

What is this talk about?

- ▶ In some languages, additive particles may also license scalar inferences in certain environments.
(Mari and Tovená 2006; Exteberria and Irurtzun 2015, Faller 2022, a.o.)
- ▶ We investigate the Turkish additive particle *da*:

(1) Who came to the party last night?

- a. A: Can geldi.
Can came.
- b. B: Suzan **da** geldi.
Suzan TOO came
'Suzan came, too.'

What is this talk about?

- ▶ The additive particle *da* can be translated into English as *even* in particular contexts, e.g. in conditional antecedents

(2) [[Yağmur] **da** yağ-sa] pikniğ-e gid-eceğ-iz.
rain TOO precipitate-COND picnic-DAT go-FUT-2PL
'**Even** if it rains, we will go on a picnic.'

What is this talk about?

- ▶ We argue that *da* is always an additive particle and does not have a scalar presupposition.
- ▶ We explain the *even*-like interpretation of *da* as follows:
 - ▶ *da* requires discourse to be incremental (become more informative from one proposition to the next)
 - ▶ Provided that a scale of informativeness is contextually available, a single utterance that features *da* is construed as the most informative utterance among alternatives, **contextually entailing** the less informative alternatives.
 - ▶ This interpretation is derived as a **scalar implicature**.

Outline

1. Background on *da* (Göksel and Özsoy 2003)
2. *da* in Conditionals
3. Deriving the *even*-like interpretation of *da*
4. Further Predictions
5. Remaining Issues

Background on *da*: its semantic requirement

- ▶ *da* behaves like a MO-particle in the sense of Szabolcsi (2015). Its semantic requirement (which amounts to additivity) can be checked in two ways:
 - ▶ [1] by an utterance that precedes the *da*-sentence:

(3) Which students applied to the PhD programs this year?

a. A: Ayşe ile Mehmet başvurdu.

Ayşe with Mehmet applied.

'Ayşe and Mehmet did.'

b. B: Harun **da** başvurdu.

Harun TOO applied

'Harun did, too.'

Background on *da*: its semantic requirement

- ▶ its semantic requirement can be checked:
 - ▶ [2] mutually in *da-da* conjunctions (both ... and)

(4) Did Harun or Şeyma apply to the PhD programs this year?
[alternative question]

- a. A: Harun **da** başvurdu, Şeyma **da** (başvurdu).
Harun TOO applied Şeyma TOO (applied).
'Both Harun and Şeyma did.'
- b. A': Harun **da** Şeyma **da** başvurdu.
Harun TOO Şeyma TOO applied.
'Both Harun and Şeyma did.'

Background on *da*: its syntactic placement

- ▶ in *da-da* conjunctions, the attachment-site of *da* determines what can be overt alternatives:

(8) e.g. VP-focus

a. A: Did you go to the movies or walk in the park?

b. B: Sinemaya **da** gittik, parkta **da**
movies.DAT TOO we.went park.LOC TOO
yürüdük.
we.walked
'We both went to the movies and walked in the park.'

da in Conditionals

da yields an *even*-like interpretation in conditional antecedents.
This can happen with:

- ▶ antecedent-internal *da* (VP-focus)

(9) [[Yağmur] **da** yağ-sa] pikniğ-e gid-eceğ-iz.
rain TOO precipitate-COND picnic-DAT go-FUT-2PL
'**Even** if it rains, we will go on a picnic.'

- ▶ antecedent-final *da* (verum/polarity-focus)

(10) [[Yağmur yağ-sa] **da**], pikniğ-e
rain precipitate-COND TOO picnic-DAT
gid-eceğ-iz.
go-FUT-2PL
'Whether it rains (or not), we will go on a picnic.'

da in Conditionals

- ▶ We argue that Guerzoni & Lim's (2007) analysis explains the verum-focus cases but does not extend to VP-focus cases.
- ▶ Under verum focus, alternatives are logical opposites: p and $\neg p$. When [if p , q] is asserted and [if $\neg p$, q] is presupposed, the consequent is entailed, for the two alternatives exhaust the logical space.
- ▶ This results in the factive implication [no matter what, q]:

