

Imperatives under *even*

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The puzzle

- Imperatives have strong (e.g. command; \square) and weak (e.g. acquiescence, indifference; \diamond) readings.

(1) *Parent, to child.*

Eat!

\square _{imp}

(2) a. Is it alright if I go ahead and eat?

b. Sure, go ahead! Eat!

\diamond _{imp}

(3) a. I can't decide whether to eat or not.

b. Eat! Don't eat! I don't care.

\diamond _{imp}

The puzzle

- *Even* can appear with broad focus in imperatives only if they receive a weak reading.

(4) *Prof. X is invigilating an exam and orders the students to stop writing.*

Put down your pens. [Close your exam papers]_F #**even**. □_{imp}

(5) *Prof. Y is telling students who have been writing an exam that the test will no longer count toward their grades and they are free to do whatever they like.*

Put down your pens. [Close your exam papers]_F **even**. ◇_{imp}

The puzzle

- This is not due to a general ban on *even* in strong imperatives.
 - Command readings are available when *even* takes narrow focus.
- (6) Report **even** the [smallest]_F change in the patient's condition directly to me. □_{imp}

The puzzle

- This is not due to a general ban on *even* in expressions of obligation.
 - No contrast between strong and weak modals with broad focus *even*.
- (7) You have to put down your pens. You **even** have to [close your exam papers]_F. □_{mod}
- (8) You're allowed to put down your pens. You're **even** allowed to [close your exam papers]_F. ◇_{mod}

The puzzle

- Goal: Explain the distribution of *even* in (9).

(9) a. $\text{even } [\diamond_{\text{mod}} [p]_F]$

b. $\text{even } [\square_{\text{mod}} [p]_F]$

c. $\text{even } [\diamond_{\text{imp}} [p]_F]$

d. $\# \text{even } [\square_{\text{imp}} [p]_F]$

- What makes (9-d) different from (9-c) and (9-b)?

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Assumptions about *even*

Denotation for *even* (Karttunen & Peters 1979, Rooth 1985, i.a.)

$$(10) \llbracket \text{even} \rrbracket^{g,w} = \lambda C_{\langle st,t \rangle} . \lambda p_{\langle s,t \rangle} : \forall q \in C [q \neq p \rightarrow p <_w q] \ \& \\ \exists q \in C [q \neq p \ \& \ q(w) = 1] . \ p(w)$$

- p = the prejacent (material in the scope of *even*)
- C = a contextually salient subset of the focus alternatives for p (structures derivable from p by making substitutions of the appropriate type for the focused constituent; see Rooth 1992)
- *Even* introduces two definedness conditions:
 - Scalar presupposition: p is less likely (more noteworthy) than any other alternative in C .
 - Additive presupposition: C contains a non- p alternative that is true.
- When defined, *even* is truth-conditionally vacuous.

Assumptions about imperatives

- Imperatives contain a silent modal operator (Schwager 2006/Kaufmann 2012).
 - Presuppositions ensure performativity.
- This operator is a weak modal (\diamond); strong readings are derived by exhaustification (Schwager 2005, Oikonomou 2016; cf. Bassi & Bar-Lev 2016).

Assumptions about imperatives

- Oikonomou's (2016) implementation: *exh*

Denotation for *exh* (Fox 2007, Chierchia et al. 2009)

$$(11) \llbracket \text{exh} \rrbracket^{g,w} = \lambda C_{\langle st,t \rangle} \cdot \lambda p_{\langle s,t \rangle} \cdot p(w) = 1 \ \& \ \forall q \in C [p \not\subseteq q \rightarrow q(w) = 0]$$

(12) Strong imperative *p!*

a. LF: $\text{exh}_C [\diamond_{\text{imp}} [p]_F]$

b. $C = \{[\diamond_{\text{imp}} [p]], [\diamond_{\text{imp}} [\neg p]]\}$

(13) $\text{exh}(C)(\diamond_{\text{imp}} p) = [\diamond_{\text{imp}} [p]] \ \& \ \neg[\diamond_{\text{imp}} [\neg p]] = \square_{\text{imp}} p$

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- Replace \square_{imp} with $\text{exh} + \diamond_{\text{imp}}$.

