

## Endorsement of inconsistent imperatives

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**Abstract.** There is an ongoing debate regarding how imperatives convey speaker endorsement. One line of approach builds it into the imperative meaning. Another posits weaker meanings. Indifference uses, like ‘Go right! Go left! I don’t care!’, pose a challenge to the endorsement account. We reconcile the endorsement approach with such uses and argue that they can reduce to the speaker endorsing disjunctive prejacent, which results from one imperative operator taking a list of prejacent under its scope. This analysis predicts that intonational patterns that signal lists will facilitate disjunctive interpretations. We test and confirm this prediction in an experimental study.

**Keywords.** imperatives, clause-type conventions, endorsement, intonational meaning, experimental semantics

**1. Introduction.** Characterizing the meaning contribution of the imperative clause-type has long been a challenge. Part of the difficulty stems from the fact that imperatives are functionally quite heterogeneous. Not only can they be used to perform directive speech acts such as commands and requests, they can also be used to convey a wide range of other speech acts including pleas, advice, offers, and well-wishes (Schmerling 1982; see (1) for examples).

- |     |    |                                   |           |
|-----|----|-----------------------------------|-----------|
| (1) | a. | Hand in the assignment by Friday. | COMMAND   |
|     | b. | Pass me the salt, please.         | REQUEST   |
|     | c. | Please, lend me the money.        | PLEA      |
|     | d. | Take the A train.                 | ADVICE    |
|     | e. | Have a cookie.                    | OFFER     |
|     | f. | Get well soon.                    | WELL-WISH |

The basic question is, what is the irreducible, conventional meaning contribution of imperatives, on the basis of which we can systematically derive all of their varied uses?

In the context of this question, it is a matter of ongoing debate to what extent imperatives convey speaker endorsement because of their meaning. Data like (2) and (3) point in opposite directions. (2) seems to convey speaker endorsement, as the only way for it to appear coherent is to assume that the speaker has changed their mind (Portner 2007). Indifference uses like (3), on the other hand, do not appear to convey speaker endorsement (von Stechow & Iatridou 2017). Cases like (2) favor a conventional approach to speaker endorsement, while cases like (3) favor a non-conventional approach to speaker endorsement.

- (2) # Go right! ... Since you like the scenic route, go left!
- (3) Go right! Go left! I don’t care.

One line of approach to the analysis of imperatives builds speaker endorsement into imperative meaning. Another line, partly motivated by the availability of indifference uses, posits

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weaker meanings for imperatives, with speaker endorsement arising independently. On the endorsement analyses, whenever the sentence radicals of two imperatives are inconsistent, the two imperatives will be inconsistent as well, whereas on the weaker meaning analyses, they will not necessarily be.

In this paper, we reconcile the ‘endorsement is conventional’ line of approach with indifference uses. We claim that a sequence of imperatives as in (3) can optionally be analyzed as a list of sentence radicals under one imperative operator, i.e. constituting just one imperative. On the indifference use, a disjunctive interpretation of the list is triggered, which means that there is no endorsement of any individual sentence radical. Our view thus takes (2) to be the base case and (3) to arise under special conditions that allow for the prejacent to be construed as a disjunctively-interpreted list.

Our analysis leads to the prediction that intonational patterns that signal lists will facilitate disjunctive interpretations. We test this specific prediction in an experimental study. The results provide empirical support for our hypothesis, based on the endorsement line of approach, that inconsistent imperatives constitute a special case and that the list intonation serves as a clue for the list construal.

After a brief overview of different approaches to imperatives in section 2, we make our proposal for the indifference uses that is consistent with the endorsement approach to imperatives in section 3. Then in section 4, we present an experimental study that corroborates our proposal. In section 5 we return to the broader question of how intonation and clause-types interact.