(11) $\llbracket \llbracket \text{if rainy} \rrbracket_F \text{ DA } \rrbracket \text{ picnic} \rrbracket^w$
assertion: $\llbracket \llbracket \text{if rainy} \rrbracket \text{ picnic} \rrbracket^w = 1$
additive presupposition:
 $\exists q [q \in \{\text{if rainy, picnic, if } \neg \text{rainy, picnic}\} \&$
 $q \neq \llbracket \text{if rainy, picnic} \rrbracket \& q(w)=1$

da in Conditionals: verum-focus cases

- ▶ There is evidence that antecedent-final *da* requires logical opposites as alternatives.

da in Conditionals: verum-focus cases

[1] in *da-da* conjunctions, alternatives are overt:

- (12) Yağmur yağ-sa da, yağ-**ma**-sa
rain precipitate-COND DA precipitate-NEG-COND
da, pikniğ-e gid-eceğ-iz.
DA picnic-DAT go-FUT-2PL
'We will go on a picnic whether it rains or not.'

da in Conditionals: verum-focus cases

[2] clause-final *da* requires alternatives which are logical opposites.

- ▶ polarity-focus requires clause-final attachment (Kamali 2011).

(13) Sinemaya git-ti-n **mi**, git-me-di-n **mi**?
movies.DAT go-PST-2SG Q go-NEG-PST-2SG Q
'Did you go to the movies or not?'

(14) Sinemaya git-ti-m **de**, git-me-di-m **de**.
movies.DAT go-PST-1SG TOO go-NEG-PST-1SG TOO
Lit: 'I both went to the movies and did not go (to the movies).'

(OK if continued by an explanation like 'I went there but I felt sick after 5 minutes, so I had to leave.')

da in Conditionals: verum-focus cases

- ▶ Therefore, when *da* is antecedent-final, the *even*-like interpretation follows from its requirement to have logical opposites as alternatives.

(15) Yağmur yağ-sa **da**, pikniğ-e gid-eceğ-iz.
rain precipitate-COND DA picnic-DAT go-FUT-2PL
'We will go on a picnic whether it rains or not.'

da in Conditionals: VP-focus cases

- ▶ Our real puzzle is how the scalar interpretation arises in cases where *da* is antecedent-internal, e.g. has VP-focus.

(16) [[Yağmur] **da** yağ-sa] pikniğ-e
rain TOO precipitate-COND picnic-DAT
gid-eceğ-iz.
go-FUT-2PL
'**Even** if it rains, we will go on a picnic.'

da in Conditionals: VP-focus cases

- ▶ In this case, the relevant alternatives are not logical opposites:

(17) **[Yağmur da yağ-sa],* *[yağmur da*
rain TOO precipitate-COND rain TOO
yağ-ma-sa], pikniğ-e gid-eceğ-iz.
precipitate-NEG-COND picnic-DAT go-FUT-2PL

da in Conditionals: VP-focus cases

- ▶ but rather other VP-denotations, as evidenced by the overt conjuncts in *da-da* conjunctions.

(18) [Yağmur da yağ-sa], [şimşek de
rain TOO precipitate-COND thunder TOO
çak-sa], pikniğ-e gid-eceğ-iz.
clap-COND picnic-DAT go-FUT-2PL
Lit.: 'both if it rains and if thunder claps, we will go on a picnic.'

- ▶ Given that there is no logical relationship between the alternatives, Guerzoni and Lim's account does not extend to these cases.
- ▶ Therefore, we need an account of the scalar inferences in cases that fall outside polarity-focus.

Two types of Additive Particles

Zhang & Ling (2016) identify two types of additive particles:

1. one that requires discourse to be **incremental**, i.e., become more informative from one proposition to the next, e.g., German *noch*, Mandarin *hái*, Hungarian *még*
2. one that indicates similarity between distinct propositions, e.g., English *also*, German *auch*, Mandarin *yě*, Hungarian *is*

Two types of Additive Particles

For example, German *noch* vs. *auch* (cf. Löbner 1989, Krifka 2000, Ippolito 2007):

- (19) $\llbracket p, \text{NOCH } q \rrbracket$:
Asserts: $p \wedge q$
Requires: q adds new information ($(p \wedge q) \subset p$)
 \rightsquigarrow being **incremental** from p to $p \wedge q$
- (20) $\llbracket p, \text{AUCH } q \rrbracket$:
Asserts: $p \wedge q$
Requires: p and q describe distinct events that share some kind of similarity
 \rightsquigarrow **parallelism** between p and q

Two Types of Additive Particles

- ▶ The first type allows both additive and scalar inferences based on two parameters modulating discourse structure:
 1. entailment relation
 2. order among propositions
- ▶ The second type only allows additive readings.

