

Imperatives under *even**

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Abstract This paper explores a puzzle about the focus-sensitive operator *even* in imperatives. *Even* can take broad focus in imperatives when they receive a weak reading, but not when they receive a strong reading. I show that this pattern can be accounted for if we assume that i) *even* has an additive component (Karttunen & Peters 1979, i.a.) and ii) imperatives underlyingly contain an existential modal operator (\diamond_{imp}), with strong readings derived by exhaustifying the prejacent of the imperative operator (Schwager 2005; Oikonomou 2016). On this view, the puzzling interaction between *even* and strong imperatives will be reduced to an incompatibility between the additive component of *even* and the exclusive component of the exhaustifying operator.

Keywords: imperatives, *even*, additivity, strengthening

1 The puzzle

Imperatives come in different strengths. They have strong (e.g., command; \square) and weak (e.g., acquiescence, indifference; \diamond) readings, exemplified in (1)-(3).

- (1) *A parent is telling their child to eat their broccoli.*
Eat! \square_{imp} , command
- (2) a. Is it alright if I go ahead and eat?
b. Sure, go ahead! Eat! \diamond_{imp} , acquiescence
- (3) a. I can't decide whether to eat or not.
b. Eat! Don't eat! I don't care. \diamond_{imp} , indifference

The focus-sensitive expression *even* tracks this distinction in a surprising way: *even* can only take broad focus in imperatives if they receive a weak interpretation, as demonstrated by the contrast between (4) and (5)

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- (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}

This restriction does not reflect a general ban on *even* in strong imperatives; when *even* takes narrow scope, it is compatible with command readings, as shown in (6).

- (6) Report **even** the [smallest]_F change in the patient's condition. □_{imp}

This restriction also does not reflect a ban on *even* taking broad focus in expressions of obligation; there is no contrast between strong and weak modal statements with broad focus *even*, as shown in (7) and (8).

- (7) You have to put down your pens. You **even** have to [close your exam papers]_F.
- (8) You're allowed to put down your pens. You're **even** allowed to [close your exam papers]_F.

The goal of this paper is to explain the distribution of *even* summarized in (9).

- (9) a. even [◇_{mod} [p]_F]
b. even [□_{mod} [p]_F]
c. even [◇_{imp} [p]_F]
d. #even [□_{imp} [p]_F]

To do this, we will need to explain what makes strong imperatives (9d) different from both weak imperatives (9c) and strong modals (9b).

The remainder of this paper is organized as follows: Section 2 outlines the assumptions that I will make about *even* and imperatives; Section 3 proposes a solution that makes crucial use of the additive presupposition of *even*; Section 4 considers consequences of the proposal for our understanding of *even* and of imperatives; Section 5 discusses an additional discourse effect contributed by *even* in weak imperatives; Section 6 concludes with a summary and directions for future research.

2 Background

2.1 Assumptions about *even*

Following the tradition of Karttunen & Peters (1979), Rooth (1985), and many others, I will assume that *even* is a truth-conditionally vacuous focus-sensitive expression that introduces two presuppositions, as in (10).

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

According to this denotation, *even* takes two arguments: a prejacent p (the proposition in the scope of *even*) and a set of propositions C (a contextually salient subset of p 's focus alternatives, which are the structures derivable from p by making substitutions of the appropriate type for the focused constituents). When supplied with these arguments, *even* introduces two definedness conditions: i) a scalar presupposition, that the prejacent is less likely or more noteworthy than any other alternative in C , and ii) an additive presupposition, that there is some alternative in C besides the prejacent that is true.¹ When defined, *even* is truth-conditionally vacuous; it returns the prejacent unchanged.

In the sentences that we are considering, I will assume that *even* takes wide scope, as was shown schematically in (9).

2.2 Assumptions about imperatives

I will assume that imperatives contain a modal operator (Schwager 2006/Kaufmann 2012, i.a.). On this view, an imperative like *Put down your pens!* means something very similar to *You must put down your pens.*² The main difference is that the imperative operator introduces presuppositions that ensure that the modal can only be read performatively, and not as a simple description of the addressee's obligations.

