin bei einem Nachrichtensender.*  
‘Susanne is a journalist working with a news agency.’  
a. *Gestern ist sie **mit dem Flugzeug** nach Costa Rica geflogen.*  
‘Yesterday she flew to Costa Rica by airplane.’  
b. *Gestern ist sie nach Costa Rica **geflogen**.*  
‘Yesterday she flew to Costa Rica.’

Garrod & Sanford (1982) observed that bridging preferably uses definite DPs over pronouns (*Mary dressed the baby. The clothes / #They were made of pink wool.*) If anaphoric uptake of both (2a) and (2b) were via bridging, we expect preference of definite DP (*das Flugzeug*) over pronouns (*es*) in either case:

- (3) *Da über dem Atlantik starke Stürme herrschten, geriet {es / **das Flugzeug**} öfters in Turbulenzen.*  
‘Since there were strong storms over the Atlantic Ocean, {it / the airplane} often ran into turbulence.’

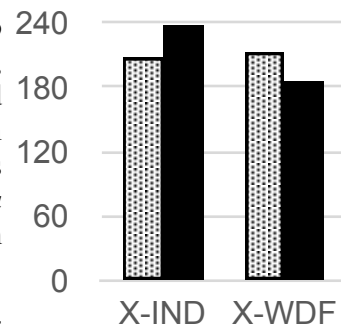
However, **Experiment 1** (36 participants, 25 items), a selection tasks between anaphora (*es*) and full DP (*das Flugzeug*) as in (2) where each participant saw one version of each item, revealed a clear difference: While participants continued (b) (implicit cases) overwhelmingly with definite DPs as predicted, they continued (a) (WD cases) nearly as often with pronouns. The difference is highly significant. We conclude that WDs must allow for anaphoric uptakes distinct from associative anaphora.



**Experiment 2:** Testing the accessibility of WD and ID antecedents in subsequent sentences has resulted in relatively subtle differences. Here we report on an experiment that uses a novel technique that did not involve restricted production (as in the selection task of Experiment 1), but interpretation. Here we presented participants with antecedent sentences that contained a conjunction of an ID antecedent followed by an WD or an ID antecedent. The second sentence contained a pronoun compatible with either antecedent (in its gender and its plausible interpretation). Consider (4a/b) as an example.

- (4) a. Nora hat sich gestern ein Museum angeschaut, bevor sie ins Kino gegangen ist. Es war gerade neu eröffnet worden.  
 ‘Nora went to a museum yesterday before going to the cinema. It was newly opened.’  
 b. Nora hat sich gestern ein Museum angeschaut, bevor sie in ein Kino gegangen ist. Es war gerade neu eröffnet worden.  
 ‘Nora went to a museum yesterday before going to a cinema. It was newly opened.’

In an online survey (60 participants, 14 + 7 filler items, randomized using Latin square design), the participants were asked to read the antecedent clause as in the sample item (4)(a) or (b), followed by a sentence with a pronoun that potentially referred to either one of the antecedents. The participants were then asked, on a separate screen, to decide whether the pronoun refers to the first or the second antecedent (here, *Was ist gerade neu eröffnet worden?* ‘What was newly opened?’), with a selection between *das Museum* und *das Kino*).



In the ID-ID case, we found a preference for the second antecedent, which is to be predicted because it is more recent, hence more salient (Ariel 1991). In the ID-WD case, the second antecedent was slightly disfavored. The difference between uptake of IDs and WDs in second position was significant (Wilcoxon p-value = 0,01). At the same time, there were many cases in which the pronoun was interpreted as referring to the WD antecedent. These results are in line with the eye-tracking study by Broscher et al. (2020). We conclude that WDs do introduce DRs, but that these DRs are less salient than the DRs introduced by IDs.

The result supports accounts of WDs that assume that they introduce DRs, even though in a less straightforward way. One proposal in this direction is Krifka & Modarresi (2016), who assume that weak definites, as well as bare nouns, introduce embedded DRs that can be made available for anaphoric reference by abstraction and summation, a method that has been earlier used for quantifiers in DRT by Kamp and Ryle, 2003. We explain this anaphoric uptake process for WDs in DRT using abstraction and summation.

**Selected References:** Aguilar-Guevara, A & J Zwarts. 2010. Weak definites and reference to kinds. *SALT* 20. 1-15. Brocher, A., Weeber, F., Hoek, J., Heusinger, K. von, 2020. Referent management in discourse. The accessibility of weak definites. In: *Proceedings of the 42nd Annual Conference of the Cognitive Science Society*, pp. 2829-2835. Carlson, G & R S Sussman. 2005. Seemingly indefinite definites. In: Kepser, Stefan & Marga Reis, (eds), *Linguistic evidence: Empirical, theoretical, and computational perspectives*. Berlin: Mouton, 26-30. Dayal, V. 2015. Incorporation: Morpho-syntactic vs. semantic considerations. In: Borik, Olga & Berit Gehrke, (eds), *The syntax and semantics of pseudo-incorporation*. Leiden: Brill, 189-221. Krifka, M & F Modarresi. 2016. Number neutrality and anaphoric uptake of pseudo-incorporated nominals in Persian (and weak definites in English). *SALT* 26. 874-891. Schwarz, F 2014. How weak and how definite are weak indefinites? In: Aguilar-Guevara, A,