The analysis of *da*

- ▶ Building on Zhang & Ling (2016) and Szabolcsi (2015), we ...
 - ▶ analyze *da* as an instance of the first type of additive particles
 - ▶ take the *da*-marked sentence to be interpreted as part of a series of conjunctions.
- ▶ While the *da*-marked conjunct is explicitly asserted, the other conjuncts (i.e., presupposed proposition(s)) can be overtly stated or be silent.

The analysis of *da*

Discourse Incrementalism:

In a discourse where p precedes q , there are two ways for q to make the discourse incremental:

- ▶ if p and q do not entail each other
- ▶ if q asymmetrically entails p

Additive *da*

- ▶ When p and q do not entail each other, we get the additive interpretation of *da*:

$$(21) \quad \llbracket (\text{Can geldi}), \text{Suzan } \mathbf{da} \text{ geldi} \rrbracket = \text{came}(c) \wedge \mathbf{came}(s)$$

Deriving the *even*-like interpretation of da

- ▶ When q asymmetrically entails p , we get the scalar interpretation of da .
- ▶ Let's elaborate on the details now!

Deriving the *even*-like interpretation of *da*

- (22) [[Yağmur] **da** yağ-sa] pikniğ-e
rain TOO precipitate-COND picnic-DAT
gid-eceğ-iz.
go-FUT-2PL

'Even if it rains, we will go on a picnic.'

Assertion: If it rains, we will go on a picnic.

Presupposition: There is a $p \neq$ *it rains* such that 'if p , we will go on a picnic'

Deriving the *even*-like interpretation of *da*

Which alternatives for p are considered here?

Background Assumptions:

- ▶ Weather conditions are ranked based on how favorable they are for going on a picnic. For example, rainy situations are less favorable for going on a picnic than windy and sunny situations.
- ▶ If one goes on a picnic when it is rainy, they also go on a picnic when it is windy or sunny.

Deriving the *even*-like interpretation of *da*

Under the given background assumptions, ...

- ▶ The conditional utterance and the alternative conditional statements projecting from $\text{Alt}(\text{rainy})$ form a scale of informativeness where uttering *if rainy, picnic* is more informative than the other alternatives.

- (23) The order of informativeness (or worth of mention) on the issue of going on a picnic (from less to more):
(sunny \rightarrow picnic) \prec (windy \rightarrow picnic) \prec (rainy \rightarrow picnic)

Deriving the *even*-like interpretation of *da*

- ▶ We adopt a notion of **contextual entailment** (Anvari 2018):

(24) S contextually entails S' iff any world w compatible with background assumptions provided by the context is such that if S is true in w then S' is also true in w .

- ▶ Under our background assumptions, *if rainy, picnic* **contextually entails** *if windy, picnic*, which in turn contextually entails *if sunny, picnic*.

Evidence for Contextual Entailment

- (25)
- a. A: Yağmur da yağsa pikniğe gideceğiz.
'Even if it rains, we will go on a picnic.'
 - b. B: Kar yağsa, pikniğe gidecek misiniz?
Will you go on a picnic, if it snows?
 - c. B': #Güneş açsa, pikniğe gidecek misiniz?
Will you go on a picnic, if it is sunny?

- ▶ Here the question that B asks is felicitous but the question that B' asks is not.
- ▶ This is because you cannot felicitously ask whether a proposition that is already entailed is true.

Deriving the *even*-like interpretation of *da*

The essential ingredients to derive the *even*-like inference:

1. *If it is rainy, we will go on a picnic* asymmetrically (contextually) entails the preceding (silent) conjuncts.
 \rightsquigarrow discourse incrementalism
2. There is a contextually supplied order among the informativeness of the conjuncts.

(26) $\llbracket \text{if } [\text{rainy}]_{\text{F DA}} \text{ picnic} \rrbracket^w =$
 $(\text{sunny} \rightarrow \text{picnic}) \wedge (\text{windy} \rightarrow \text{picnic}) \wedge (\mathbf{\text{rainy}} \rightarrow \mathbf{\text{picnic}})$
the order of informativeness:
 $(\text{sunny} \rightarrow \text{picnic}) \prec (\text{windy} \rightarrow \text{picnic}) \prec (\text{rainy} \rightarrow \text{picnic})$

Deriving the *even*-like interpretation of *da*

Pragmatic reasoning kicking in:

- ▶ The Maxim of Quantity requires the most informative contribution be made to the discourse.
- ▶ If a less favorable situation, plausibly a snowy one, were also OK for going on a picnic, the interlocutor would make this more informative statement. Since they didn't, the addressee could plausibly infer that $\neg(\text{snowy} \rightarrow \text{picnic})$.
- ▶ The utterance of the rain conjunct instead yields the **scalar implicature** that this situation must be the most informative alternative, and hence, the most worthy of mention.