I will assume that the force of this modal operator is underlyingly weak (\diamond), with strong readings derived by exhaustification (Schwager 2005; Oikonomou 2016). For concreteness, I will adopt the implementation of this idea presented in Oikonomou (2016), where this strengthening function is performed by *exh*, a silent counterpart of *only*.³ This operator has been used to account for strengthened meanings elsewhere in the grammar, for example in scalar implicatures and free choice effects (Fox 2007). Simplifying slightly,⁴ *exh* has a meaning as in (11) (cf. Fox 2007; Chierchia,

¹ The quantificational force of these presuppositions and the precise nature of the scale are subjects of debate in the literature. Nothing hinges on the particular choices made here.

² The imperative operator is a root modal related to obligations, preferences, desires, or goals.

³ There are several ways of cashing out this idea formally. I believe that the analysis presented here is compatible with any of them. One particularly relevant approach is the one adopted by Bassi & Bar-Lev (2016) for conditionals; they assume that conditionals are underlyingly existential modals, strengthened by recursively exhaustifying over subdomain alternatives of the modal (cf. Fox's 2007 account of free choice).

⁴ The denotation for *exh* has been simplified for ease of exposition. Strictly speaking, it should negate only the *innocently excludable* alternatives – that is, the maximal set of alternatives that could be jointly negated without contradicting the prejacent (Fox 2007). The simplification will make no difference for the cases we are considering; all of the non-entailed alternatives are also innocently excludable.

Fox & Spector 2009).

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

According to this denotation, *exh* asserts its prejacent and negates all non-entailed alternatives. Oikonomou (2016) derives strong readings of imperatives by having *exh* associate with the prejacent of the modal operator as in (12a). The alternatives that *even* encounters will be formed by making propositional substitutions for this constituent. Which propositions will make for salient substitutions? Oikonomou (2016) argues that $\neg p$ will always be salient when p is salient, and so will always be an appropriate substitution.⁵ The alternatives formed by substituting p and $\neg p$ for the focused constituent will be those in (12b).

$$(12) \quad \text{Strong imperative } p! \quad \square_{\text{imp}}$$

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

⁵ One might worry here about the implications of allowing $\neg p$ as an alternative to p under propositional focus. Oikonomou (2016) shows that necessity can also be derived as exhaustive possibility with substitutions of the form p, q, r instead of $p, \neg p$ as in (i). If we assume that $p, q,$ and r cover the entire space of possibilities for future courses of action (i.e., the addressee must do one of these actions), and that neither q nor r is entailed by p , the outcome will be equivalent to adopting the alternatives given in the main text (cf. Schwager 2005). This is shown in (ii); the addressee is permitted to do p and not permitted to take any other course of action.

$$(i) \quad \text{Strong imperative } p! \quad \square_{\text{imp}}$$

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

$$(ii) \quad \text{exh}(C)(\diamond_{\text{imp}} p) = [\diamond_{\text{imp}} [p]] \ \& \ \neg[\diamond_{\text{imp}} [q]] \ \& \ \neg[\diamond_{\text{imp}} [r]]$$

If we adopt the p, q, r -based alternatives for deriving strong imperatives, we will need to say something more to allow for sequences of strong imperatives. Sequences of strong imperatives are felicitous, as shown in (iii).

$$(iii) \quad \text{Put down your pens. Close your exam papers.} \quad \square_{\text{imp}}$$

If we derived the strong imperative *Put down your pens* by negating the possibility of closing exam papers, or if we derived the *Close your exam papers* by negating the possibility of putting down pens, we would incorrectly predict these commands to be incompatible with each other. Two options come to mind. The first is to introduce a dynamic element into our system, so that what is not permitted at the point where the first imperative is added to the context may no longer be forbidden when the second imperative is added to the context. The second option is to say that different p, q, r alternatives are salient for the evaluation of each imperative, so that *exh* crucially does not end up negating the prejacent of one imperative in deriving the strong reading of the other.

