Force and Choice: FCIs in Permissive and Directive Imperatives

Abstract

Some utterances of imperative clauses have directive force—they impose obligations. Others have permissive force—they extend permissions. The dominant view is that this difference in force is not accompanied by a difference in semantic content. Drawing on data involving free choice items in imperatives, I argue that the dominant view is incorrect.

1 Introduction[1]

Imperatives clauses support both directive and permissive uses (see, e.g., Davies (1986), Schwager (2006b), Kaufmann (2012), Condoravdi & Lauer (2012), Portner (2012), von Fintel & Iatridou (2017a), amongst others).

(1) Do what I say.

(2) Do what you like.

Typically, utterances of (1) and (2) differ in force. On its dominant use, an utterance of (1) imposes an obligation. As long as appropriate conditions on speaker authority are satisfied, the utterance generates constraints on the licit courses of action available to the addressee. In contrast, an utterance of (2), on its dominant use, extends a permission. As long as speaker authority conditions are satisfied, the utterance eliminates constraints on the licit courses of action available to the addressee.

Some imperative clauses can be readily used with either force, according to the context.[2] As uttered in a crowded subway car, (3) is naturally heard with permissive force. As uttered by an airplane pilot to her co-pilot, however, it is more easily heard as directive.

(3) Take my seat.

At what level is the directive/permissive distinction to be drawn? A broad consensus has it that directives and permissives are semantically homogenous.[3]

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[2]Indeed, I want to leave open the possibility that all imperative clauses exhibit have the potential to be used in either way. Even (1) and (2), given a sufficiently exotic context, could be employed with permissive/directive force, respectively.

[3]Contemporary proponents of this position include Portner (2004, 2007, 2012), Schwager (2006b), Kaufmann (2012), Condoravdi & Lauer (2012), Starr (2020), Charlow (2014, 2018), von Fintel & Iatridou (2017a), Murray & Starr (2018, 2020), and Halm (2019).

That is, while permissive and directive utterances of (3) differ in their illocutionary force, they agree in their semantic content. It is now generally accepted, *pace* Searle (1969) & Searle & Vanderveken (1985), that illocutionary force is a property of utterances, rather than of sentences. This would mean that the directive/permissive can only be properly applied to the former, not to the latter.

The semantic homogeneity of directives and permissives is compatible with a variety of different accounts of the semantics of imperative clauses. In particular, it is neutral with respect to how their semantic content is related to their effect on discourse context.

On a pragmatic account of their dynamics, the content of an imperative clause fails to determine its effect on context. For example, Portner (2004, 2007, 2012) proposes that the denotation of a sentence like (3) is a property with a domain restricted to the addressee; it holds of her if she satisfies the denotation of the matrix clause VP, and fails to hold of her otherwise.[4,5] Kaufmann (2012) (building on Schwager (2006a,b)), in contrast, takes the denotation to be a proposition; it is true iff the addressee satisfies the denotation of the matrix clause VP in all 'ideal' worlds relative to a contextually supplied ordering source.[6] While they differ in their characterization of an imperative clause's content, these authors agree that it does not by itself specify how the discourse context is to be updated in response to the imperative's utterance. Rather, some pragmatic reasoning is required in order for interlocutors to derive an update procedure from the content of the clause.

On a semantic account of their dynamics, in contrast, the content of an imperative clause directly specifies an update on discourse context. For example, Starr (2020) and Murray & Starr (2018, 2020) propose that the denotation of a sentence like (3) is a function on preference relations, which models changes in the desirability of states of affairs mutually accepted by participants in a conversation. Alternatively, Mastop (2005, 2011) treats it as a function on 'commitment slates', which model, for each participant in the conversation, a mutually accepted preferred course of action.[7]

[4]Similar accounts have been adopted by Roberts (2016), von Fintel & Iatridou (2017a) and Halm (2019).

[5]Portner (2007) does allow that the particular to-do list an imperative is associated with may be lexically specified. However, the semantic value remains a (partial) property of individuals, rather than an update rule on contexts/contextual parameters).

[6]Charlow (2014, 2018) is harder to classify, but follows a similar approach to Kaufmann. He claims that "a semantic theory for a sentence is a theory about what sort of cognitive instruction that sentence proffers"(655). However, the semantic clause he specifies for imperatives is a function from a plan [ordering source] to a proposition, rather than an update rule (646).

[7]Assuming semantic homogeneity, whether directives and permissives differ in their update effect will depend, in part, on whether one adopts a pragmatic or semantic account of their dynamics. Most proponents of a pragmatic account, including Portner and Kaufmann, take directives and permissives to be associated with the same update. For Portner, this update amounts to the addition of a property to the 'to-do list' of the context. For Kaufmann, the revision of the contextually salient ordering source. For both, however, directives and permissives affect the relevant feature of context in the same way. However, this is not obliga-

The primary goal of this paper is to argue against semantic homogeneity: directive and permissive utterances of (3) differ in content. More specifically, I will present evidence of covert lexical items which mark an imperative clause as either directive or permissive. Crucially, these lexical markers have a non-redundant semantic effect, giving rise to differences in content.

On a view of this kind, the directive/permissive distinction can be applied at the level of sentences.[8] (3) is ambiguous between two distinct LFs, with corresponding differences in content. While utterances of the two LFs will (typically) be associated with different illocutionary forces, this is is not a *sui generis* property of the utterances, but is instead attributable to their underlying semantic difference.

Semantic heterogeneity is also compatible with both a pragmatic and a semantic account of the dynamics of imperatives. A pragmatic account is defended by Grosz (2009), who takes imperatives to have the same denotation as modal declaratives. I offer a form of semantic account, on which imperatives function to eliminate unsettledness regarding what is prohibited. Crucially, the primary argument of the paper is neutral between the two. **Figure 1** presents a full taxonomy of positions.

	Pragmatic Dynamics	Semantic Dynamics
Semantic Homogeneity	Han (1998), Portner (2004, 2007, 2012), Kaufmann (2012, 2016),[9] Condoravdi & Lauer (2012), von Fintel & Iatridou (2017a), Charlow (2014, 2018), Halm (2019)	Mastop (2005, 2011), Starr (2020), Murray & Starr (2018, 2020).
Semantic Heterogeneity	Grosz (2009), Oikonomou (2016b), Francis (2019).	This paper, §5.1.

Figure 1: A taxonomy of views.

tory. It is compatible with a pragmatic account of imperative dynamics that the two differ in their update effect. For example, Halm (2019) proposes that directives and permissives each affect different features of the context, a 'to-do list' and a 'list of actions under consideration', respectively.

This option is not available to proponents of a semantic account of imperative dynamics who also want to maintain that they are semantically homogenous. If the two have the same content, and the content determines their update effect, then, evidently, that effect cannot vary between them.

[8]This is not to say that illocutionary force should be treated as a property of sentences. Rather, that the fundamental difference between directives and permissives, for semantically heterogenous accounts, will be a difference in meaning, not a difference in illocutionary force (even if the former determines the latter).

Here's the plan: In §2, I introduce a variety of tests distinguishing directives and permissives. Having done this, §§3-4 present the central data which the paper aims to explain: free choice items behave differently depending on the force of imperatives in which they occur. I show that this mirrors the situation with modals in declarative sentences, making a unified treatment desirable. However, giving such a treatment requires us to posit a semantic difference between permissives and imperatives. In §5, I sketch one way in which this can be done and compare it to another. In §6, I contrast these proposals with ones which accept semantic homogeneity, and argue that the latter are incapable of accounting for the same data. Finally, §7 discusses how the view developed in §§3-5 can be applied to a range of otherwise recalcitrant issues associated with free choice items and imperatives.

