

## Imperatives under *even*

Naomi Francis (MIT)

**I. Puzzle:** Imperative sentences can give rise to strong (e.g. command;  $\square$ ) or weak (e.g. acquiescence, indifference;  $\diamond$ ) readings. The acceptability of *even* in imperatives tracks this distinction in a surprising way: *even* can appear with broad focus in imperatives only if they receive a weak reading (1-2).

1. [Prof. X is invigilating an exam and orders the students to stop writing.]  
Put down your pens. [Close your exam papers]<sub>F</sub> **#even!**  $\square_{imp}$
2. [Prof. Y is telling students that they no longer have to complete the exam they had been writing.]  
Put down your pens. [Close your exam papers]<sub>F</sub> **even!** (None of this matters.)  $\diamond_{imp}$

*Even* is a truth-conditionally vacuous focus operator that introduces two presuppositions: i) a scalar presupposition that the prejacent (material in its scope) is less likely than any of its salient focus-alternatives, and ii) an additive presupposition that at least one alternative besides the prejacent is true (Karttunen & Peters 1979 et seq.). The contrast above is puzzling for two reasons. Firstly, there is no general ban on *even* in strong imperatives; command readings are available when *even* has narrow focus, as in (3).

3. Report **even** the [SMALLEST]<sub>F</sub> change in the patient's condition directly to me.  $\square_{imp}$

Secondly, *even* is compatible with non-imperative expressions of obligation; both strong and weak modals admit broad-focus *even* (4-5). This suggests that the contrast in (1-2) is not due to general differences between possibility and necessity but rather reflects something particular to imperative necessity.

4. You have to/must put down your pens. You **even** have to/must [close your exam papers]<sub>F</sub>.  $\square_{mod}$
5. You're allowed to put down your pens. You're **even** allowed to [close your exam papers]<sub>F</sub>.  $\diamond_{mod}$

The acceptability of *even* scoping over modals and imperatives is summarized schematically in (6).

6. a. *even* [ $\diamond_{mod}$  [p]<sub>F</sub>]      b. *even* [ $\square_{mod}$  [p]<sub>F</sub>]      c. *even* [ $\diamond_{imp}$  [p]<sub>F</sub>]      d. **#even** [ $\square_{imp}$  [p]<sub>F</sub>]

The goal of this talk is to explain the pattern of acceptability in (6).

**II. Proposal:** In a nutshell, I propose that the contrast in (1-2) is due to the additive presupposition of *even*.

I assume that imperative sentences contain an operator with modal semantics in their left periphery (Kaufmann 2012, a.o.). It has been proposed (Schwager 2005, Oikonomou 2016) that imperatives are underlyingly possibility modals and that strong imperatives are derived from weak imperatives via exhaustification (i.e. imperative necessity is exhaustive possibility). I assume Oikonomou's (2016) implementation of this idea, where exhaustification is performed by *exh* (Fox 2007, Chierchia et al. 2009). *Exh* is a focus-sensitive operator that asserts its prejacent and negates its focus alternatives (C). According to Oikonomou (2016), a strong imperative *p!* has an LF like (7a), where *exh* scopes above the imperative operator and focus-associates with the content (p) of the imperative; the resulting alternatives are weak imperatives derived from the prejacent by making relevant substitutions for the focused constituent. On the assumption that  $\neg p$  is relevant whenever *p* is, the alternatives are as in (7b). *Exh* then asserts the prejacent (that p is permissible) and negates its alternative (that  $\neg p$  is permissible). This is equivalent to necessity (8).

7. a. LF: *exh*<sub>C</sub> [ $\diamond_{imp}$  [p]<sub>F</sub>]      8. *exh*(C)([ $\diamond_{imp}$  [p]<sub>F</sub>]) = [ $\diamond_{imp}$  [p]] &  $\neg$ [ $\diamond_{imp}$  [ $\neg p$ ]] =  $\square_{imp}$  p  
b. C = {[ $\diamond_{imp}$  [p]], [ $\diamond_{imp}$  [ $\neg p$ ]]}      i.e. '*p* is permissible and  $\neg p$  is not permissible'

With this assumption in place, the distribution of *even* in (6) can be reformulated as (9).

9. a. *even* [ $\diamond_{mod}$  [p]<sub>F</sub>]      b. *even* [ $\square_{mod}$  [p]<sub>F</sub>]      c. *even* [ $\diamond_{imp}$  [p]<sub>F</sub>]      d. **#even** [*exh* [ $\diamond_{imp}$  [p]<sub>F</sub>]]

To derive the observed contrast between strong and weak imperatives with *even*, I assume that *even* i) takes wide scope in the sentences under consideration and ii) focus-associates with the same constituent as *exh* in strong imperatives like (1), as shown in (10a). The focus alternatives for *even* will be the exhaustified possibility of *p* and the exhaustified possibility of  $\neg p$  (10b). These alternatives are incompatible with each other, meaning that the additive presupposition of *even* cannot be satisfied. We therefore predict a presupposition failure for strong imperatives with broad-focusing *even*, and thus infelicity as observed (1).