When the structure in (12a) is interpreted, *exh* will assert the prejacent $\diamond_{imp} p$ and negate the alternative $\diamond_{imp} \neg p$. That is, it will assert that p is permitted and that $\neg p$ is not permitted. This is equivalent to asserting that p is required (i.e. $\square_{imp} p$), as shown in (13).

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

3 Analysis

The assumptions made in Section 2 allow us to reformulate the distribution of *even* from (9) as in (14)

- (14) a. *even* [$\diamond_{mod} [p]_F$]
 b. *even* [$\square_{mod} [p]_F$]
 c. *even* [$\diamond_{imp} [p]_F$]
 d. *#even* [*exh* [$\diamond_{imp} [p]_F$]]

It is now clear what makes the strong imperative in (14d) different from both the weak imperative in (14c) and the strong modal claim in (14b): it contains an additional ingredient, namely *exh*. In what follows, I will argue that the incompatibility of broad focus *even* with strong imperatives arises because of a conflict between the exclusive requirement of *exh* and the additive requirement of *even*.

To make this work, we will need to make two additional assumptions. The first, already implicit in the presentation so far, is that *exh* and *even* focus-associate with the same constituent in (14d); this follows straightforwardly from our assumptions that *even* is focus-associating with the entire content of the imperative (i.e. the entire prejacent of the imperative operator) and that the strong reading is derived by having *exh* associate with the prejacent of the imperative operator. The second is that, when *even* and *exh* associate with the same constituent, they make use of the same substitutions for that constituent for building their alternatives. That is, if a particular substitution for a focused constituent is salient and relevant enough to be used by *exh*, it should be salient and relevant enough to be used by a co-associating *even*. This will remain a stipulation for now, but it will do good work for us; we will return to this choice in Section 6. With these assumptions in hand, we are ready to derive our puzzle.

3.1 Strong imperatives with *even*

First, we will derive the unacceptability of broad focus *even* in a strong imperative like *Close your exam papers, even!* in (4). We will assume that this sentence has the structure represented schematically in (15a), with *even* taking the strong imperative

structure $exh \diamond_{imp} p$ as its prejacent. We have seen in Section 2 how the meaning of the latter constituent is derived, when exh is supplied with the set of alternatives in (15b).⁶

The alternatives for *even* will be the set in (15c), formed by making polarity-based substitutions for the focused constituent. The first alternative (the prejacent), where exh is applied to *close your exam papers*, will assert that it is permitted for the addressee to close their exam papers and it is not permitted for the addressee to not close their exam papers; this is equivalent to the addressee being required to close their exam papers. The second alternative, where exh is applied to the negation of *close your exam papers*, will assert that it is permitted for the addressee to not close their exam papers and it is not permitted for the addressee to close their exam papers; this is equivalent to the addressee being required to not close their exam papers.

- (15) $\#[Close\ your\ exam\ papers]_F, even!$ \square_{imp}
- a. LF: $even_{C_1} [exh_{C_2} [\diamond_{imp} [close\ your\ exam\ papers]_{F_1, F_2}]]$
- b. $C_2 = \{[\diamond_{imp} [close\ papers]], [\diamond_{imp} [\neg close\ papers]]\}$
- c. $C_1 = \{[exh_{C_2} [\diamond_{imp} [close\ papers]_{F_2}]],$
 $[exh_{C_2} [\diamond_{imp} [\neg close\ papers]_{F_2}]]\}$
 $= \{[[\diamond_{imp} [close\ papers]] \& \neg[\diamond_{imp} [\neg close\ papers]]],$
 $[[\diamond_{imp} [\neg close\ papers]] \& \neg[\diamond_{imp} [close\ papers]]]\}$

The scalar presupposition of *even* in principle satisfiable; it will require that it is less likely or more noteworthy that the addressee be required to close their exam papers than that the addressee be required to not close their exam papers. However, the additive presupposition will require that, in addition to being required to close their exam papers, the addressees are required to not close their exam papers. This presupposition cannot be satisfied, because the non-prejacent alternative is incompatible with the prejacent. Thus, the infelicity of strong imperatives with broad

⁶ For ease of exposition, I show only the polarity-based alternatives in the main text. We can derive the same result with the $\{p, q, r\}$ -based alternatives discussed in footnote 5 as follows.