In addition to offering an account of the little-understood interaction between imperatives and FCIs, this proposal has a number of wider, philosophical implications. The division of the contribution of an utterance into force and content originates with Frege (1879, 1918) (cf. Dummett (1973, §§10-12)). This paper offers new, empirical motivation for taking at least one aspect of force to have a lexical realization, in the form of force-marking operators. In this respect, it provides support for an approach of the kind in Starr (2014), Murray & Starr (2018, 2020) and Han (1998) (themselves drawing on proposals of Rivero & Terzi (1995), Rizzi (1997) and Cinque (1999)). However, it also departs from this approach in one radical respect. Unlike previous work, I suggest that the lexical marking of force need not take exceptional scope within the clause; at least in imperative clauses, it may be semantically out-scoped by certain quantifiers.[10]

2 The Directive/Permissive Distinction

While the availability of directive and permissive uses of imperatives cross-linguistically is widely recognized, few explicit indicators of the respective forces have been proposed for English. In this section I present a number of tests for distinguishing the force associated with English imperatives, as well as discussing previous work on overt marking in other languages. These tests are novel, unless otherwise noted.

a. Tag clauses.

Permissive, but not directive, imperatives permit the appendation of various declarative clauses broadly indicating 'indifference'.

(4) a. Do what I say, #I don't [mind/care/give a shit].

[9] As an anonymous referee notes, the decompositional approach raised in Kaufmann (2012, §5.3) complicates this categorization somewhat. Nevertheless, Kaufmann takes the vast majority of directives and permissives to have a homogenous semantics.

[10] In this respect, the account I propose is more similar to that of Krifka (2001, 2004, 2011), who posits that quantifiers may outscope the force of certain clauses, most notably interrogatives. Unlike Krifka, however, I take only sentential force, rather than illocutionary force, to be lexically realized.

b. Do what you like, I don't [mind/care/give a shit].

(5) a. # By all means, do what I say.
b. By all means, do what you like.

Whereas (4.b) is impeccable, (4.a), like other characteristically directive imperatives, is notably odd when combined with indifference tags (cf. von Fintel & Iatridou (2017a, 294)). Non-clausal tags can play a similar role of indicating indifference, and follow the same pattern. 'By all means' combines readily with characteristically permissive imperatives such as (5.b)) (both pre-posed and post-posed), but not with characteristically directive ones, such as (5.a).[11]

In contrast directive, but not permissive, imperatives permit appendation of the positive and negative polar tag questions 'will you?' and 'won't you?'.

(6) a. Do what I say, [will/won't] you?
b. Do what you like, #[will/won't] you?

Either polarity of tag question can be employed in (6.a), where it indicates a particularly emphatic entreaty. In contrast, neither is available with the same use in (6.b). Note that there is a licit rhetorical use of the string 'Do what you like, will you?' to express incredulity. However, this use involves an interrogative with a topicalized VP, rather than an imperative with tag question. This is evident from the fact that, unlike the English imperative, it does not license 'do'-insertion.[12]

b. Numerical quantifiers.

Directives and permissives interact differently with numerical quantifiers. Imperatives containing superlative quantifiers, such as ⌜at most n⌝/⌜at least n⌝ , express a prohibition. (7.a), for example, imposes an obligation on the addressee not to eat four or more slices. In contrast, imperatives containing 'bounding' quantifiers such as ⌜up to n⌝ express a permission. (7.b), for example, permits the addressee to eat between zero and three slices (but allows for the possibility she may also be permitted to eat more).[13]

[11] I am grateful to Dan Hoek for suggesting the acceptability of 'by all means' as a test for permissive force.

[12] i.e., Whereas (א.a) has a licensed, emphatic reading with 'do'-insertion, (א.b) is marked.

(א) a. Do do what you like.
b. # Do do what you like, will you?

Presumably, this is due to the presence of the competing auxiliary 'will' in the latter.

[13] Although (7.b) surely implicates that having four slices of pizza is prohibited, this implicature is cancellable, as in (¤).

(¤) You may have as many slices of pizza as you like. So have up to three, have up to four... have the whole pizza!

(7) a. Have at most three slices of pizza.
b. Have up to three slices of pizza.

The difference in force can be brought out by noting that (7.a) can be followed by an utterance of a strictly stronger imperative, such as 'In fact, have no more than two', functioning as an elaboration. In contrast, following (7.b), this can only be heard as a retraction of the speaker's previous utterance.

This pattern of behavior is interestingly related to previous observations regarding the interaction between numerical quantifiers and modals in declaratives (Blok (2015), Penka (2015)).[14]

(8) a. You [may/must] have at most three slices of pizza.
b. You [may/#must] have up to three slices of pizza.

Superlative quantifiers combine freely with both necessity and possibility modals. However, as Blok (2015) observes, regardless of the force of the modal, an utterance of (8.a) (like (7.a)) expresses an obligation rather than a permission. By contrast, bounding quantifiers (e.g., in (8.b)), are significantly better with possibility modals than necessity modals (unless the speaker is assumed to be ignorant about the relevant obligations).[15]

c. Discourse markers.

Directive and permissive imperatives can also be distinguished by the types of discourse connectives they license in conjunction with other imperatives:

(9) a. Do what I say [and/# but] do it now.
b. Do what I say [#and/but] take your time.
(10) a. Do what you like [#and/but] do it now.
b. Do what you like [and/#but] take your time.

As (9.a-b) and (10.a-b) demonstrate, directive imperatives require non-contrastive co-ordination with 'do it now', but contrastive co-ordination with 'take your

[14] I am grateful to an anonymous referee for suggesting this point of comparison.

[15] Approaches which assume semantic heterogeneity (like those defended below) can potentially offer a unified account of the modal and imperative data. By positing distinct operators marking directives and permissives, they can posit that, whereas bounding quantifiers can only occur in the permissives, superlative quantifiers can occur in either. However, regardless of whether a superlative quantifier occurs in a directive or permissive, it serves to impose an obligation (in the same way as both 'must' and 'may' express obligation in with modal declaratives with superlative quantifiers).

There remains a question of why permissives or possibility modals express obligations when combined with superlative quantifiers. Cohen & Krifka (2014)'s account of superlative quantifiers in terms of speech act negation offers one way of deriving this effect. If Cohen's superlative quantifier takes wide scope over a possibility/permissive operator, it will serve to rule out contexts in which the addressee is permitted to eat 4 slices or more.

time'. Permissive imperatives display the reverse behavior, requiring contrastive co-ordination with 'do it now' but non-constrastive with 'take your time'. The obvious explanation of this behavior is that a contrastive discourse marking is required to co-ordinate imperatives with differing force, and a non-contrastive is preferred otherwise.

d. Overt marking.

Certain languages use overt marking to distinguish the force of imperatives. In a rhaeto-romance dialect (spoken in the Dolomites), one of the four particles 'ma', 'mo', 'pa' or 'pö' must be present in any positive imperative. While the choice of particle indicates a variety of features of the imperative, one of their functions appears to be to differentiate permissive and directive uses.

