Focus on demonstratives: Experiments in English and Turkish

Background. While demonstratives differ from definite descriptions in allowing the so-called deictic use (Kaplan 1977), they are also known to allow anaphoric readings similar to definite descriptions (Nowak 2014, Roberts 2002, Wolter 2006, Ahn & Davidson 2017, Ahn 2019), as in (1a). Nevertheless, demonstratives do not always seem to be a natural option in anaphoric contexts, unlike definites, as evidenced by the contrast in (1b).

(1) a. I saw a dog. The/That dog looked happy.   (Ahn & Davidson 2017)
     b. I saw a dog and a cat. The/??That dog looked happy.

For articleless languages, Dayal & Jiang (2021) identify a further contrast between demonstratives and other 'regular' kinds of definites realized by bare nouns, e.g. Mandarin (cf. Jenks 2018):

(2) Jiaoshi   li   zuo zhe yi ge nansheng yi ge nüsheng.
     classroom inside sit   PROG one CL boy   one CL girl
     'There is a boy and a girl sitting in the classroom.'

     a. **Nüsheng** zuo zai **nansheng** pangbian.   b.   Wu zuotian   yudao #(**na ge**) **nansheng**.
         girl   sit dur boy   side   I   yesterday meet that CL boy
         'The girl was sitting next to the boy.'   'I met the boy yesterday.'

They sketch a competition-based approach under which the contrast between (2a) and (2b) is due to different situations invoked by the follow-up sentences: when the initial situation in (2) remains unchanged then speakers have a choice between two felicitous options, and they prefer the simpler option, the bare noun, as in (2a). Once the situation is extended, as in (2b) (e.g., including a new participant), the demonstrative is preferred. Under their view this is because definites might end up infelicitous if the extension in situation is drastic enough to fail the uniqueness requirement of the definite. In contrast, demonstratives would remain felicitous, as they have an anti-uniqueness requirement (*the sun* vs. *#that sun*, e.g., Robinson 2005), which can be satisfied in a wider situation.

Our Study. We present new experimental data from English and Turkish (articleless), testing the acceptability of definites vs. demonstratives across contexts building on this proposal but dissociating number of NPs from extending new situations. We found that acceptability of demonstratives depends independently both on (i) whether one or two NPs are introduced in the initial sentence, and (ii) whether the follow-up sentence introduces a new situation or not. Following Dayal & Jiang (2021) (building on Schwarz (2009)) in assuming that definites and demonstrative expressions in anaphoric contexts are similar in including an anaphoric index argument (3), we argue that demonstratives essentially differ in evoking focus alternatives on the index argument.

Methodology. We test the acceptability of definites vs. demonstratives across 12 different animate and inanimate scenarios in both English and Turkish. Participants (N = 55 for English, N = 62 for Turkish) read short scenarios and were presented with two possible continuations after each, one using a demonstrative and one using a definite (order counterbalanced across items) and were asked to rate the acceptability of each continuation using a slider bar (Fig 1). Scenarios themselves varied between participants in a Latin Square design by number of competing reference (one vs. two) and situation (old vs. new), for a 2x2x2 design.[See (5) & (6)]. New situations always introduced a new event participant (e.g. speaker or someone else) and a temporal change from the old situation.

Results. We fit our data with a mixed effects linear model in R, which found a main effect of definites rated significantly higher than demonstratives in both English and Turkish. Within demonstrative responses, we found a main effect of number of prior referents (demonstratives were significantly more acceptable in One NP contexts), and a main effect of Situation (demonstratives

were significantly more acceptable in New Situations) in both languages, and an interaction between New Situation and Two NP cases in Turkish but not in English. In each language, we found the same pattern both in the overall dataset and within demonstrative responses. (Fig 2 & 3)

Discussion & Analysis. Our definite continuations were mostly at ceiling, unsurprising given the unique, previously mentioned matching NP. In these same scenarios, demonstratives showed acceptability that ranged from near definite levels in the case of a single NP in a new situation, to much lower levels in the case of two NPs in an old situation. We take our data to be best explained in a focus-driven information structural approach (Rooth 1992, Roberts 2012) to demonstratives: the definite determiner is used in the absence of focus (4a) or when focus is on the NP (4b), while the demonstrative is used when focus within the DP is not on the NP but on its index argument (4c) (following Elbourne (2005) in locating the index as the first argument to D). Following Dayal & Jiang (2021), we take demonstratives to have an anti-uniqueness requirement that needs to be satisfied in the maximal situation, but we depart from them in arguing that demonstratives are also evaluated at that maximal situation (3b), which derives the correct focus alternatives.