10. a. LF: *even*<sub>C2</sub> [*exh*<sub>C1</sub> [ $\diamond_{imp}$  [p]<sub>F1, F2</sub>]]

- b.  $C_2 = \{\{exh_{C1} [\diamond_{imp} [p]_{F1}], exh_{C1} [\diamond_{imp} [\neg p]_{F1}]\}$   
 $= \{\{\diamond_{imp} [p]\} \& \neg[\diamond_{imp} [\neg p]]\}, \{\diamond_{imp} [\neg p]\} \& \neg[\diamond_{imp} [p]]\}$  **additive presupposition failure!**

This result depends on *even* and *exh* associating with the same constituent; if they associated with different parts of the imperative, *even* would have access to non-incompatible alternatives. I argue that this is exactly why *even* is acceptable in strong imperatives when it takes narrow focus (3). If we assign (3) the LF in (11a), the set of alternatives for *even* (11c) will contain an alternative that is compatible with the prejacent, namely the strong imperative *Report the largest change in the patient's condition directly to me!* ( $[\diamond_{imp} [\text{report the largest change}]] \& \neg[\diamond_{imp} [\neg \text{report the largest change}]]$ ).

11. a. LF:  $even_{C2} [exh_{C1} [\diamond_{imp} [\text{report the [smallest]}_{F2} \text{change}]_{F1}]]$   
 b.  $C_1 = \{\{\diamond_{imp} [\text{report the smallest change}]\}, \{\diamond_{imp} [\neg \text{report the smallest change}]\}\}$   
 c.  $C_2 = \{\{exh_{C1} [\diamond_{imp} [\text{report the smallest change}]_{F1}], exh_{C1} [\diamond_{imp} [\text{report the largest change}]_{F1}]\}$   
 $= \{\{\diamond_{imp} [\text{report the smallest change}]\} \& \neg[\diamond_{imp} [\neg \text{report the smallest change}]]\},$   
 $\{\{\diamond_{imp} [\text{report the largest change}]\} \& \neg[\diamond_{imp} [\neg \text{report the largest change}]]\}$

The additive presupposition is satisfied if the addressee is required to report the largest as well as the smallest change in the patient's condition (i.e. is required to report changes of any magnitude). The scalar presupposition is satisfied if it is less likely that the addressee be required to report the smallest change than to report the largest change. Both presuppositions are compatible with plausible healthcare situations.

There is no *exh* operator in the structure of weak imperatives to make *even*'s alternatives mutually exclusive (12a), and so there is no failure of the additive presupposition in (2). For example, if the salient alternative to a weak imperative *p!* is the weak imperative  $\neg p!$  (12b), the additive presupposition requires that both *p* and  $\neg p$  are permissible. If the salient alternative to *p!* is instead some other weak imperative *q!* (12c), it requires that both *p* and *q* are permissible. The scalar presupposition requires that closing the exam papers is less likely to be permitted than these alternatives. These requirements are compatible with the context in (2), and so we correctly predict the weak imperative with broad-focus *even* to be felicitous.

12. a. LF:  $even_C [\diamond_{imp} [p]_F]$       b.  $C = \{\{\diamond_{imp} [p]\}, \{\diamond_{imp} [\neg p]\}\}$       c.  $C = \{\{\diamond_{imp} [p]\}, \{\diamond_{imp} [q]\}\}$

**III. Additional discourse effects:** The presence of *even* in weak imperatives like (2) contributes an inference of extreme indifference on the part of the speaker. That is, while both (13a) and (13b) license an indifference reading, this effect is stronger in (13b).

13. a. Put down your pens. Close your exam papers! None of this matters.  $\diamond_{imp}$   
 b. Put down your pens. Close your exam papers **even!** None of this matters.  $\diamond_{imp}$

This effect follows straightforwardly from the scalar presupposition of *even*. If a speaker permits even what is least likely to be permitted, they are clearly not interested in constraining the addressee's behaviour, not even in the most likely way. This licenses the inference that they do not care at all what the addressee does.

**IV. Consequences:** This talk explains the puzzling contrast between (1-2) as a product of the additive semantics of *even* interacting with the exhaustive semantics of strong imperatives; it therefore has consequences for our theories of both *even* and imperatives. The proposal makes crucial use of the additive presupposition of *even* being unsatisfiable when its alternatives are mutually exclusive due to co-association of *even* and *exh*. However, it has been claimed (von Stechow 1991, Krifka 1992, a.o.) that the additive presupposition of *even* is not active in parallel cases involving *even* and *only*; I discuss arguments (cf. Wilkinson 1996) that the data used to support this point do not show what they are claimed to show.

The proposal also relies on the presence of a modal operator in the structure of imperatives. I discuss implications of the present work for theories of imperatives where the modal contribution is instead located in the pragmatics (Hausser 1980, Portner 2007, a.o.). Special attention will be paid to the behaviour of *even* in Imperative-and-Declarative constructions (e.g. *Skip class and you'll fail*), which have been claimed (von Stechow & Iatridou 2017) to provide particularly strong arguments against the presence of a modal operator in imperatives. Finally, the proposal relies on strong imperatives containing more structure than either a simple necessity modal like *must* or a weak imperative; this talk thus offers independent support for the view that imperatives are underlyingly weak.