Poletto & Zanuttini (2003) report that 'mo' and 'pa' can occur only in imperatives which are used to issue an order (such as (11)-(12)). Of the two, 'pa' is reported to mark a more emphatic use, and indicates a strong order. In contrast, 'ma' and 'pö' are reported to be licensed in permissive uses (such as (13)), while being illicit in imperatives which issue commands. Poletto and Zanuttini report that both particles can also occur in certain directive imperatives (such as (14)), but only under the condition that the imperative in question has an advisory use.

(11) Puzenëieme mo ciamò i ćialzà
ckeab-me mo yet the shoes
'Polish my shoes!' Poletto & Zanuttini (2003, 5)

(12) Fajé-l pa dessigÿ
do-it pa definitely-2ND-SG
'Definitely do it!' Poletto & Zanuttini (2003, 8)

(13) Tèt(e) ma/pö n dé de vacanza!
take-yourself ma/pö a day of vacation-2ND-SG
'Take a day of vacation for yourself!' Poletto & Zanuttini (2003, 4,7)

(14) Va ma/pö tres aderta fora!
go ma/pö always straight ahead
'Keep going straight ahead!' Poletto & Zanuttini (2003, 4,7)

Halm (2019) reports that the Hungarian particle 'nyugodtan' (literally, 'calmly/peacefully/in a relaxed fashion') has a grammaticized role marking permissive uses. Hungarian infinitival imperatives like (15.a) permit only a directive use. As such, whereas 'nyugodtan' is acceptable in (15.b), and marks the imperative as permissive, it is highly marked in (15.a).

(15) a. #Nyugodtan le ülni!
nyugodtan PRT sit-INF
'(Feel free to) just sit down.'

b. Nyugodtan ülj le!
nyugodtan sit-IMP-2ND-SG PRT
'(Feel free to) just sit down.'
Halm (2019, 5)

A similar phenomenon is reported in Grosz (2009) with regards to the German particles 'JA', 'bloß' and 'rühig'. The former two are restricted to occurring only in directive imperatives (such as (16.a)), whereas the latter shows the reverse restriction, occurring only in permissives (such as (16.b)).

(16) a. Iss [bloß/JA/#ruhig] den Spinat. Sonst wirst du bestraft.
eat [bloß/JA/ruhig] the spinach or-else will-be you punished
'Eat the spinach or else you'll be punished.'

b. Iss [#bloß/#JA/ruhig] den Spinat. Das stört mich nicht.
eat [bloß/JA/ruhig] the spinach that disturbs me not
'Eat the spinach. It doesn't bother me.' Grosz (2009, 3)

(17) a. Hörst du? Du sollst [bloß/JA/#ruhig] den Spinat essen.
hear you you shall [bloß/JA/ruhig] the spinach eat
'You shall eat the spinach, do you hear?'

b. Du kansnst [#bloß/#JA/ruhig] den Spinat essen.
you can [bloß/JA/ruhig] the spinach eat
'You shall eat the spinach, do you hear?' Grosz (2009, 2)

Notably, the same pattern is seen with strong and weak deontic modals, as in (17.a-b). While the mechanisms for marking force in imperatives vary between languages, the brief survey of examples here should, I hope, be adequate to establish the possibility of overt discourse particles playing this role.

3 FCI-'any' in Imperatives

The English free choice item (FCI) 'any' (along with morphologically related variants like 'anything', 'anyone', etc.) is licensed in both directive and permissive imperatives.[16]

(18) a. Eat anything on your plate. Directive

b. Eat anything in the fridge. Permissive

[16]While the availability of FCIs in imperatives has been the object of significant discussion, it has largely focused on permissives (like (18.b)) and choice imperatives (§7.1, (36)-(37)) (Giannakidou (2001), Aloni (2003b, 2007b)), Kaufmann (2012), Chierchia (2013), Giannakidou & Quer (2013), Halm (2019)). Their occurrence in directives like (18.b), though less commonly discussed, has not been entirely overlooked (Dayal (1998, 464) and Oikonomou (2016b, 57) both note it). However, the variation in the commutativity of the FCI between directives/permissives (as discussed below) has not received attention.

The behavior of the FCI varies depending on the force of the imperative in which it occurs. In directives, but not in permissives, FCI-'any' gives rise to the same reading as a standard universal quantifier. Whereas (18.a)/(19.a) are interchangeable,[17] (18.b)/(19.b) are not:

(19) a. Eat everything on your plate. Directive
b. Eat everything in the fridge. Permissive

This difference is reflected in the additional permissions/obligations with which each is compatible.

(20) a. #Eat anything on your plate, but you may leave some food on it.
b. #Tell me anything you know, but you only have to tell me one thing.

(21) a. Eat anything in the fridge, but you must leave some food in it.
b. Ask me anything you want, but you may only ask me one thing.

(20.a-b) are incoherent on a directive reading of the imperative—the obligation issued by the LH-conjunct conflicts with the permission affirmed by the declarative in the RH-conjunct. In contrast, (21.a-b) are perfectly acceptable on a permissive reading of imperative—the obligation affirmed by the declarative in the RH-conjunct merely provides an elaboration on the permission extended by the LH-conjunct (See Oikonomou (2016b, 57-58) for similar observations about permissives).

Importantly, this pattern of behavior mirrors the interaction of FCI-'any' with strong and weak deontic modals.

(22) a. You must eat anything on your plate.
b. You may eat anything in the fridge.

(23) a. You must eat everything on your plate.
b. You may eat everything in the fridge.

Under a strong deontic modal, FCI-'any' gives rise to the same reading as a standard universal quantifier. Under a weak deontic modal, however, the universal quantifier produces a strictly stronger reading. Whereas (22.a) and (23.a) are interchangeable, the same is not true of (22.b) and (23.b). Note that, *pace* Aloni (2003a, 2007b), Chierchia (2013), and Oikonomou (2016a, 52) (amongst others), the availability of FCI-'any' in directives and under necessity modals does not require the presence of post-nominal modification (or 'sub-trigging'; see Saeboe (2001, 747) Kaufmann (2012, §5.2.2) and Dayal (2013) for related

[17] At least with respect to their at-issue content. Plausibly, (19.a) differs from (18.a) in presupposing that there is something on the plate.

observations).[18,19] (24.a-c) and (25.a-c) are all perfectly acceptable, despite the absence of post-nominal modifiers.

(24) a. Record any absences.
b. Discard any rotten apples.
c. Report any attempted bribes.

(25) a. You must record any absences.
b. You must discard any rotten apples.
c. You must report any attempted bribes.

In summary, FCI-'any' exhibits parallel patterns of behavior across permissive/directive imperatives and declaratives involving weak/strong deontic modals. Given the broader similarities between the two types of constructions, offering a unified analysis of this pattern of behavior seems highly desirable. The following subsection considers the two leading approaches to FCIs like 'any' and discusses their ability to explain the data.

4 Theories of FCI-'any'

Accounts of FCI-'any' broadly divide into two categories: Wide-Scope Universal (WSU-) theories and Narrow-Scope Indefinite (NSI-) theories.[20] For instances of the former, see e.g., Horn (1972, Chapter 3), Eisner (1995), Dayal (1998, 2004, 2009), Saeboe (2001), Menéndez-Benito (2005); Menéndez-Benito (2010) (for historical precursors, see Reichenbach (1947) and Quine (1960)); for instances of the latter, see, e.g., Haspelmath (1997), Horn (2000), Giannakidou (2001), Kratzer & Shimoyama (2002, 2017), Jayez & Tovena (2005), Chierchia (2006, 2013), Giannakidou & Quer (2013) (for historical precursors, see Bolinger (1960)).[21]

[18]Note that this suggests that the licensing conditions of FCI-'any' are better predicted along the lines of Dayal (2009)'s 'fluctuation' constraint (see below) than by any approach which makes essential appeal to overt post-nominal modification of the complement.