**2. Approaches to imperatives and endorsement.** We take imperatives to consist of a sentence radical (the prejacent) and an imperative operator IMP. This is a standard though not a universal assumption. The sentence radical denotes a proposition, which corresponds to the fulfillment conditions of the imperative. We refer to it as the *content* of the imperative. For instance, the content of the imperative *Go left!* is the proposition that the addressee goes left (at some future time). An imperative’s content is determined by the system of semantic composition. The meaning of IMP specifies the *conventional force* associated with the imperative clause-type. The conventional force is not to be identified with any particular illocutionary force that the use of an imperative may have, like the range seen in (1), but is rather supposed to both constrain the range of uses to the attested ones, and to drive the inferences, together with the content and properties of the context, to the perceived illocutionary forces. This means that the conventional force of imperatives, whatever it is, is not that of a command or any other of the illocutionary forces seen in (1).

It is an open question whether IMP is part of the system of semantic composition or part of the conventions of use that determine how the context is to be updated by a given clause-type or type of denotatum delivered by the compositional semantics. However, the issue of endorsement arises regardless of which option one chooses. For purposes of the discussion in this paper, we will take the meaning that IMP contributes to be part of the conventions of use determining how an imperative utterance updates the context.<sup>1</sup>

Informally, endorsement can be characterized as the inference accompanying uses of im-

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<sup>1</sup>In this sense, we assume a minimal denotational semantics for imperatives, in von Stechow & Iatridou’s (2017) terminology.

peratives that the speaker wants the content to be realized.<sup>2</sup> The question of whether imperatives *conventionally* encode something that leads to this inference has been a matter of controversy. Following von Fintel & Iatridou (2017), we can coarsely divide existing theories of imperatives based on whether or not they encode speaker endorsement within imperative meaning. Accounts like Schwager (2006), Kaufmann (2012), Condoravdi & Lauer (2012), Kaufmann (2016a), and Condoravdi & Lauer (2017) are examples of *strong* approaches to imperative meaning: one way or another, they attribute speaker endorsement to the semantics of imperatives. (Note that what exactly counts as endorsement, as well as the strength of endorsement, differs from work to work. See Condoravdi & Lauer (2017) for more details.) By contrast, accounts like Portner (2007) and von Fintel & Iatridou (2017) are examples of *weak* approaches, as they do not build endorsement into imperative meaning. Finally, some works take intonation to be responsible for the strong vs. weak imperative meaning (Portner 2018; Oikonomou 2016; Rudin 2018). We call such approaches *intonation-dependent*. For instance, Rudin (2018) and Portner (2018) argue that imperatives with the falling tune are associated with endorsement as a part of the meaning of the particular clause-type + tune combination.<sup>3</sup>

The relative merits of these different lines of approach are complicated, as we saw earlier, by different data points that seem to stand in opposition to each other. Strong approaches can straightforwardly account for Portner’s (2007) observation, illustrated in (2), that imperatives with conflicting contents generally lead to infelicity, even when they have different illocutionary forces (e.g., an order followed by a suggestion). By contrast, this generalization is less easily captured by weak theories. At the same time, the situation seems different with indifference uses of imperatives, like (3). Here, as noted by von Fintel & Iatridou (2017), the data might seem to more straightforwardly support a weak approach, since the imperatives are contextually contradictory but the overall utterance is coherent without any assumption that the speaker changed her mind.

Another argument that von Fintel & Iatridou (2017) give in favor of weak approaches is the acquiescence use of imperatives, as exemplified in (4).<sup>4</sup>

- (4) A: It’s getting warm. Can I open the window?  
 B: Sure. Go ahead. Open it!

Here, unlike in indifference uses, there is no set of contradictory imperatives. However, unlike with many standard uses of imperatives, B is simply allowing A to open the window, without expressing any particular preference to this effect. According to von Fintel & Iatridou (2017), this challenges strong views, in which some notion of obligation or speaker desire is built into imperative meaning. However, acquiescence uses as in (4) are actually consistent with a strong approach to imperatives as discussed in Condoravdi & Lauer (2012, 2017). What the imperative in (4) implies is that none of the speaker’s preferences conflict with the addressee opening

<sup>2</sup>The particular formal specification of endorsement is orthogonal to our purposes since our account does not hinge on the particulars of how endorsement is encoded into imperative meaning.

