

Where pointing matters: English and Korean demonstratives

Across languages, demonstratives are associated with anaphoric references in addition to exophoric uses. English pronouns and demonstrative descriptions can be used for both:

- (1) a. I met a producer. {That producer, she} was smart. [Anaphoric]
 b. (Pointing to a producer) Look at {that producer, her}! [Exophoric]

Previous literature have claimed that anaphoric and exophoric references involve the same semantics: Heim & Kratzer (1998) take the only difference between them to be the property of the referent (physical vs. linguistic), which is not reflected in the semantics. Roberts (2002) also gives a unified analysis of the two uses of the English *that*, in which both presuppose a demonstration, and which in the anaphoric case can ‘point’ to a linguistic antecedent and return its reference. That many languages including English use the same morpheme for anaphoric and exophoric uses (cf. Schwarz 2009, 2013) appears to support these assumptions. In contrast, we note that some languages morphologically distinguish the anaphoric and exophoric uses of demonstratives, as in Korean, where the anaphoric use is realized with *ku* and the exophoric one as *ce*, or in Romanian, where exophoric uses prefer a doubly marked definite construction and anaphoric ones do not. In this study we ask how contextual pointing is different from anaphoric pointing by means of a straightforward comprehension experiment comparing English and Korean demonstratives with and without a deictic pointing gesture. We show that pointing has a secondary role in distinguishing between anaphoric and exophoric uses which only appears in English (where there is no morphological distinction), opening the possibility that anaphoric and exophoric references may result from at least somewhat distinct semantic/pragmatic means.

Exp 1. The English version of our study (n=60) contained 14 videos each followed by a brief question. The video showed a speaker with two objects that varied at least on one visual aspect such as color (‘green’ or ‘black’), shape (‘round’ or ‘rectangular’), or state (‘open’ or ‘closed’). In the first sentence, the speaker described one of the objects having a non-visible property, such as being a gift, being broken, etc. An example is given below in (2a). Then, the speaker continued with one of four conditions in the second sentence as in (2b): a. a demonstrative description *that umbrella* with pointing (THAT), b. a demonstrative description without pointing (that), c. a pronoun *it* with pointing (IT), and d. a pronoun without pointing (it).

- (2) Context: two closed umbrellas: green and black
- a. One of the umbrellas is broken.
- b. {THAT umbrella, that umbrella, IT, it} is black.
- (i) THAT, IT: pointing at the black umbrella
- (ii) that, it: not pointing at the black umbrella

Figure 1. condition THAT



Which umbrella is broken?

- The black umbrella
- The green umbrella

After the video, participants were asked which umbrella was broken with a choice between the two umbrellas (Figure 1). In all four conditions, the speaker creates a linguistic antecedent in (2a):

a broken umbrella. In the pointing conditions (THAT and IT), a second potential referent is created: the black umbrella being pointed to. In the non-pointing conditions (that and it), there is no second potential referent. When the question in the survey asks ‘Which umbrella is broken’, we are interested in whether the participant interprets the DP in (2b) as anaphoric. In the non-pointing conditions, we predicted that this will be the case, as there is no other available referent in the context. In condition THAT, we predicted fewer anaphoric readings because of the ambiguity created by the new exophoric referent. For the condition IT, we still predicted an anaphoric reading under the assumption that *it* is anaphoric.

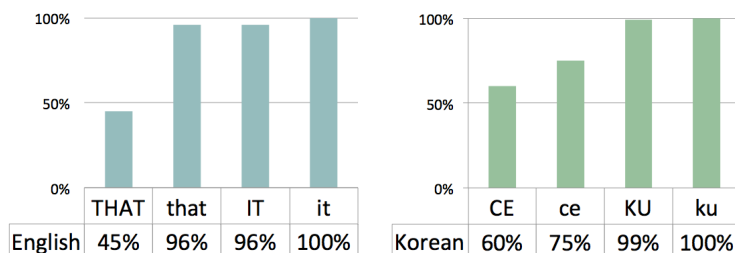
Exp 2. We conducted the same study in Korean (n=37) with the conditions in (3). Korean has a three-way distinction in demonstratives: *i* is used exophorically for proximal referents, *ce* is used exophorically for distal referents, and *ku* is used anaphorically. We tested exophoric *ce* with (CE) and without (ce) pointing, and anaphoric *ku* with (KU) and without (ku) pointing.

- (3) a. *wusan hana-nun kocangnasss-upnita.*
 umbrella one-TOP broken-DECL
 ‘One umbrella is broken.’
 b. {*CE, ce, KU, ku*} *wusan-un kemunsayk-ipnita.*
 umbrella-TOP black-COP-DECL
 ‘That umbrella is black.’

Because the anaphoric use and the exophoric use are morphologically distinguished in Korean, we predicted participants to interpret the DP in (3b) anaphorically for the *ku* conditions (KU and *ku*) regardless of pointing. In the two *ce* conditions (CE and *ce*), we predicted fewer anaphoric readings, regardless of pointing. Thus, we were predicting a similar pattern in both CE and *ce* conditions in Korean as we were in the pointing *that* case in English.

Results. Figure 2 shows the average percentage of anaphoric readings in each language. For both English and Korean, the non-pointing anaphoric *it* and *ku* provided a baseline in which all participants interpreted an anaphoric reading. For English, the non-pointing *that* and the pointing *it* conditions did not

Figure 2. Average percentage of anaphoric reading



differ significantly from the baseline (that: $z=0.198$, $p=.843$; IT: $z=-.110$, $p=.912$), receiving anaphoric readings, while the pointing *that* was interpreted as anaphoric significantly less frequently ($z=-6.753$, $p<.0001$). Given the similar rates for IT and *it*, we can conclude that pointing did not have an effect in a case where there was a clear meaning of anaphoricity associated with the morpheme. In contrast, in Korean, the average percentage of linked reference for the pointing *ku* condition was not significantly different from the baseline *ku* condition ($z=.088$, $p=.93$), while the two *ce* conditions were significantly lower (CE: $z=-3.839$, $p<.0001$; *ce*: $z=-2.826$, $p<.005$). In general, we see that pointing does not force an exophoric use if an anaphoric morpheme is used and vice versa, as shown by English IT and Korean KU and *ce*.

Conclusions. Our study calls into question whether anaphoric and exophoric uses of English *that* and similar demonstratives crosslinguistically should derive from the same semantics. Previous works that treat them using similar mechanisms (Wolter 2006, Roberts 2002) predict a novelty effect in all cases, but what we see is that the non-pointing *that* does not have such novelty effect, contrasting with the non-pointing *ce* condition in Korean. If both anaphoric and exophoric *that* had a novelty effect resulting from the same semantics, we would expect a lower percentage of anaphoric reading with non-pointing *that* as we did with non-pointing *ce*.

This study highlights the importance of cross-linguistic investigation in analyzing demonstratives: while the English pattern leads to one conclusion, languages where morphology distinguishes the different properties suggest another. This work also places the investigation of English *that* in context with a more general investigation of how gesture is incorporated in the overall semantic meaning of a sentence. By comparing the anaphoric and the exophoric uses of *that* with the anaphoric pronoun *it*, and also comparing with Korean where there is a clear morphological distinction between anaphoric and exophoric demonstratives, we show that the semantics of the exophoric *that* should be narrower, with the anaphoric *that* simply receiving a pronoun-like semantics.

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