- (i) Strong imperative $p, even!$ \square_{imp}
- a. LF: $even_{C_1} [exh_{C_2} [\diamond_{imp} [p]_{F_1, F_2}]]$
- b. $C_2 = \{[\diamond_{imp} [p]], [\diamond_{imp} [q]]\}$
- c. $C_1 = \{[exh_{C_2} [\diamond_{imp} [p]_{F_2}]], [exh_{C_2} [\diamond_{imp} [q]_{F_2}]]\}$
 $= \{[[\diamond_{imp} [p]] \& \neg[\diamond_{imp} [q]]], [[\diamond_{imp} [q]] \& \neg[\diamond_{imp} [p]]]\}$

Note that this result, like the one described in the main text, relies on *even* and exh making the same substitutions for the focused constituent.

focus *even* can be derived as a failure of the additive presupposition of *even*.

In Section 1, we saw that *even* is compatible with strong imperatives when it takes narrow focus. The difference between *even* taking broad and narrow focus is that in the former case *even* and *exh* co-associate with the same constituent, whereas in the latter case *even* and *exh* associate with different constituents; this means that the two operators will make use of different substitutions when building their alternatives. More concretely, suppose that example (6) has an LF like (16a), where *exh* associates with the prejacent of the imperative operator and *even* associates with *smallest*. The prejacent of *even* will be the strong imperative structure *exh* \diamond_{imp} *report the smallest change*; the alternatives for *even* will be formed by making relevant substitutions for *smallest*, the constituent with which it associates. An appropriate substitution in this context might be *largest*. The alternatives for *even* will therefore be the strong imperative structures *exh* \diamond_{imp} *report the smallest change* and *exh* \diamond_{imp} *report the largest change*, as in (16c). In each of these alternatives, *exh* will operate as before, deriving the strong reading by asserting its prejacent and negating the polarity-based alternative. The meanings of these alternatives will be that the addressee is permitted to report the smallest change and not permitted to not report the smallest change (i.e., that the addressee is required to report the smallest change) and that the addressee is permitted to report the largest change and not permitted to not report the largest change (i.e., that the addressee is required to report the largest change).

(16) *Report even the [smallest]_F change in the patient's condition.* \square_{imp}

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

Here, the scalar presupposition of *even* requires that it is less likely/more noteworthy for the addressee to be required to report the smallest change in the patient's condition than for the addressee to be required to report the largest change in the patient's condition. The additive presupposition of *even* requires that, in addition to being required to report the smallest change in the patient's condition, the addressee is required to report the largest change. Both presuppositions are satisfiable and compatible with plausible healthcare scenarios.

3.2 Strong modals with *even*

Next, we will derive the acceptability of broad focus *even* with strong non-imperative modals. Because the strong modal is its own lexical item, there is no *exh* in the structure to conflict with the additive component of *even*. When *even* associates with the prejacent of the modal as in (17a), it will have access to alternatives where the prejacent of the modal is replaced with other propositions. In the exam context we have been considering, let us take the proposition *you put down your pens* to be a plausible candidate, as in (17b).⁷

- (17) *You even have to [close your exam papers]_F.* \Box_{mod}
- a. LF: $\text{even}_C [\Box_{\text{mod}} [\text{close your exam papers}]_F]$
- b. $C = \{[\Box_{\text{mod}} [\text{close papers}]], [\Box_{\text{mod}} [\text{put down pens}]]\}$

The scalar presupposition of *even* will be satisfied if it is less likely/more noteworthy that the addressee is required to close their exam papers than that the addressee is required to put down their pens. The additive presupposition of *even* will be satisfied if the addressee is required to put down their pens in addition to being required to close their exam papers. These presuppositions are satisfiable in the exam-writing context described in Section 1.