(3) a. $[\![\text{DEF}]\!] = \lambda s.\lambda y.\lambda P : \exists!x[P_s(x) \wedge x = y].\ \iota x[P_s(x) \wedge x = y]$ (Schwarz 2009)

    b. $[\![\text{DEM}]\!] = \lambda s.\lambda y.\lambda P : Maximal(s) \wedge \exists!x[P_s(x) \wedge x = y] \wedge |P_s| > 1.\ \iota x[P_s(x) \wedge x = y]$

(4) a. $[\![[\text{DEF } 1\ ] \text{ boy}]\!]^o = \iota x[boy(x) \wedge x = g(1)]$

    b. $[\![[\text{DEF } 1\ ] \text{ boy}_F]\!]^o = \iota x[boy(x) \wedge x = g(1)]$

       $[\![[\text{DEF } 1\ ] \text{ boy}_F]\!]^f = \{\iota x[boy(x) \wedge x = g(1)], \iota x[girl(x) \wedge x = g(2)]\}$

    c. $[\![[\text{DEM } 1_F\ ] \text{ boy}]\!]^o = \iota x[boy(x) \wedge x = g(1)]$

       $[\![[\text{DEM } 1_F\ ] \text{ boy}]\!]^f = \{\iota x[boy(x) \wedge x = g(1)], \iota x[boy(x) \wedge x = g(3)]\}$

Definites, as expected, are highly acceptable across the board in our data given that all scenarios are consistent with a unique boy. In terms of focus, our stories set up no expectation for DP focus at all in One NP cases. In the Two NP cases the natural focus is on the NP itself (*boy*, contrasted with *girl*), which is acceptable focus placement with a definite determiner. On the other hand, demonstratives are degraded in 2 NP cases; we take this to be because the presence of 2 NPs biases towards the placement of focus on the NP. Demonstratives are also generally degraded in Same Situation trials as opposed to New Situations trials; we take this to be because continuation with a New Situation is most compatible with considering a maximal situation involving other boys (e.g., $g(3)$), which under our analysis is the best scenario for focus on *that*. That we find the same pattern in languages that express definites through articles (English) or bare nouns (Turkish) reinforces the potential crosslinguistic breadth of this proposal. We suggest that the contrast in Mandarin (2b) is obfuscated since bare nouns in Mandarin can also have indefinite readings (e.g. Cheng & Sybesma 1999), whereas demonstratives would be unambiguously anaphoric.

Conclusions. To better understand definite and demonstrative semantics, we directly pitted the two against each other in an acceptability study and found evidence for information structural constraints on demonstratives (focus realized on the determiner) that seem to complement those of definites (focus anywhere but determiner). Our study naturally has limits, for example participants judged demonstratives directly against definites (following Marty et al. 2020), likely highlighting that contrast. We see our conclusions as broadly complementing work on the demonstrative spectrum, proposing focus placement as playing a critical role in the definite/demonstrative distinction. While we don't yet have an account for why the interaction between New Situation and Two NP cases is significant only in Turkish (and not in English), we anticipate that our ongoing experiment in another determinerless language, Bangla, will shed more light and insight on this contrast.
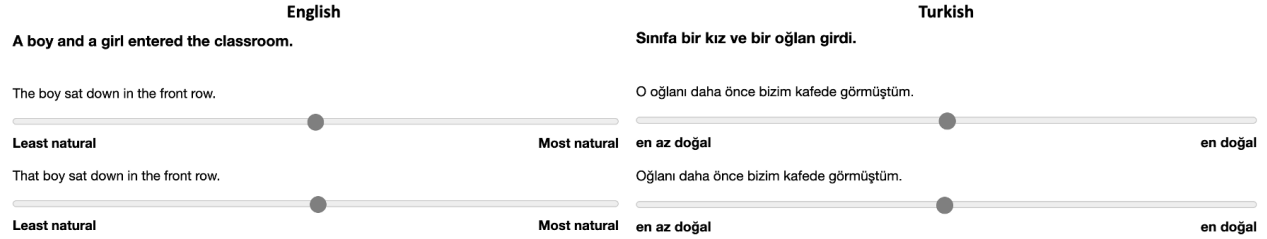
A boy and a girl entered the classroom.

The boy sat down in the front row.

|————————————————⬤————————————————|
Least natural   Most natural

That boy sat down in the front row.

|————————————————⬤————————————————|
Least natural   Most natural

Sınıfa bir kız ve bir oğlan girdi.