<sup>3</sup>Rudin (2018) appeals directly to the notion of speaker endorsement, while Portner (2018) appeals to interlocutor-specific commitment to priorities, and the intonation determines which interlocutor’s (speaker or addressee) commitment is involved. Falling imperatives propose to commit the speaker to treating the imperative’s content as a priority.

<sup>4</sup>A different type of argument comes from non-endorsing IaDs (conjunction of imperatives and declaratives). This topic is outside the scope of this paper, but we note that what non-endorsing IaDs require is a minimal denotational semantics for imperatives, which is consistent with our approach here.

the window. What is special about acquiescence uses is the fact that the imperative content corresponds to a non-self-motivated preference of the speaker, a preference that the speaker has taken on via cooperation by default (Condoravdi & Lauer 2017).

Indifference uses, however, remain a problem for strong approaches, just like Portner’s observation, exemplified by (2), remains a problem for weak approaches without any further assumptions. Indifference uses are also problematic for intonation-dependent approaches, as such uses arise even with the prosodic patterns that are supposed to bring about the strong reading. For instance, the two imperatives in (3) uttered with falling tunes would be predicted by Portner (2018) and Rudin (2018) to lead to the kind of infelicity seen in (2). However, according to our intuitions as well as the experimental results discussed in sec. 4, the use of falling tunes is not inconsistent with indifference readings.

In this paper, we address the issue of indifference uses and how they can be reconciled with strong approaches. On the face of it, it would seem that strong approaches inexorably lead to the prediction that inconsistent contents lead to inconsistent imperatives. This is because whenever  $p$  and  $q$  are inconsistent,  $\text{IMP}(p)$  and  $\text{IMP}(q)$  are inconsistent as well. We challenge the view that whenever two imperatives are uttered, we have two instances of IMP, resulting in an inconsistent contextual update. In doing so, we provide an analysis of indifference uses that allows for a consistent update from two or more inconsistent contents.

**3. Proposal.** We propose that a sequence of imperatives can be optionally analyzed as a list under a single IMP operator. When this occurs, the resulting logical form of a sequence of two imperatives with prejacent  $p$  and  $q$  will be as in (5), with IMP taking a list as its argument.

(5)  $\text{IMP}([p, q])$  List construal

3.1 LIST INTERPRETATIONS. In general, lists can be interpreted either conjunctively or disjunctively. Lists of constituents, such as NPs, VPs, etc., are standard and allow for either a conjunctive interpretation, as exemplified in (6-a), or a disjunctive one, as exemplified in (6-b).

- (6) a. To make this dish, I need beans, corn, tomatoes, ...  
 b. I need water, tea, coffee, ... – any kind of liquid would work.

But depending on the environment in which the list appears, one of the two interpretations may be enforced. For example, as discussed by Horn (2000) and Condoravdi (2015), the interpretation of lists in appositives depends on the type of noun phrases they are in apposition to. Lists in apposition to definites, universals, and pseudo-clefts get conjunctive interpretations, as seen in (7-a). Lists in apposition to *wh-ever* have a disjunctive interpretation when the *wh-ever* has an ignorance reading, as seen in (7-b), and a conjunctive interpretation when the *wh-ever* has an indifference/plural reading, as seen in (7-c).

- (7) a. Everything Mary cooked – ratatouille, latkas, goulash – had tons of onions.  
 b. Whatever Mary has in that pot – ratatouille, latkas, goulash – has tons of onions.  
 c. The thieves grabbed whatever small objects they could reach through the hole – vases, figurines, lamps – and quickly left the scene.

Similarly, in the case of list construals of imperatives, the list can be interpreted conjunctively or disjunctively. In principle then, the interpretation of (5) can be either (8-a) or (8-b).