3.3 Weak imperatives with *even*

Finally, let us derive the acceptability of weak imperatives with broad focus *even*, like (5). These structures differ from their strong counterparts in that they do not contain *exh*; instead, they have the structure in (18a). Here, the alternatives for *even* will be a set of weak imperatives with different contents, as in (18b).⁸

- (18) *[Close your exam papers]_F, even!* \Diamond_{imp}
- a. LF: $\text{even}_C [\Diamond_{\text{imp}} [\text{close your exam papers}]_F]$
- b. $C = \{[\Diamond_{\text{imp}} [\text{close exam papers}]], [\Diamond_{\text{imp}} [\text{put down pens}]]\}$

The scalar presupposition will require that it is less likely for the addressee to be allowed to close their exam papers than to be allowed to put down their pens. The additive presupposition will require that the addressee is allowed to put down their

⁷ This is an instance of the *p, q, r* substitutions, discussed in footnote 5 above. Unlike the strong imperative meaning derived by asserting $\Diamond p \ \& \ \neg\Diamond\neg q$, $\Box_{\text{mod}} p$ is not equivalent to $\Diamond p \ \& \ \neg\Diamond\neg q$, and so the additive presupposition is satisfiable. The polarity-based substitutions *p, ¬p* would not work here.

⁸ Note that the polarity-based alternatives (i.e. $\Diamond_{\text{imp}} \text{close papers}$, $\Diamond_{\text{imp}} \neg\text{close papers}$) would also yield consistent results.

pens in addition to being allowed to close their exam papers. Both presuppositions are in principle satisfiable and compatible with the exam-writing context described in Section 1.

4 Consequences and predictions

We have seen that the distribution of *even* outlined in Section 1 can be captured with two ingredients that have been argued for independently: the idea that *even* is additive, and the idea that strong imperatives contain *exh*. This section will evaluate this choice of tools with an eye to determining what the current puzzle can teach us about the semantics of *even* and the structure of imperatives.

4.1 Additivity and exclusivity

The proposal made above relies on the additive requirement of *even* being incompatible with the exclusive requirement of *exh*. If this is correct, we should predict that *even* will display a similar incompatibility with *only*, the overt counterpart of *exh*, when the two operators co-associate with the same constituent.

This prediction appears to be borne out; native speakers of English report that the following sentence, where *even* and *only* both associate with *water*, is infelicitous.

(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}.

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

Let us suppose that the salient substitutions for *water* in the context of a party are *beer* and *wine*. This will yield the alternatives for *even* in (19c), where *only* applies to the proposition that John drank each of these beverages. *Only* makes the same substitutions to build its alternatives, and like *exh* it negates any alternative not entailed by its prejacent. The three alternatives in (19c) will therefore require that i) John drank water and he didn't drink wine or beer, ii) John drank beer and he didn't drink wine or water, and iii) John drank wine and he didn't drink water or beer, respectively. These propositions are incompatible with each other, and so the additive presupposition of *even* cannot be satisfied.

It should be noted that this configuration has been claimed to be felicitous, based on the acceptability of minimally different examples like (20) (see e.g. von Stechow 1991; Krifka 1992).

(20) *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)

Data like these have been taken to show that *even* does not carry an additive presupposition (e.g., by Rullmann 1997). This would mean that the analysis of the current puzzle as a product of *even*'s additive presupposition would need to be revised. However, as Wilkinson (1996) notes, the context in (20) does not make salient the set of mutually exclusive alternatives of the form *John only drank x* that we would expect if *even* and *only* were both associating with *water*. Instead, it makes salient a set of alternatives of the form *y only drank x*; this is consistent with a second focus on the subject, as shown below. This is corroborated prosodically; the subject cannot be deaccented.