(9) a. $\text{even} [\diamond_{\text{mod}} [p]_{\text{F}}]$

b. $\text{even} [\square_{\text{mod}} [p]_{\text{F}}]$

c. $\text{even} [\diamond_{\text{imp}} [p]_{\text{F}}]$

d. $\# \text{even} [\square_{\text{imp}} [p]_{\text{F}}]$

(14) a. $\text{even} [\diamond_{\text{mod}} [p]_{\text{F}}]$

b. $\text{even} [\square_{\text{mod}} [p]_{\text{F}}]$

c. $\text{even} [\diamond_{\text{imp}} [p]_{\text{F}}]$

d. $\# \text{even} [\text{exh} [\diamond_{\text{imp}} [p]_{\text{F}}]]$

- Assume that *even* and *exh* associate with the same constituent in strong imperatives like (4).
- Assume that *even* and *exh* make use of the same substitutions in building alternatives when they associate with the same constituent.

(15) Strong imperative p , *even!*

\Box_{imp}

a. LF: $\text{even}_{C_1} [\text{exh}_{C_2} [\Diamond_{\text{imp}} [p]_{F_1, F_2}]]$

b. $C_2 = \{[\Diamond_{\text{imp}} [p]], [\Diamond_{\text{imp}} [\neg p]]\}$

c. $C_1 = \{[\text{exh}_{C_2} [\Diamond_{\text{imp}} [p]_{F_2}], [\text{exh}_{C_2} [\Diamond_{\text{imp}} [\neg p]_{F_2}]]\}$
 $= \{[[\Diamond_{\text{imp}} [p]] \& \neg[\Diamond_{\text{imp}} [\neg p]]], [[\Diamond_{\text{imp}} [\neg p]] \& \neg[\Diamond_{\text{imp}} [p]]]\}$

- Scalar presupposition: ok
- Additive presupposition: **unsatisfied!**

(16) *Report even the [smallest]_F change directly to me.* \square_{imp}

- a. LF: $\text{even}_{C_1} [\text{exh}_{C_2} [\diamond_{\text{imp}} [\text{report the [smallest]}_{F_1} \text{ change}]_{F_2}]]$
- b. $C_2 = \{[\diamond_{\text{imp}} [\text{report the smallest}]], [\diamond_{\text{imp}} [\neg \text{report the smallest}]]\}$
- c. $C_1 = \{[\text{exh}_{C_2} [\diamond_{\text{imp}} [\text{report the smallest}]_{F_2}]],$
 $[\text{exh}_{C_2} [\diamond_{\text{imp}} [\text{report the largest}]_{F_2}]]\}$
 $= \{[[\diamond_{\text{imp}} [\text{report the smallest}]] \& \neg[\diamond_{\text{imp}} [\neg \text{report the smallest}]]],$
 $[[\diamond_{\text{imp}} [\text{report the largest}]] \& \neg[\diamond_{\text{imp}} [\neg \text{report the largest}]]]\}$

- Scalar presupposition: ok
- Additive presupposition: ok

(17) Strong modal *have to/must p, even!*

\Box_{mod}

a. LF: $\text{even}_C [\Box_{\text{mod}} [p]_F]$

b. $C = \{[\Box_{\text{mod}} [p]], [\Box_{\text{mod}} [q]]\}$

- Scalar presupposition: ok
- Additive presupposition: ok

(18) Weak imperative p , *even!*

\diamond_{imp}

- a. LF: $\text{even}_C [\diamond_{\text{imp}} [p]_F]$
- b. $C = \{[\diamond_{\text{imp}} [p]], [\diamond_{\text{imp}} [q]]\}$

- Scalar presupposition: ok
- Additive presupposition: ok

- The proposal relies on the additive requirement of *even* being incompatible with the exclusive requirement of *exh*.
 - Prediction: *Even* and *only* cannot felicitously co-associate with the same constituent.

(19) *At the party last night, John stayed with his first choice of drink. You'll never guess what he chose.*

#He even₁ only₂ drank [water]_{F1,F2}.

- LF: even_{C1} [only_{C2} [he drank [water]_{F1,F2}]]
- C₂ = {[he drank water], [he drank beer], [he drank wine]}
- C₁ = {[only_{C2} [he drank [water]_{F2}]},
[only_{C2} [he drank [beer]_{F2}]},
[only_{C2} [he drank [wine]_{F2}]]}

- This is contrary to what is claimed in e.g. von Stechow (1991), Krifka (1992), though cf. Wilkinson (1996).

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Additional discourse effect

- The presence of *even* in weak imperatives contributes an inference of extreme indifference.
 - While both (20) and (21) license an indifference reading, the effect is stronger in (21).

(20) Put down your pens. Close your exam papers! None of this matters. ◇_{imp}

(21) Put down your pens. Close your exam papers **even!** None of this matters. ◇_{imp}

- Scalar presupposition of *even*:
 - A speaker who permits even what is least likely to be permitted is clearly not interested in constraining the addressee's behaviour, not even in the most likely way.
 - The speaker does not care at all what the addressee does.