- (8) a.  $\text{IMP}(p \wedge q)$

- b.  $\text{IMP}(p \vee q)$

But when the list contents are either logically or contextually inconsistent, the conjunctive reading is excluded so a disjunctive reading will be the only option. For example, consider the sequence of imperatives in (9). Under our proposal, the logical form of the two imperatives in (9) is as in (9-a). As  $p$  and  $\neg p$  are logically inconsistent, the only sensible interpretation of the list is a disjunctive one, which makes (9-a) equivalent to (9-b).

- (9) Call your mom! ( $=p$ ) Don't call your mom! ( $=\neg p$ ) I don't care!
- a.  $\text{IMP}([p, \neg p])$
  - b.  $\text{IMP}(p \vee \neg p)$

In cases of inconsistent contents, therefore, we end up with trivial endorsement. Under what conditions would a speaker utter a sequence of imperatives that would result in a trivial endorsement? This would be a sensible move in a context where the contents corresponding to the elements of the list are salient alternative possibilities about how the addressee acts and the speaker cares to signal that her preferences do not privilege any one of these contents, qua alternative options for the addressee. In effect, this amounts to speaker indifference about this particular issue. More generally, a speaker would be motivated to use a sequence of inconsistent imperatives either because she is indifferent as to which way the addressee acts, or because the facts are such that the addressee's contextually salient goals can be achieved either way. We refer to the latter as an 'either works' kind of reading. For example, what is conveyed by the advice use in (10) is that both going left and going right are viable options for getting to the desired location.

- (10) Go right! Go left! You'll get there either way.

Importantly, we observe this list-type construal across different clause-types in the face of inconsistent contents. For example, in (11), where we have two declarative sentences with inconsistent contents, we get an inference of speaker ignorance or even unknowability. On our view, this is a side effect of the list construal resulting in a trivial content, equivalent to that of (11-b).

- (11) He betrayed us ( $=p$ ) He didn't betray us. ( $=\neg p$ ) Who knows.
- a.  $\text{DEC}([p, \neg p])$
  - b.  $\text{DEC}(p \vee \neg p)$

Whether we want to take the effect of the declarative to be speaker commitment to the content, or a proposal to update the common ground with the content, we are stuck with an inconsistent set of updates unless we have a mechanism for allowing for the list construal of the two sentences, under one declarative operator. In sum, our explanation of the indifference uses of imperatives is more generally applicable and it has the advantage of deriving inferences of speaker ignorance (in the case of declaratives) and indifference (in the case of imperatives) from the same core mechanism, whereby clause-type operators scope over lists of multiple prejacent (see also Ciardelli et al. (2019) for analogous approaches to interrogatives and list interpretations).

3.2 DISJUNCTIVE LIST CONSTRUAL VS. IMPERATIVES WITH ‘OR’. There is, of course, a close connection between coordination and lists.<sup>5</sup> If indifference uses come about from a disjunctive list interpretation, the question arises how they relate to imperatives with an overt *or*. Imperatives with an overt *or*, as in (12), are known to give rise to a free choice effect, conveying that the speaker gives to the addressee the option of choosing. The free choice effect displayed by (12) is intuitively different from the speaker indifference conveyed by the sequence of imperatives in (13).

(12) Leave or stay overnight! It’s up to you.

(13) Leave! Stay overnight! I don’t care.

How can we explain the contrast between (12) and (13) if the content in both cases is the disjunction  $\llbracket$ you leave $\rrbracket \vee \llbracket$ you stay overnight $\rrbracket$ ? We can only sketch out the answer here. Drawing on Kaufmann (2016b), we take overt *or* to introduce alternatives corresponding to each disjunct and to convey a dependence, which in the case of (12) is a dependence on the addressee’s preferences. Therefore, given the interaction of the meaning of *or* and of imperatives, (12) conveys that each disjunct is compatible with the speaker’s preferences and that the speaker would commit to it if it turns out to be the addressee’s preference. By contrast, in the disjunctive list interpretation, where there is no *or*, all that happens is speaker commitment to a trivial preference.