(21) *Same context as (20) above.*

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

- a. LF = even_{C1} [only_{C2} [[John]_{F(1)} drank [[water]_{F2}]_{F1}]]
- b. C₂ = {[John drank water], [John drank beer], [John drank wine]}
- c. C₁ = {[only_{C2} [John drank [water]_{F2}]],
[only_{C2} [Sue drank [beer]_{F2}]],
[only_{C2} [Bill drank [wine]_{F2}]]}

(adapted from Wilkinson 1996: 205)

Here, the alternatives for *even* are the propositions that John drank water and nothing else, that Sue drank beer and nothing else, and that Bill drank wine and nothing else; these alternatives are compatible with each other, and so the additive presupposition is satisfied, hence the observed felicity.

Thus, examples where *even* and *only* co-associate with the same constituent are only acceptable to the extent that *even* does not encounter mutually exclusive alternatives – for example, thanks to an additional focus elsewhere in the sentence.⁹ When the prosody and context are controlled to prevent a parse with a second focus, as in (19), the result is infelicity, exactly as we should expect if *even* has an additive presupposition.

⁹ See Francis (2018) for further discussion of mutually exclusive alternatives, including cases that do not involve co-association of *even* and *only*.

4.2 Imperatives and the strong-weak distinction

The proposal made above also relies on the presence of an existential modal (sometimes enriched by *exh*) in the structure of imperatives. Would it have been possible to capture the data if we had made different assumptions about the structure of imperatives?

Theories of imperatives fall into two broad camps: the modal approach (of which we have explored one variant here), according to which imperatives contain a modal operator in their left periphery, and the minimal approach, according to which there is no modal operator in the structure of imperatives at all. Let us consider how the present puzzle could be handled in other versions of the modal approach, and in the minimal approach.

Grosz (2009) proposes an account of the strong-weak distinction in a modal account of imperatives where the imperative operator is ambiguous between an existential and a universal modal. On this view, the difference between strong and weak readings of imperatives comes from which of these two silent modal operators is inserted. It is not clear how the present puzzle could be derived on such an account. If strong imperatives contain a unitary \Box_{imp} operator, strong imperatives with broad focus *even* would have a parallel structure to strong modal statements with broad focus *even*. In the absence of an *exh* to conflict with the additive presupposition of *even*, we would incorrectly predict that examples like (4) will be as felicitous as examples like (7).

Minimal accounts, on the other hand, hold that imperatives contain no modal operator at all; instead, they denote bare addressee-oriented properties (Hausser 1980; Portner 2007). On this view, the directive force of imperatives comes about pragmatically; instead of updating the Common Ground, imperatives update the To-Do List, a set of properties that the conversational participants are committed to making true of themselves (Portner 2007). In the minimal approach to imperatives, the distinction between strong and weak imperatives is likewise derived pragmatically – for example, as a result of conflicting requirements on the To-Do List, or by dividing the To-Do List into different sections (Portner 2007, 2012; von Stechow & Iatridou 2017).

Our puzzle shows that *even* is sensitive to the distinction between strong and weak imperatives. On minimal accounts of imperatives, this distinction is made too late for *even* to see it. The current puzzle therefore provides a novel argument for the modal approach to imperatives, and for the underlyingly existential version of the modal approach in particular.

5 Extreme indifference

The presence of *even* in weak imperatives like (5) licenses an inference of extreme indifference, to the effect that the speaker does not care at all what the addressee does. That is, while both (22a) and (22b) convey that the speaker is indifferent to which course of action the students take, this effect is stronger in (22b).

(22) *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.*

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

This inference falls out straightforwardly from the scalar presupposition of *even*. The analysis presented above predicts that the scalar presupposition of *even* in (22b) is that it is less likely that the addressee be permitted to close their exam papers than that they be permitted to engage in any of the other courses of action that are salient in the context. The likelihood of something being permitted is inversely proportional to the likelihood of its being forbidden; that is, what is least likely to be permitted is what is most likely to be forbidden. A speaker who signals that they permit 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. This allows us to conclude that the speaker does not care at all what the addressee does.