[19]Nor is covert domain restriction required, as suggested by some authors (see in particular, Kaufmann (2012)). When used as religious doctrine, (‡.a) presumably involves unrestricted quantification. Likewise, as instructions to an art investigator, (‡.b) has an acceptable reading without any restriction on the domain (i.e., a reading on which the order is not satisfied if the investigator fails to identify some forgery of a Cezanne).

(‡) a. Condemn any wrongdoing.
b. Track down any forged Cezanne paintings.

[20]In this section I focus primarily on discussion of English FCI-'any' (along with its derivatives, 'anything', 'anyone', etc.). However, the analyses I discuss are generally intended to extend to related expressions in other languages, and I will consider the interaction of imperatives and FCIs in a wider range of languages below.

[21]Alternative-based theories such as Kratzer & Shimoyama (2002, 2017), Aloni (2003a, 2007a), Chierchia (2006) and Menéndez-Benito (2010) comprise a further sub-category which cross-cuts the WSU/NSI distinction.

4.1 Wide Scope Universal

According to the WSU-theories, FCI-'any' (along with its morphologically related variants) is a form of universal quantifier subject to specific constraints. Versions of the theory differ in detail—nevertheless, it is possible to identify a collection of principles shared by its most developed versions.[22] Focusing on this common core is sufficient for the purposes of the discussion here.

WSU-theories:

(a) FCI-'any' is a determiner with universal quantificational force. (Force)

(b) FCI-'any' takes obligatory wide-scope relative to certain operators (modals, sentential negation, Gen, amongst others). (Scope)

(c) It is presupposed by FCI-'any' that the intersection of the intensions of its restrictor and scope is a non-constant function over some contextually determined set of worlds. (Licensing)

(a)-(b) specify the quantificational force and scopal properties of FCI-'any', respectively. As we are about to see, it is the interaction of these properties which offers an explanation of the behavior discussed in the previous section on the WSU-theory. (c) is intended to account for restrictions on the environments in which FCI-'any' can occur and the phenomenon of so-called 'sub-trigging' (Legrand (1975)). Where 'any' occurs directly below a licensing operator with modal domain D in surface structure, $[[any\ \alpha][\beta]]$ presupposes that for some $w, w' \in D$: $[\![\alpha]\!]^w \cap [\![\beta]\!]^w \neq [\![\alpha]\!]^{w'} \cap [\![\beta]\!]^{w'}$. Where it does not occur below a licensing operator, the domain may be contextually supplied by the worlds epistemically accessible to the speaker. The specific formulation of the licensing condition differs between variants of the WSU-theory (e.g., 'non-existence' (Dayal (1995)) vs. 'contextual vagueness' (Dayal (1995, 1998)) vs. 'fluctuation' (Dayal (2009))). For our purposes, issues of FCI licensing can largely be set aside, since we are primarily concerned with the scopal behavior of the FCI where it is licensed. Nevertheless, while (c) will not play a role in our discussion, it is included for comparison with the licensing condition posited by NSI-theories (which plays an essential role deriving the interpretation of FCI items under possibility modals).

WSU-theories offer a simple explanation of the variation between (22)-(23). Necessity modals commute with universal quantifiers, possibility modals do not:

$$\begin{array}{lcl} \forall\ \textsc{Must}\ \phi & \Leftrightarrow & \textsc{Must}\ \forall\ \phi \\ \forall\ \textsc{May}\ \phi & \not\Leftrightarrow & \textsc{May}\ \forall\ \phi \end{array}$$

[22] Most, but not all. Rather than having universal force contributed by the determiner itself, Menéndez-Benito (2005); Menéndez-Benito (2010) proposes that it associates with a wide-scope expression with universal force. Likewise, she does not assign FCIs presupposition in (c) to explain their licensing conditions, deriving it from contradictory truth conditions instead. A number of these theories posit slightly different presuppositions to (c) in order to predict the licensing conditions of FCI-'any'. The differences between these proposals will not matter for present purposes; for simplicitly, I focus on Dayal (2009)'s proposal.

Quantifiers with universal force are (semantically) scopeless relative to necessity modals. Accordingly, substituting 'any' (which takes obligatory wide scope) for 'every' (which does not) in (22.a)/(23.a) will have a truth conditionally vacuous effect on the sentence (assuming the presupposition of the former is satisfied).

The same does not hold of possibility modals. The relative scope of universal quantifiers and possibility modal operators makes a difference to the truth conditions of the clause in which they occur—the two do not commute. Substituting 'any' for 'every' in (22.b)/(23.b) will have a non-vacuous effect, at least on the (strongly preferred) narrow scope resolution of the latter. With 'any' taking obligatory wide scope, (22.b) entails, for each item in the fridge, that it is permissible for the addressee to eat that item but does not entail that it is permissible for the addressee to eat the entire contents of the fridge. With 'every' taking narrow scope, however, (23.b) clearly entails both.

The explanation of the behavior of FCI-'any' under necessity/possibility modals has two components: (a) the relative scope of the FCI in relation to the modal operator; and (b) the commutativity (or failure of commutativity) of that modal with the universal quantifier. Accordingly, extending the explanation to imperatives requires us to posit the presence of a covert operator with respect to which FCI-'any' can take wide scope. Furthermore, the operator posited will need to differ depending on whether the imperative has directive or permissive force: in the former, it must commute with the universal, whereas in the latter, it must fail to commute. That is, there must be a pair of semantically distinct lexical markers which can take (non-exceptional) scope relative to the FCI and which co-vary with directive/permissive force.

(26) a. [$\text{anything}_{\text{FCI}}$ [on your plate]] [λ_1 [Dir [eat t_1]]]
b. [$\text{anything}_{\text{FCI}}$ [in the fridge]] [λ_1 [Prm [eat t_1]]]

Using Dir and Prm as dummy expressions for the operators corresponding to directive and permissive force, respectively, (18.a-b) can then be attributed the LFs above. By hypothesis, only the former operator commutes with universal quantifiers, leading to the pattern seen in (18.a-b)/(19.a-b).

4.2 Narrow Scope Indefinite

According to NSI-theories, FCI-'any' (along with its variants) is a form of indefinite subject to specific constraints. As with WSU-theories, variants differ in their details, but it is also possible to identify a common core.[23]

NSI-Theories:

[23] Again, not all NSI-theories subscribe to every component of this common core. Chierchia (2006, 2013) (discussed in more detail below) does not assume the presence of a higher binding quantifier. Kratzer & Shimoyama (2002) do not discuss the English FCI-'any'.