3.3 LIST INTONATION. Returning to list construals, one unifying feature of them across grammatical categories is that they are often signaled by particular intonational contours, which we term *list intonation/tune*. Burdin & Tyler (2018) characterize one prominent list tune as H\* H-L% (high plateau), under the ToBI (Tone and Break Indices) annotating conventions. We believe that the list tune is better described with a slight modification, as a rise followed by a high plateau: L+H\* H-L%.<sup>6</sup> In addition, certain rising (L\* H-H%) and falling (H\* L-L%) tunes, while not directly signaling the presence of a list, have been claimed to signal whether a contextually-recovered list is open or closed, i.e., exhaustive or non-exhaustive (Zimmermann 2000). Here we do not concern ourselves directly with the issue of how intonation signals the exhaustivity of lists, and merely note that the list tune we are interested in, L+H\* H-L%, standardly conveys that the list remains open (i.e., is non-exhaustive).

Given the presence of the list tune, our proposal above leads to specific intonation-related predictions. If what is at the heart of indifference uses of imperatives is indeed a disjunctive interpretation arising from a list, then we expect indifference and ‘either works’ uses to have a close connection to the list tune: these interpretations will constitute marked cases that call for list construals of the imperative prejacent, which are facilitated by the presence of the list tune. In the next section, we present an experimental study that tests this prediction.

**4. Experiment.** To probe the hypothesized connection between indifference and ‘either works’ interpretations of imperatives and the list tune, we conducted a perception experiment. The experiment incorporated auditory stimuli of imperatives that introduced a controlled prosodic

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<sup>5</sup>Some authors have proposed to analyze the former in terms of the latter; for instance, Zimmermann (2000) proposed to analyze disjunctions with *or* as conjunctive lists of epistemic possibilities, and recently, Zhang (2015) has proposed that lists underlie the syntax and semantics of *and* and *or*.

<sup>6</sup>A sample audio of the imperative *Call your mom!* produced in the list tune can be found at: [https://semanticsarchive.net/Archive/WRmYWQ4N/kev\\_S1UM.call\\_LHL.wav](https://semanticsarchive.net/Archive/WRmYWQ4N/kev_S1UM.call_LHL.wav).

contrast between the list tune and the canonical falling tune. Upon hearing an imperative, presented in either one of the two tunes, participants were asked to choose the more likely continuation between two possible follow-ups. One type of follow-up was consistent with the canonical endorsement interpretation of the target imperative, whereas the other one was consistent with the indifference or ‘either works’ interpretation.

The procedures (including data collection criteria), predictions, and projected statistical analyses for the experiment were preregistered in the Open Science platform prior to running the experiments. Link to the preregistration, as well as experiments, data, and codes can be found in the following repository: <https://github.com/sunwooj/imp>.

4.1 PARTICIPANTS. 280 native speakers of American English were recruited from Amazon Mechanical Turk. They were paid \$0.40 to participate. The experiment lasted an average of 4 minutes.

4.2 STIMULI. Auditory stimuli were created from recordings of 12 imperatives. The contents of the imperatives introduced a variety of illocutionary biases, including commands/requests (e.g., *Open the window!*), offers (e.g., *Have a cookie!*), and advice (e.g., *Turn left!*).

Four native speakers of American English (two males, two females) were recruited to create recordings of these imperatives. Following sample pairs of recordings of a ToBI trained speaker (one of the authors), the recruited speakers produced a given target imperative in two versions: one in the list tune (L+H\* L-H%) and the other in the falling tune (H\* L-L%). The recordings were checked to ensure that the members of each pair were maximally comparable to each other with regards to duration, voice quality, pronunciation of segmental strings, etc., and varied only with respect to their intonational profiles.

In the experiment, each imperative item was paired with two possible follow-ups, provided in written text. The follow-ups were meant to be biased towards one of the two possible interpretations, which tracked intuitive endorsement: (i) a canonical interpretation which presumes speaker endorsement to a single imperative prejacent, and (ii) a special interpretation which elicits speaker indifference or ‘either works’ inferences. Under our hypothesis, such inferences would be triggered from the list construal of the prejacent, which leads to a disjunctive interpretation. For the sake of simplicity, we will henceforth refer to each of the two types of follow-up choices as ENDORSEMENT and INDIFFERENCE follow-ups.