O oğlanı daha önce bizim kafede görmüştüm.

|————————————————⬤————————————————|
en az doğal   en doğal

Oğlanı daha önce bizim kafede görmüştüm.

|————————————————⬤————————————————|
en az doğal   en doğal

Figure 1: Screenshot of experiment in 2NP New Situation condition

(5) {[$_{OneNP}$ A boy]/ [$_{TwoNP}$A boy and a girl]]} entered the classroom.   [**English**]

    a. {The/that} boy sat down in the front row. **(Same Situation)**
    b. I had noticed {the/that} boy at a coffee shop yesterday. **(New Situation)**

(6) Sınıf-a   {[$_{OneNP}$ bir oğlan]/ [$_{TwoNP}$ bir kız ve bir oğlan]} gir-di.   [**Turkish**]
    class-DAT   one boy   one girl and one boy   enter-PAST
    'A boy/A boy and a girl entered the classroom.'

    a. {∅/O} oğlan ön   sıra-lar-dan   biri-ne   otur-du. **(Same situation)**
       ∅/that   boy   front seat-PL-ABL one.of-DAT sit-PAST
       'The/That boy sat down in one of the front seats.'

    b. {∅/O} oğlan-ı   daha önce bizim kafe-de   gör-müş-tü-m.   **(New situation)**
       ∅/that boy-ACC before   our   cafe-LOC see-ANT-PAST-1SG
       'I had seen the/that boy at our coffee shop before.'
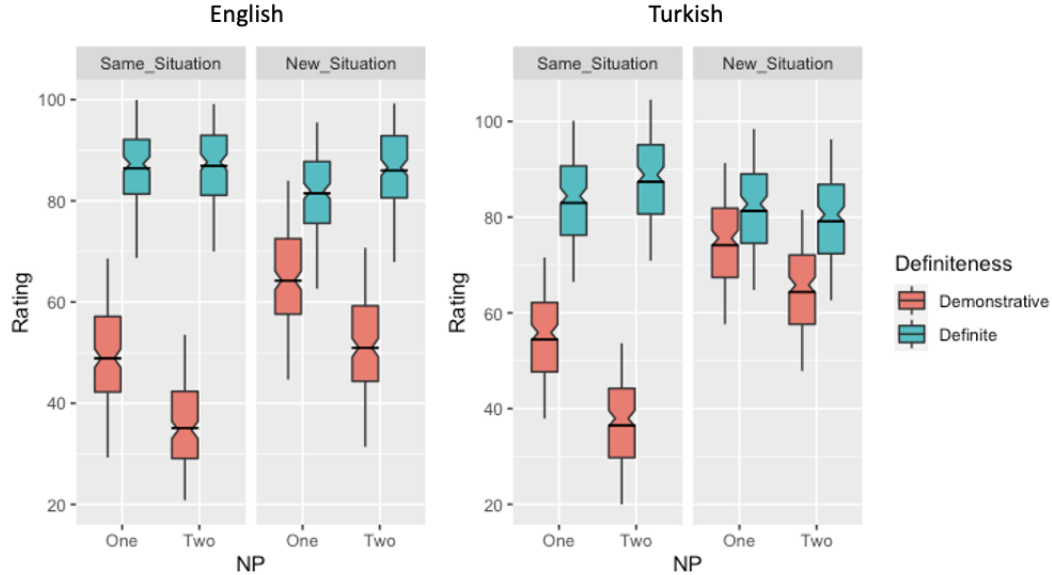
Figure 2: Effect of Situation and number of NP

	English		Turkish	
Parameter	*estimate*	*p - value*	*estimate*	*p - value*
Definite *(overall)*	39.412	p < 0.05	28.548	p < 0.05
Demonstrative				
Two NP	-15.069	p < 0.05	-17.913	p < 0.05
New_Situation	15.392	p < 0.05	19.723	p < 0.05
New_Situation*Two NP	1.803	p = 0.61	8.092	p = 0.01

Figure 3: Summary statistics

References. *(also hyperlinked in in-text citations)* **Ahn & Davidson 2017**. Where pointing matters: English and Korean demonstratives. **Ahn 2019.** THAT thesis: a competition mechanism for anaphoric expressions. **Cheng & Sybesma 1999.** Bare and not-so-bare nouns and the structure of NP. **Dayal & Jiang 2021.** The puzzle of anaphoric bare nouns in Mandarin: a counterpoint to *Index!* **Elbourne 2005.** Situations and individuals. **Kaplan 1977.** Demonstratives. **Marty, Chemla, & Sprouse 2020.** The effect of three basic task features on the sensitivity of acceptability judgment tasks. **Nowak 2014.** Demonstratives without rigidity or ambiguity. **Roberts 2002.** Information Structure: Towards an integrated formal theory of pragmatics. **Roberts 2002.** Demonstratives as definite. **Robinson 2005.** Unexpected (in)definiteness: plural generic expressions in Romance. **Rooth 1992.** A theory of focus interpretation. **Schwarz 2009.** Two types of definites in natural language. **Wolter 2006.** That's that: the semantics and pragmatics of demonstrative noun phrases.