(a) FCI-'any' is an indefinite article which must be bound by a higher quantifier. Its apparent 'force' varies depending on the force of the binding quantifier. (Force)
(b) FCI-'any' obligatorily remains *in situ*. (Scope)
(c) It is presupposed by FCI-'any' that every item in the extension of the restrictor is in the extension of the scope in at least one of some contextually determined set of worlds. (Licensing)

Contemporary NSI-theories typically take indefinites to contribute variables (or, on some versions, alternatives) which are obligatorily bound by a higher quantifier of an appropriate kind (cf. Heim (1982), Kratzer & Shimoyama (2002)). Unlike standard indefinites, FCI variables are taken to permit binding only by an unselective quantifier (Giannakidou (2001, 179), Giannakidou & Quer (2013, 13)). Accordingly, they need to occur within the scope of such an expression, providing an explanation of the widespread (though not universal (cf. Dayal (1995))) unavailability of FCI-'any' in episodic sentences. As with WSU-theories, there is some variation in the licensing condition(s) proposed by NSI-theories.[24] (c) follows Giannakidou & Quer (2013)'s exhaustive variation condition, and states that where D is the modal domain of the binding unselective quantifier, $[[any\ \alpha][\beta]]$ presupposes that for any $d \in [\![\alpha]\!]^{w_@}$, there is some $w \in D$ such that $d \in [\![\beta]\!]^w$.[25]

NSI-theories must treat modal operators as unselective quantifiers (Giannakidou (2001)). (22.a-b) are attributed the logical forms in (27.a-b), respectively.

(27) a. $\forall x, w : [\mathsf{on\text{-}plate}(x, w)][\mathsf{eat}(Addressee(c), x)]$
b. $\exists x, w : [\mathsf{in\text{-}fridge}(x, w)][\mathsf{eat}(Addressee(c), x)]$

In (27.a), the necessity modal contributes a universal quantifier which binds both a world variable and the individual variable contributed by FCI-'any'. The truth conditions are equivalent to those generated by allowing 'every' to scope over both the restrictor and scope of the tripartite structure ascribed to the sentence. In (27.b), by contrast, the possibility modal contributes an existential quantifier. The at-issue content ascribed to (22.b) entails only that it is permissible for the addressee to eat some item in the fridge. The stronger, 'choice'

[24] cf., e.g., Giannakidou (2001) and Jayez & Tovena (2005, 16).

[25] This simplifies Giannakidou and Quer's formulation of the exhaustive variation condition in two respects. First, they do not specifically identify the relevant domain of individuals with extension of the restrictor. However, in order to obtain the readings they aim to account for, it is clear that this stipulation will be necessary. Second, they impose the stronger requirement that, for each d in the domain of individuals , there is some $w \in D$ such that $d \in [\![\beta]\!]^w$ and there is no d' in the domain such that $d' \in [\![\beta]\!]^w$. It is not obvious that this generates the right predictions however—(∗) appears felicitous even if it is known that the committee has two positions to offer.

(∗) The committee could offer a position to anyone.

Since the strength of the licensing condition is independent of the issues discussed below, I adopt the simpler version here.

entailment, that for each item in the fridge, it is permissible for the addressee to eat that item, is attributed entirely to the presupposition of FCI-'any'. Where this presupposition is satisfied, for each item in the fridge (at the world of evaluation), there must be some (deontically) accessible world at which it is eaten by the addressee. Since this does not require that there is any (deontically) accessible world at which every item in the fridge (at the world of evaluation) is eaten by the addressee, (22.b) and (23.b) are predicted to be non-equivalent.

To explain the availability of the FCI in imperatives, we need to posit that imperatives also contain some quantificational operator capable of binding the variable contributed by 'any'. To explain the variation in the behavior of 'any' between directives and permissives, we need to further assume that the quantificational force of the operator varies between them. That is, on an NSI-theory, both types of imperative require the presence of a covert quantificational operator with scope over the clause. However, each will need to be associated with a distinct operator, with distinct quantificational force. Again using Dir and Prm as operators corresponding to directive and permissive force, NSI-theories will attribute (18.a-b) the LFs in (28):

(28) a. [Dir [eat [anything$_{\text{FCI}}$ on your plate]]]
b. [Prm [eat [anything$_{\text{FCI}}$ in the fridge]]]

Here, the Dir and Prm operators are both taken to bind the direct object, but to do so with universal and existential force, respectively. Accordingly, whereas replacing the FCI with a universal generalized quantifier is predicted to have a redundant effect in the former, the same is not true in the latter.

4.3 Summary

We set out, in §1, to investigate the level at which the difference between directive and permissive uses of imperatives is realized. The data in §3, considered alongside WSU- and NSI-theories of FCIs, suggests an answer.

On both types of theory, explaining the behavior of FCI-'any' in imperatives requires us to posit lexical items which mark the directive/permissive distinction. On WSU-theories, this takes the form of a pair of scope-taking operators, which differ in their commutativity with universal quantification. On NSI-theories, it is instead a difference in the quantificational force of the operator which binds the FCI.

Accordingly, regardless of the particular theory of FCI-'any' we adopt, the behavior of the particle in directive and permissive imperatives suggests that they are not semantically homogenous. Just as with deontic modals, both theories require a semantic difference between the two types of imperative to account for the pattern. In what follows, I will consider two ways of implementing this within a WSU-framework. Nevertheless, since both characterize the difference

between directives and permissives in terms of a difference, at some level, between universal and existential quantification over possibilities, extending them to an NSI-framework would not present a significant challenge.

5 Imperative Semantics

The previous section argued that directives and permissives are semantically heterogeneous. The difference between the two is marked by the presence of distinct operators, each with distinct semantic contributions. On this view, the strings in (1)-(3) (repeated below) are in fact ambiguous between two LFs.

(1) Do what I say.

(2) Do what you want.

(3) Take my seat.

Which interpretation is favored by hearers will depend on a range of contextual factors, just as it does in other cases of ambiguity. Thus, while a permissive reading of (1) or a directive reading of (2) is in principle possible (and can be verified given a sufficiently rich background context), in most contexts they can be expected to be strongly dispreferred.

Semantic heterogeneity is compatible with either a semantic or pragmatic account of the dynamics of imperatives. In the following two subsections, I sketch how an account of either kind could explain the phenomena in §3. I briefly consider some defeasible reasons for preferring the former.

5.1 Semantic Dynamics

An account combining semantic heterogeneity with a semantic approach to the dynamics of imperatives will, minimally, (i) take directives and permissives to have differing effects on a discourse context and (ii) take that difference in discourse effect to be encoded in their respective semantics. This section informally sketches one way of implementing this idea, building on Krifka (2014) and Cohen & Krifka (2014).[26] Those interested in the details of the proposal should turn to appendix A before looking at the discussion below.

Our starting point is the idea that what is prohibited may change over the course of a conversation. A context state, σ, is a set of worlds (**Def.1.1**, **Appendix A**). Each context state fully characterizes what is prohibited.[27] $w \in \sigma$ iff w complies with the prohibitions in place at σ.

[26] As well as, less directly, Beaver (1999), Willer (2013) and Charlow (2015).

[27] Talk of prohibition is intended weakly; in particular, there is no requirement that prohibitions are deontic in character. A condition might get to be prohibited in virtue of being incompatible with the addressee's self-interest or or the speaker's desires, for example. In this way, *wish*-imperatives in English (such as 'Get well soon.') can be assimilated to the general class of directives, on the proposal below.

A conversation may fail to settle whether something is prohibited at a given stage. This might be because the issue has not been raised. Or it might be because it has been raised, but has been agreed to be left unsettled. To accommodate conversations in this condition, we need to allow the possibility that there are multiple candidates for how to characterize what is prohibited.