The ENDORSEMENT follow-ups were created using the following template: an imperative with content  $q$ , logically independent from the target imperative with content  $p$ , was followed by a declarative  $r$ , which signaled justification for the speaker’s preference for the addressee to realize the content  $p$  and/or  $q$ . The INDIFFERENCE follow-ups were created using the following template: an imperative  $q$ , logically or contextually inconsistent with the target imperative  $p$ , was followed by a declarative  $r$ , which signaled some kind of indifference inference, such as ‘I don’t care’ or ‘either works’.

The second imperatives across both ENDORSEMENT and INDIFFERENCE options were matched in polarity: either they both included negation or neither did. In order to bring out contextual inconsistency interpretations while keeping the contents different in INDIFFERENCE options involving positive polarity, we used markers such as *instead* (e.g., see Fig. 1a). An example of the two follow-up options for a target imperative *Turn left!* is provided in (14).

(14) Follow-up options after hearing the imperative item *Turn left!*

- |    |   |              |
|----|---|--------------|
| a. | Don't go straight. There's heavy traffic there. | ENDORSEMENT  |
| b. | Don't turn left! You'll get there either way.   | INDIFFERENCE |


The ENDORSEMENT option in (14-a) includes a second imperative *Don't go straight!*, whose content is consistent with the content of the target imperative, *Turn left!*. It is followed by a declarative *There's heavy traffic there*, which provides justification for and further elaboration of the second imperative. The INDIFFERENCE option in (14-b) includes a second imperative whose content is logically *inconsistent* with the content of the target imperative, *Turn left!*. It is followed by a declarative *You'll get there either way*, which in this case instantiates the 'either works' type of inference.

4.3 PROCEDURE. In a given trial, participants listened to an imperative utterance produced in either the list tune (L+H\* L-H%) or the falling tune (H\* L-L%). Note that for any trial in which they heard the list tune, it was natural for them to anticipate another element of the list, as the list was obviously partial. They were then asked to choose the more likely continuation to what they heard, among two possible follow-ups which represented ENDORSEMENT and INDIFFERENCE options (Q1). Participants were also asked to rate (on a scale from 0 to 100) how certain they were about the choice they made in Q1 (Q2), and leave optional comments. In this paper, we focus on participants' responses to Q1. Fig. 1 provides two sample trials.

(a) Audio: Take the dog for a walk!

(b) Audio: Have a cookie!

Sound 8 out of 8




Q1: Given what you just heard, which of the following two is the speaker more likely to say next? (You can listen to the clip multiple times.)

- Make sure to take a treat for him! It would be a big help for me.**
- Play some video games instead! I don't care.**


Q2: How certain are you about your response?

Not at all certain
Extremely certain

(0)
(100)



Sound 6 out of 8



Q1: Given what you just heard, which of the following two is the speaker more likely to say next? (You can listen to the clip multiple times.)

- Don't have a pop tart! It has way too many additives.**
- Don't have a cookie! You can do whatever you want.**

Q2: How certain are you about your response?

Not at all certain
Extremely certain

(0)
(100)




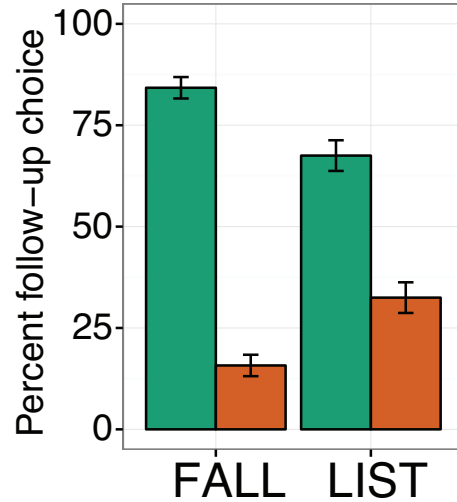
Figure 1: Sample trials

The experiment consisted of 6 target trials and 2 filler or control trials. Each participant heard 6 of the 12 possible imperative utterances. Intonation and speaker gender were counterbalanced. For a given participant, 3 of the 6 imperatives were presented in list tunes, and 3 were presented in falling tunes.