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- We can derive our puzzling contrast if we assume that
 - *Even* has an additive component.
 - Imperatives contain an existential modal operator (and sometimes *exh*) in their structure.
 - Alternative approach: treat imperatives as addressee-oriented properties whose directive force is derived pragmatically (e.g. Hausser 1980, Portner 2007, von Stechow & Iatridou 2017).
 - On this kind of story, the strong/weak distinction is also derived pragmatically.
 - To derive our contrast, *even* needs to have access to the difference between strong and weak imperatives.

- Do other additive expressions behave like *even* in strong imperatives?

(22) *Prof. X is invigilating an exam and orders the students to stop writing.*

- a. Put down your pens. [Close your exam papers]_F **#even**. _{imp}
- b. Put down your pens. [Close your exam papers]_F **too**. _{imp}
- c. Put down your pens. [Close your exam papers]_F **also**. _{imp}

- Intuitively, *also/too* and *exh* make use of different substitutions.

(23) Strong imperative p , *also!*

\Box_{imp}

a. LF: $\text{also}_{C_1} [\text{exh}_{C_2} [\diamond_{\text{imp}} [p]_{F_1, F_2}]]$

b. $C_2 = \{[\diamond_{\text{imp}} [p]], [\diamond_{\text{imp}} [\neg p]]\}$

c. $C_1 = \{[\text{exh}_{C_2} [\diamond_{\text{imp}} [p]_{F_2}], [\text{exh}_{C_2} [\diamond_{\text{imp}} [q]_{F_2}]]\}$
 $= \{[[\diamond_{\text{imp}} [p]] \& \neg[\diamond_{\text{imp}} [\neg p]]], [[\diamond_{\text{imp}} [q]] \& \neg[\diamond_{\text{imp}} [\neg q]]]\}$

- Additive presupposition: ok

- Why do *even* and *exh* need to make use of the same substitutions when they co-associate with the same constituent?
- Why do *even* and *also* have access to different alternatives in strong imperatives?

Thank you!

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Appendix: Which substitutions?

- What if we used $\{p, q\}$ substitutions instead of $\{p, \neg p\}$ to derive strong readings of imperatives?
 - We would still derive incompatibility with *even*, as long as *even* also uses the $\{p, q\}$ substitutions.

(24) Strong imperative *p*, *even!*

\square_{imp}

a. LF: $\text{even}_{C_1} [\text{exh}_{C_2} [\diamond_{\text{imp}} [p]_{F_1, F_2}]]$

b. $C_2 = \{[\diamond_{\text{imp}} [p]], [\diamond_{\text{imp}} [q]]\}$

c. $C_1 = \{[\text{exh}_{C_2} [\diamond_{\text{imp}} [p]_{F_2}], [\text{exh}_{C_2} [\diamond_{\text{imp}} [q]_{F_2}]]\}$
 $= \{[[\diamond_{\text{imp}} [p]] \& \neg[\diamond_{\text{imp}} [q]]], [[\diamond_{\text{imp}} [q]] \& \neg[\diamond_{\text{imp}} [p]]]\}$

- Scalar presupposition: ok
- Additive presupposition: **unsatisfied!**
- Additional complication: sequences of strong imperatives
 - Available substitutions must differ for strong imperatives *Put down your pens* and *Close your exam papers* to avoid infelicity without *even*.

Appendix: The additivity of *even*

- The proposed analysis relies on an incompatibility between the additive requirement of *even* and the exclusive requirement of *exh*.
 - It has been claimed that parallel cases with *only* are acceptable (e.g. von Stechow 1991, Krifka 1992).

(25) *At yesterday's party, people stayed with their first choice of drink. Bill only drank WINE, Sue only drank BEER, and*

John even₁ only₂ drank [WATER]_{F1, F2}. (Krifka 1992: 22)

- Context suggests a second focus on the subject (Wilkinson 1996:205):

(26) *Same context as above.*

[JOHN]_{F(1)} even₁ only₂ drank [[WATER]_{F2}]_{F1}.

a. LF = even_{C1} [only_{C2} [[John]_{F(1)} drank [[water]_{F2}]_{F1}]]

b. C₁ = {*John only drank water, Sue only drank beer, Bill only drank wine...*}

Appendix: The additivity of *even*

- When prosody and context are controlled to ensure a single (shared) focus, the result is unacceptable.

(19) *At the party last night, John stayed with his first choice of drink. You'll never guess what he chose.*

#He even₁ only₂ drank [water]_{F1,F2}.

- LF: even_{C1} [only_{C2} [he drank [water]_{F1,F2}]]
- C₁ = {*He only drank water, He only drank beer, He only drank wine...*}