A context space, Σ, is a set of context states (**Def.1.2**). Each context space characterizes what could be prohibited at a stage of the conversation. $\sigma \in \Sigma$ iff σ is a candidate for the prohibitions in place at Σ. Following Krifka (2014) and Cohen & Krifka (2014), we will take sentences to encode updates on context spaces. A (sequence of) premise(s) entails a conclusion iff updating any context space with the former returns a space which is a fixed point of the latter (cf. Veltman (1996)).

While the formal features of the framework closely follow those of standard commitment space semantics (as developed in, e.g., Krifka (2014) and Cohen & Krifka (2014)), the proposed interpretation of those features differs in at least a couple of respects. First, Cohen and Krifka take commitment states to represent interlocutors' full range of common information about the world. In contrast, the corresponding items in the present framework are intended to exclusively represent information about what is prohibited (akin to Lewis (1979a,b)'s 'spheres of permissibility'). Accordingly, a conversation's context space may leave open possibilities which the interlocutors collectively agree are non-actual, as long as those possibilities are not collectively agreed to be prohibited. Second, the interpretations of sets of states differ. For Cohen and Krifka, a set of commitment states represents possible ways the conversation can develop, with its root (the union of those states) representing the present context. In contrast, the present framework uses sets of states to model present unsettledness regarding what is prohibited. While what is unsettled may become settled in response to speaker's utterances, there is no assumption that the present state of the context is represented by the union of the context space. Rather the present state of the context is represented by the context space as a whole.

A common idea (following Stenius (1967) and, more recently, Rivero & Terzi (1995), Rizzi (1997), and Cinque (1999)) has it that a sentence decomposes into two elements: a propositional core, which determines its truth-conditional content, and a force-marking component, which determines its effect on context. The current proposal reflects this idea, drawing a sharp distinction between those expressions in the language which bear force-marking and those which do not. The latter we will take to denote propositions: functions from worlds to truth values. Expressions lacking force-marking are adequate to be assigned truth-conditions but inadequate for updating a conversation. Expressions which do bear force-marking we will take to denote context change potentials: functions from context spaces to context spaces. Combining a proposition denoting expression with a force-marker results in an expression which can be used to update a conversation. Note that we will assume that both fragments of the language are closed under certain non-force-marking operators, including universal

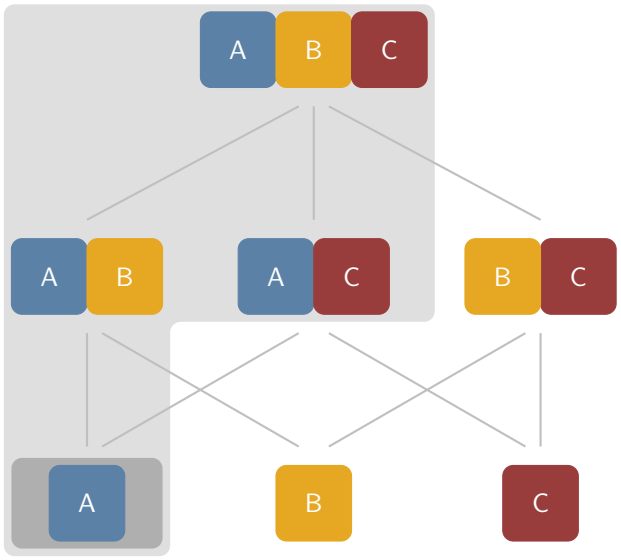

Figure 2: A context space.

quantification and negation (**Def.2.2**).

We introduce two force-markers, Dir and Prm, which characterize directive and permissive imperatives, respectively. Both force-markers serve to settle the status of their complement within a context space. However, they do so in importantly different ways. An utterance of Dir(A) settles ¬A as prohibited. That is, updating Σ with Dir(A) returns the context space comprising all and only the context states in Σ which contain exclusively A-worlds. An utterance of Prm(A), in contrast, settles A as not prohibited. That is, updating Σ with Prm(A) returns the context space comprising all and only the context states in Σ which contain some A-worlds.

Consider the example in **Figure 2**. The context space depicted is the powerset of $\{w_{\mathsf{A}}, w_{\mathsf{B}}, w_{\mathsf{C}}\}$; each node corresponds to a context state containing the indicated worlds (where $[\![\mathsf{A}]\!]^g = \{w_{\mathsf{A}}\} =$ ■, $[\![\mathsf{B}]\!]^g = \{w_{\mathsf{B}}\} =$ ■, and $[\![\mathsf{C}]\!]^g = \{w_{\mathsf{C}}\} =$ ■). Update with Dir(A) returns a new context space corresponding to the darkly shaded region. It comprises those states in the old context space which contain exclusively A-worlds. Intuitively, the new context space is one in which it is settled that A is required.

Update with Prm(A), in contrast, returns a new context space corresponding to the lightly shaded region. It comprises those states in the old context space which contain some A-worlds. Intuitively, the new context space is one in which it is settled that A is not prohibited; that is, that A is permitted. The change brought about by a permissive imperative can be understood as a change not in

what is prohibited, but in how the prohibitions in place can develop. It excludes the possibility of reaching a context space which requires that $\neg \mathsf{A}$.

In order to account for quantifiers which take scope above force-markers, we introduce a generalized notion of intersection. Update with a universally quantified force-marked expression has the accumulated effect of update with its scope, relative to each of a range appropriately shifted assignments (**Def.4.6**). An utterance of $\forall \mathsf{x}$ Dir($\mathsf{F}(\mathsf{x})$) settles $\neg \mathsf{F}(\mathsf{x})$ as prohibited, for any assignment of individuals to x. An utterance of $\forall \mathsf{x}$ Prm($\mathsf{F}(\mathsf{x})$) settles $\mathsf{F}(\mathsf{x})$ as not prohibited, for any assignment of individuals to x.

Crucially, $\forall \mathsf{x}$ commutes with Dir, but fails to commute with Prm (**Fact 2**). $\forall \mathsf{x}$ Dir($\mathsf{F}(\mathsf{x})$) and Dir($\forall \mathsf{x}\ \mathsf{F}(\mathsf{x})$) have the same effect on a context space. Both serve to exclude any context state containing a world at which $\mathsf{F}(\mathsf{x})$ is false relative to some assignment of individuals to x. Not so for $\forall \mathsf{x}$ Prm($\mathsf{F}(\mathsf{x})$) and Prm($\forall \mathsf{x}\ \mathsf{F}(\mathsf{x})$). The former serves to exclude any context state which fails to contain, relative to each assignment of individuals to x, a world at which $\mathsf{F}(\mathsf{x})$ is true. The latter serves to exclude any context state which fails to contain a world at which $\mathsf{F}(\mathsf{x})$ is true relative to every assignment of individuals to x. Clearly, a context state can survive update with the former while failing to survive update with the latter. As such, we predict that on a WSU-theory of the indefinite, the LFs associated with (18) and (19) will have distinct effects on the prohibitions settled as being in place in a conversation.

The present proposal differs in a number of respects from Krifka's own recent work on imperatives.[28] In a handout (Krifka (2018)), he sketches an account on which directives update the context with the information that their propositional root will be satisfied at some future time. Permissives induce a test, which checks that the propositional root is true at some possible state of the context. The present proposal differs in a number of respects. First, I take the context spaces updated by imperatives to directly represent the prohibitions in place in a conversation, whereas Krifka treats imperatives as updating the same body of information as is updated by declaratives. Second, I take directives and permissives to be interdefinable duals (**Fact 1**), whereas Krifka's approach relinquishes duality, with permissives denoting tests while directives denote updates. Third, on Krifka's approach, permissives do not rule out the possibility that their root may become prohibited later in the conversation—Prm(A), Dir($\neg \mathsf{A}$) would be a consistent sequence of updates. Finally, but most pertinently, Krifka's approach fails to provide an explanation of the interaction between imperatives and FCI-'any' discussed in §3, since directive force fails commute with universal quantification.