After collecting the data, a mixed effects logistic regression model was fitted to them. The model posited participants' choice of more likely follow-up responses (between the ENDORSEMENT and the INDIFFERENCE options) as the main dependent variable, and intonation type (list vs. falling tune) as the independent variable (predictor). Random intercepts were posited for items (representing diverse imperative contents), participants, and speakers of the auditory stimuli.

4.4 PREDICTIONS. Given our hypothesis about the imperative semantics, we predict that the INDIFFERENCE follow-ups are significantly more likely to be chosen in Q1 when the target im-





**Legend:** Indifference: ■ Endorsement: ■

Figure 2: Summary of experimental results

perative is presented in a list tune than when it is presented in a falling tune. This is because according to our account, the central mechanism underlying the indifference interpretations of imperatives is the list construal, which is facilitated by the appropriate list tune. On the list construal, IMP scopes over a list of two prejacent, and when the list is interpreted disjunctively, this results in trivial speaker endorsement and inferences of speaker indifference. We also predict that, globally, ENDORSEMENT follow-ups would be preferred over INDIFFERENCE ones, as the indifference readings constitute a marked case.

4.5 RESULTS. The results confirm our predictions that the list tune facilitates INDIFFERENCE interpretations, and that globally, ENDORSEMENT interpretations are preferred, as seen in Fig. 2.

Fig. 2 summarizes participants’ forced-choice responses (i.e., their answers to Q1). The x-axis plots intonation (the list tune and the falling tune), and the y-axis plots percent follow-up choice between ENDORSEMENT and INDIFFERENCE options. The ENDORSEMENT option is color-coded in green and the INDIFFERENCE option is color-coded in red.

Fig. 2 demonstrates that there is a significant effect of intonation in the predicted direction ( $\beta = 1.39$ ,  $SE = 0.15$ ,  $z = 9.01$ ,  $p < 0.001$ ). If an imperative is presented in the list tune, participants are more likely to choose the INDIFFERENCE continuation than if the imperative is presented in the falling tune (higher red bar on the LIST side (right) than on the FALL side (left)).

Fig. 2 also shows that participants still generally prefer ENDORSEMENT follow-ups over INDIFFERENCE ones (green bars are higher across both LIST and FALL conditions). This is consistent with a view in which the default use of imperatives is one that signals speaker endorsement, either through individual prejacent or a list of prejacent that is interpreted conjunctively.

In sum, the experimental results confirm the facilitatory role of the list tune in triggering indifference interpretations of imperatives. This in turn provides some support for our main hypothesis that indifference readings occur when the IMP operator scopes over a disjunctively

interpreted list of two or more imperative prejacent.

The results also provide support for our view that the indifference uses of imperatives stem from a more general mechanism that can derive various flavors of indifference. Recall that our INDIFFERENCE options in the experiment included not just continuations which instantiated true speaker indifference, but also ones where the speaker does offer substantive advice on multiple viable options (e.g., (14-b)). As mentioned earlier, these uses might be better described as triggering an ‘either works’ type of inference. As the list tune facilitated participants’ choice of not just the true indifference follow-ups but also the ‘either works’ follow-ups, the results suggest that the same basic mechanism is at play across the two subtypes of INDIFFERENCE readings. Our analysis naturally predicts this generality.

**5. Discussion.** The experimental results suggest that the list tune facilitates list interpretations, and that list interpretations in turn facilitate indifference readings of imperatives, which are nevertheless globally dispreferred. The connection between prosody and interpretation that we would ultimately like to argue for on the basis of these results is rather subtle, and thus merits some discussion (see also Jeong & Condoravdi 2017, Jeong & Condoravdi 2018).