Deriving the *even*-like interpretation of *da*

Evidence for Incrementalism of *da*

- ▶ The order of conjuncts in *da-da* conjunctions must also reflect the order of informativeness.

- (27) [yağmur **da** yağsa],
[kar **da** yağsa], pikniğe gideceğiz.
it rains-TOO → (we picnic),
it snows-TOO → we picnic
- (28) ??[kar **da** yağsa]
[yağmur **da** yağsa], pikniğe gideceğiz.
it snows-TOO → (we picnic),
it rains-TOO → we picnic

Further Predictions

- ▶ We also correctly predict scalar inferences for *da* outside of conditionals:

Let's first compare *da* with *bile* 'even':

(29) Who came to the party last night?

- A: Can *geldi*.
Can came.
- B: Suzan **da** *geldi*.
'Suzan came, too.'
'Even Suzan came.'
- B': Suzan **bile** *geldi*!
'Even Suzan came!'

Further Predictions

- ▶ [Suzan **da** came] only has an additive reading.
- ▶ This contrasts with [Suzan **bile** came], whose scalar inference is arguably due to a presupposition, and hence forces accommodation even if the scale at issue is not salient.

Further Predictions

- ▶ *da* does not force accommodation because the even-like interpretation is not due to presupposition.
- ▶ Even if Suzan is known to be least likely to come to the party, [Suzan **da** came] does not easily allow a scalar use because it is harder to establish contextual entailment relation between episodic statements like *Suzan came* and *Can came*.
- ▶ Given that the scalar inference of *da* is an implicature, it arises only when an order among propositions AND an asymmetric entailment relation are available.

Further Predictions

But there are contexts where both conditions are easier to be satisfied, as a result of which an even-like reading can arise:

- ▶ with gradable adjectives, via contextual entailment,
- ▶ with numerical scales, via logical entailment.

Further Predictions

With Gradable Adjectives:

On a scale of height: Cem \prec Merve \prec Ali

- (30) Sevgi [Ali'den] **de** uzun.
Sevgi Ali-ABL TOO tall
'Sevgi is even taller than Ali.'

- ▶ $taller(Sevgi, Ali) \subset taller(Sevgi, Merve) \subset taller(Sevgi, Cem)$
based on the given scale of height.
- ▶ Asserting $taller(Sevgi, Ali)$ yields a 'not to mention those other people' inference.

Further Predictions

With Numerical Scales:

- (31) Bu yemek (20 kişi-ye **de**) [50 kişiye] **de**
this meal 20 person-ACC TOO 50 person-DAT TOO
yet-er.
suffice-AOR
'This meal is enough for even 50 people (let alone 20).'

- ▶ The utterance of 50 yields the inference that being enough for less number of people is not as worthy of mention, given that being enough for 50 entails being enough for any number less than 50.

- (32) #Bu yemek [50 kişi-ye] **de** [20 kişiye] **de** yet-er.

Additivity as Presupposition or Postsupposition?

- ▶ We have assumed that *da* has an additive presupposition.
- ▶ However, given that the semantic requirement of *da* can be satisfied in *da-da* conjunctions, it should in fact be classified as a **postsuppositional** item under Szabolcsi's (2015) analysis of MO-particles.
- ▶ That is, the additivity requirement of the first *da* is checked in a delayed way by the host of the second *da*.
- ▶ This may be at odds with the view that *da* is an incremental particle, where incrementalism is checked left to right (i.e. by the preceding conjuncts).

Remaining Issues

In indicative conditionals *da* does not yield a scalar inference:

(33) Ali de **gel-ir-se**, pikniđe gideceđiz.
Ali TOO come-AOR-COND picnic we.will.go
✓ 'We will go on a picnic if Ali **also** comes.'
✗ 'We will go on a picnic **even** if Ali comes.'

(34) Ali de **gel-se**, pikniđe gideceđiz.
Ali TOO come-COND picnic we.will.go
✓ 'We will go on a picnic **even** if Ali comes.'
✓ 'We will go on a picnic if Ali **also** comes.'

► We currently do not know why.

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