An important question to address is exactly what kind of force is marked by force-marking operators. Following Portner (1997, 2004, 2012), Chierchia & McConnell-Ginet (n.d.), and Murray & Starr (2018, 2020) it is standard to distinguish the illocutionary force of an utterance from its 'sentential' or 'con-

[28] I am grateful to an anonymous referee for directing me towards this material.

versational' force. The former categorizes an utterance according to the overall conversational act performed by the speaker in making it. The latter, in contrast, categorizes it solely according to the type of update on context associated with the sentence uttered.

For example, various utterances of declaratives can be understood to exhibit uniform sentential force, but variable utterance force. Conjectures, assertions, and guarantees are naturally associated with the same type of update on context. Each contributes the content of the sentence uttered to the common ground of the conversation. They differ, however, in illocutionary force. Each conveys something different about the speaker's standing in relation to that content and commits them to a different level of criticism should it turn out to be false (cf. Williamson (2000, 244), Stalnaker (2014, 113), Murray & Starr (2020)).[29]

Which kind of force do Dir and Prm mark in the framework above? Or, stated alternatively, should the directive/permissive distinction be conceived as primarily a distinction at the level of illocutionary force or sentential force? While limitations of space preclude a full discussion of the issue here, like Murray & Starr (2018, 2020) I take it that illocutionary force is too sensitive to pragmatic considerations to be a plausible candidate for being realized lexically. On this basis, I suggest that if the grammar contains force-markers of any kind, they should be taken to be markers of sentential force.

5.2 Pragmatic Dynamics

The alternative is an account combining semantic heterogeneity with pragmatic dynamics. A view of this kind is defended (on independent grounds) by Grosz (2009). Following Kaufmann (2012) (originally developed as Schwager (2006b)), Grosz takes imperative clauses to denote a proposition equivalent to that denoted by an appropriately related modal declarative (that is, a declarative with a modal auxiliary in the root clause). However, unlike Kaufmann, Grosz proposes that the proposition denoted can vary depending on the type of imperative.

Directives, he argues, involve universal quantification over possibilities. That is, an imperative clause with directive interpretation is equivalent in denotation to the result of embedding the corresponding declarative under a necessity modal. Permissives, in contrast, involve existential quantification over possibilities. They are equivalent to the result of embedding the corresponding declar-

[29] Equally, though less frequently discussed, two utterances which agree in illocutionary force may differ in sentential force. For example, (Θ.a-c) can each be uttered as a means to performing a request.

(Θ) a. The window is open.
b. Could you close the window?
c. Close the window.

However, assuming that sentential force at least sub-categorizes grammatical mood (Stenius (1967), Sadock & Zwicky (1985), Portner (1997), Murray & Starr (2018, 2020)), no utterances of (Θ.a-c) will have the same sentential force.

ative under a possibility modal. Grosz derives these denotations by positing two operators with the semantic contributions of 'must' and 'may', respectively, which mark an imperative as either directive or permissive.

Thus, according to Grosz, (3) can express the same proposition as either (29.a-b), depending on the operator present.

(29) a. You must take my seat. b. You may take my seat.

Grosz's form of semantic heterogeneity account can easily combine with a WSU-theory of FCIs to explain the data in §3. Directive-marking operators, since they have the same denotation as necessity modals, will commute freely with universal quantifiers. Permissive-marking operators, which have the same denotation as possibility modals, will not. Thus, Grosz's account offers one way of implementing the approach in §4.1.

A closely related approach, originally proposed by Schwager (2005, 2006b), derives the universal force of the modal in directives via exhaustification over a modal with existential force (which occurs without exhaustification in permissives). This decomposition has been argued to have empirical advantages over Grosz, explaining the interaction of imperatives with 'only' (Oikonomou (2016b)) and additive 'even' (Francis (2019)). Since these differences do not matter when it comes to predicting commutativity with universal quantifiers, however, for present purposes we can set them aside.

These approaches offer an appealingly simple semantics. However, explaining the dynamics of imperatives is more complicated. Like Kaufmann, Grosz (and, equally, proponents of exhaustification-based variants) must offer a pragmatic account of how an utterance affects the discourse context. Here, a number of issues arise.

Modal declaratives, like (29.a-b), allow for purely descriptive uses (Lewis (1979a); Lauer (2015)). That is, an utterance of the sentence can serve merely to characterize the obligations which obtain (or fail to obtain) in a context, rather than serving to modify them in any way. Such uses of the sentence are appropriate for assessment as true or false and can, under appropriate conditions, constitute assertions.

If imperatives have the same denotation as modal declaratives, some explanation is needed of why the former do not support purely descriptive uses. Unlike (29.a-b), any successful utterance of (3) will serve to modify the obligations which obtain in a context (as long as those obligations are not already in place). It is likewise not possible to make an assertion with (3) and utterances of it cannot be assessed for truth or falsehood (Portner (2007, 2016), Roberts (2016)).

Kaufmann attempts to address this issue by attributing presuppositions to imperatives which will be satisfied only if the context of utterance is appropriate for non-descriptive uses of modal declaratives. However, this strategy is unsatisfying in a couple of respects. The presuppositions which need to be posited

are implausibly strong. In particular Kaufmann suggests a requirement of 'epistemic authority': an imperative utterance is licensed only if the speaker knows precisely what is obligatory/permissible at each world in the context set. Yet uses of imperatives by speakers who are merely partially informed and/or have merely partial control over what is obligatory appear fine. Further, even if, where the relevant presuppositions are satisfied, non-descriptive uses of modal declaratives are possible, they do not appear necessary, as Jary & Kissine (2016) and Portner (2018, §3.2.3) observe. That is, regardless of context, it is always possible for a speaker to use (29.a-b) merely descriptively. Thus, while the presuppositions attributed to imperatives can explain why imperatives permit a non-descriptive use, they cannot explain why they do not permit a descriptive use too.

The second issue concerns the behavior of imperatives in embedded environments. As noted by Starr (2020), imperatives can occur in a variety of syntactic environments, including in co-ordination with declaratives.

(30) I'm going to leave now and don't try to stop me.

A typical utterance of (30) will change the context in variety of ways. Most notable amongst these, it can be expected to have the combined effect of an assertion of the left-hand clause and a command using the right-hand clause. The challenge, articulated by Starr (and developed in Murray & Starr (2018, 2020)), is to explain how this effect can be derived. Pragmatic accounts of the dynamics of imperatives, like those of Grosz and Kaufmann, assume that the effect of an utterance is calculated non-compositionally, from the meaning of the sentence uttered (plus information supplied by context). Yet given this constraint, it is hard to see how to explain the specific combination of effects exhibited by examples like (30).

Finally, accounts which take imperatives' semantic content to be dynamic have an advantage over views of the kind defended by Grosz (2009), Oikonomou (2016b), and Francis (2019) when it comes to addressing a lingering worry about semantic heterogeneity. von Fintel & Iatridou (2017b) consider but reject a semantic heterogeneity approach on the grounds that it cannot explain the contrast between (31)-(32) and (33)

(31) Go left! Go Right! I don't care.