First, we note that while the list tune significantly facilitated list interpretations in the experiment, the canonical ENDORSEMENT option was still the preferred follow-up across both intonational conditions (note the higher green bars across both FALL and LIST in Fig. 2). We take this to mean that while the use of the list tune may be sufficient for the list construal, the tune itself does not fix the interpretation of the list as conjunctive or disjunctive. Those participants who chose the ENDORSEMENT option did so because they anticipated a conjunctive interpretation of the list ( $\text{IMP}(p \wedge q)$ ). Those participants who chose the INDIFFERENCE option did so because they anticipated a disjunctive interpretation of the list ( $\text{IMP}(p \vee q)$ ). The disjunctive interpretation is marked in the sense that the listener has to figure out why the speaker would choose to commit to a trivial preference.

Second, there was a small number of INDIFFERENCE choices in the FALL (falling tune) condition. We surmise that in those cases, there were features of the items (specifically, the content of imperatives, which might have prompted the participants to make certain assumptions) that created a bias towards the more marked list interpretation. We take this finding to show that the list tune is not necessary for the list construal. In particular, list interpretations can be *contextually enforced* when two imperatives with contextually or logically inconsistent contents occur in succession: much like the case of the declarative example in (11), the only way to arrive at a sensible interpretation of such sequences is if IMP scopes over a disjunctively-interpreted list. We also note that obtaining a list interpretation without necessarily having a corresponding list tune occurs more generally (e.g., the NPs in (6) are interpreted as lists even if they are uttered with the canonical falling tune and not with the list tune). In sum, we conclude that the list tune is the preferred intonation, but not a prerequisite for obtaining indifference readings of imperatives.

Our experimental results recast indifference uses of imperatives in a new light since they establish a connection between the list tune and indifference uses. Our analysis predicts this naturally, as endorsement to a *list* of contents is hypothesized to be at the heart of these readings. Therefore, indifference uses are not a threat to strong approaches. In fact, they may actually pose a problem to weak approaches. On the face of it, weak approaches have a problem explaining why the indifference construal is the special one and why in general, cases like

(2) result in infelicity. If speaker endorsement is not part of the meaning of imperatives, why would indifference interpretations be the special case and (2) the general case?

To address this issue, von Stechow & Iatridou (2017) suggest that the principle in (15) may be at play, which they see as related to principles like the Strongest Meaning Hypothesis, Maximize Presupposition, etc.

(15) Default strength of speech acts

When a speaker utters a sentence  $\alpha$ , this is understood with a highest level of speaker endorsement compatible with a context and any strength/weakness markers in the sentence.

This suggests that clause-types come with a range of strengths, and that the strongest one, given the context and the content, is chosen. However, von Stechow & Iatridou do not characterize the different strengths of speaker endorsement, and it remains an open question what the weak strength amounts to and how indifference uses come about. For instance, it is not clear whether one would have to build indifference into weak endorsement, whatever the latter amounts to. Moreover, the connection between indifference uses and the list intonation is unexpected just on the basis of the principle in (15), since the list intonation on its own is not a weakening marker.

We thus think that indifference uses, once considered to be a knock-down argument against strong approaches to imperatives, have theoretical implications that might actually work in favor of the strong approach.

**6. Conclusion.** In this paper, we have proposed an account of the so-called indifference uses of imperatives that is consistent with a strong meaning of imperatives. We have argued that indifference uses arise when the imperative operator IMP takes a list of prejacentes as its argument and the list is interpreted disjunctively in view of the logical or contextual inconsistencies of the propositions in the list. This amounts to the speaker endorsing a trivial content. Given the existence of a salient list tune, the analysis leads to the prediction that the list tune will facilitate indifference interpretations. This prediction was tested and confirmed experimentally.

Our analysis has the advantage of capturing the natural affinity between the list tune and indifference interpretations, as well as deriving indifference inferences from a general mechanism of list construals, which is independently motivated.

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