6 Conclusion

In this paper, we have seen that the distribution of *even* outlined in Section 1 can be captured if we assume that i) *even* has an additive component, and ii) imperatives contain an existential modal operator, sometimes accompanied by *exh*. This paper can be seen as an argument for both of these positions.

The adoption of these tools has the potential to improve our understanding of other puzzles in the domain of imperatives. For example, the assumption that imperatives contain an existential modal operator could offer a natural way of understanding the acceptability of free choice items in imperatives. Free choice items like *any* are known to appear under existential modals, but not usually under universal modals or in episodic contexts, as shown in (24).

(23) Ask anyone.

(24) a. You can ask anyone.

- b. *You must ask anyone.
- c. *You asked anyone (yesterday).

On views where imperatives contain no modal operator, or contain a universal modal operator, the acceptability of sentences like (23) is mysterious. Once we adopt a view where all imperatives contain an existential modal operator, however, the parallel between (23) and (24a) is unsurprising. Differences are known to exist between the free choice effects that are available under modals and under imperatives (see e.g. Aloni 2007; Kaufmann 2012). It is hoped that future work in the existential modal theory of imperatives will provide a way to capture all of the relevant data.

I would like to close this paper by pointing out a loose end. The story presented above relies on the additive component of *even* being incompatible with the exclusive component of *exh*. We might therefore expect other additive expressions to exhibit the same restricted distribution as *even* in imperatives. It turns out that this is not the case; unlike *even*, *also* and *too* can felicitously take broad focus in strong imperatives, as shown in (25)

(25) *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

This might seem like a problem for the account presented above. However, when we look more closely at what *also* and *too* are doing in (25b) and (25c), it appears that *also/too* and *exh* are making use of different substitutions for building their alternatives. Intuitively, what *also* and *too* do here is contribute a requirement that there is some other strong imperative besides *Close your exam papers!* that holds for the addressee – for example, the immediately preceding command that the addressees put down their pens. This would be derived in our system by having *exh* take alternatives built by making polarity-based substitutions, while the additive particle takes alternatives that are built by making non-polarity-based propositional substitutions,¹⁰ as shown in (26) for (25c).

(26) *Close your exam papers, too!* _imp

- a. LF: also_{C1} [exh_{C2} [\diamond _imp [close your exam papers]_{F1,F2}]]
- b. C₂ = { [\diamond _imp [close exam papers]],
 [\diamond _imp [–close exam papers]] }

¹⁰ In the terminology of footnote 5, these are the *p*, *q*, *r*-based alternatives. What is special here is that *also* (and *too*) can take *p*, *q*, *r*-based alternatives while *exh* takes polarity-based alternatives.

$$\begin{aligned}
 \text{c. } C_1 &= \{[\text{exh}_{C2} [\diamond_{\text{imp}} [\text{close exam papers}]_{F2}]], \\
 &\quad [\text{exh}_{C2} [\diamond_{\text{imp}} [\text{put down pens}]_{F2}]]\} \\
 &= \{[[\diamond_{\text{imp}} [\text{close exam papers}]] \& \neg[\diamond_{\text{imp}} [\neg\text{close exam papers}]]], \\
 &\quad [[\diamond_{\text{imp}} [\text{put down pens}]] \& \neg[\diamond_{\text{imp}} [\neg\text{put down pens}]]]\}
 \end{aligned}$$

The alternatives in (26c) amount to a requirement that the addressees close their exam papers and a requirement that the addressees put down their pens; these requirements are perfectly compatible with each other, and so the additive requirement of *also* can be satisfied. This raises an interesting question, one that I will leave open here: why is *even* not able to do what *also* and *too* can do? That is, why do *even* and *exh* have to make use of the same substitutions when they co-associate with the same constituent? Or, put another way, why do *even* and *also/too* have access to different alternatives in strong imperatives?

I do not know why *even* differs from *also* and *too* in this way, but this puzzling fact could tell us something important about how focus-sensitive operators work, and how they might differ from each other. This is a worthy avenue for further investigation – a task that I leave for future work.

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