(32) You may go left and you may go right! I don't care.

(33) #Go left and go right! I don't care.

As von Fintel and Iatridou note, Grosz, Oikonomou and Francis will struggle to explain why, whereas (31)-(32) are acceptable ways of expressing speaker indifference, (33) appears incoherent. After all, according to them, (33) is simply the conjunction of the propositions expressed by (31) and is equivalent to (33) at the level of at issue content.

In contrast, the semantic dynamics view above can explain this easily, given two assumptions: (i) that the truth-conditional content of an embedded imperative is restricted by its local context and (ii) that the local context of the RH-conjunct is the global context updated with the truth-conditional content of the LH-conjunct.[30] This will predict the infelicity of (33) on the dynamic approach. Update with the RH-conjunct in its local context will return only those states which include a world at which the addressee goes both left and right. Since there are no such worlds, the entire conjunction is predicted to return the absurd context space. [31]

In contrast, no infelicity is predicted for (31). The local context of the second permissive is simply the global context of the discourse, updated with change in prohibitions brought about by the first permissive. Crucially, there is no reason to think that the truth-conditional content of the permissive is added to the global context when it occurs unembedded. Likewise, there is no need to predict infelicity for (32); modal declaratives are assigned a different at-issue content to imperatives, and hence, can differ in their interaction with local context.

On the basis of these concerns, I take there to be at least some reason to prefer a semantic account of the dynamics to its pragmatic alternative. Nevertheless, the arguments in the remainder of this paper are largely indifferent to the mechanism underlying imperative dynamics. As such, those who think there are good responses to these concerns can feel free to adopt a pragmatic approach of the kind defended by Grosz (2009), Oikonomou (2016b) or Francis (2019).

6 Semantic Homogeneity

In this section, I assess the prospects for accommodating the range of data considered in §3 without positing semantic ambiguity between directives and permissives. I consider three previous theories of FCIs in imperatives which preserve homogeneity, and argue that none of them are capable of explaining the full range behavior.

[30] Something along the lines of (ii) has been widely endorsed, following Karttunen (1972, 1973) and Heim (1983). (i) is motivated by the need to account for the effects of conjunctions like (¶):

(¶) Take a seat and have a cookie.

On a permissive interpretation of both conjuncts, (¶) does not merely establish that taking a seat is permitted and that taking a cookie is permitted. It also establishes that taking a seat and having a cookie is permitted (hence the infelicity of the continuation '...but you may not do both!'.)

[31] An anonymous referee asks why the infelicity of (33) could not be explained by assuming the permissive force operator to take scope over the entire conjunction. Update with such a construction would, indeed, return the absurd context space. However, the problem is not explaining why (33) has a reading on which it is marked, but why, given the assumption that force operators can take scope below conjunction, it does not have a reading on which it is unmarked.

6.1 Aloni (2004, 2007)

Aloni (2003b, 2007b) proposes analyzing FCI-'any' as an indefinite, with the capacity to introduce alternatives. For example, in (18.a-b) (repeated below) the alternative sets introduced by the FCI will be the set of propositions of the form $x_{addressee}$ *eats* d, for each item d on her plate or in the fridge, respectively.

Imperatives (whether directive or permissive) are taken to involve an operator which combines with alternatives. This operator has mixed quantificational force. It requires that (i) each alternative introduced by the prejacent is permissible and (ii) the disjunction of the alternatives is obligatory.

Aloni's proposal correctly predicts that (18.b) and (19.b) will be non-equivalent. However, it fails to predict the interchangeability of (18.a) and (19.a). Regardless of its scope relative to the imperative operator, FCI-'any' can't receive a reading equivalent to the universal quantifier on the account.

(18) a. Eat anything on your plate.
b. Eat anything in the fridge.

(19) a. Eat everything on your plate.
b. Eat everything in the fridge.

Furthermore, the proposal yields incorrect predictions for at least some directives and permissives. (18.a) is predicted to mean that you may eat anything on your plate, and you must eat something on it. Yet this is too weak. Intuitively, an utterance of (18.a) imposes an obligation to eat everything on your plate. Likewise, (18.b) is predicted to mean that you may eat anything in the fridge and you must eat something in it. Yet, in this case, the prediction is too strong. An utterance of (18.b) need not give rise to any obligation, as evidenced by the acceptability of sequences like (34).[32]

(34) Eat anything in the fridge, eat anything in the cupboard, eat nothing at all... It's up to you!

6.2 Chierchia (2013)

Chierchia (2013) also proposes treating FCI-'any' as an indefinite but deriving its variable force via a combination of obligatory exhaustification and scope, instead. Following Schwager (2006b) and Kaufmann (2012), he takes imperatives to contain a necessity modal which obligatorily takes scope above the indefinite but below the exhaustification operator. This yields an interpretation for (18.b)

[32]Interestingly, Aloni (2007b, 86) mentions that both a necessity modal and a possibility modal can be derived by applying her imperative operator to an alternative set comprising a contingent proposition paired with $\bot$ or $\top$, respectively. This raises the possibility that appropriate force in (18.a-b) could be obtained via this mechanism. While elegant, I can see two challenges for this strategy. The first is how to derive the relevant alternative sets compositionally. The second is that, even if the relevant alternative sets stipulated, there remains no way of predicting the interchangeability of FCI-'any' with the standard universal quantifier in (18.a)/(19.a).

on which it says that eating something in the fridge is obligatory, but that for each item in the fridge, it is not obligatory to eat that item. As we just saw, however, this is too strong. (18.b) need not impose any obligation.[33,34]

The account also struggles with directives. The universal reading of 'any' in (18.a) is attributed to the presence of the post-nominal modifier which is assumed to contribute a covert necessity modal. That is, rather than ranging over items actually on the table, the indefinite instead ranges over items which are on the table in each of the worlds in some (non-singleton) set. In virtue of the presence of this modal, the obligatory exhaustification can occur below the imperative operator without generating a contradiction. This yields an interpretation for (18.a) on which it says that eating everything which is on your plate throughout some set of possible worlds is obligatory.

As a result, it fails to predict the interchangeability of (18.a) and (19.a). If the relevant set of worlds contains the actual world, then the latter will fail to entail the former; if it does not, then the entailment will fail in both directions.[35]

Finally, Chierchia (2013)'s account of universal force in directives is crucially dependent upon overt sub-trigging. For exhaustification to occur below the imperative operator (which is what generates the universal force of 'any'), there

[33]The alternative would be for Chierchia to treat (18.b) as sub-trigged. This would yield the equally incorrect prediction that it imposes an obligation to eat everthing in the fridge.

[34]Chierchia's exhaustification+scope account of FCIs yields a similar prediction when combined with the dynamic approach to imperative meaning suggested above. A directive imperative such as (18.a) will settle eating nothing on your plate as prohibited while simultaneously settling eating each individual item on your plate as permitted. For this reason, wide-scope-binding-based variants of NSI-theories are a better fit with the theory in §5.1 than exhaustification-based variants.

[35]Chierchia suggests that the failure of the inference from 'every' to 'any' is desirable under necessity modals, since the FCI supports counterfactual inferences not licensed by the standard universal quantifier. This might be correct for (descriptive uses of) declaratives (though the judgments are complex). However, it is not clear that it extends to directives (at least in English).

(þ) a. Eat [anything/everything] on your plate.
b. If there had been lobster on your plate, you would have had to eat it.

After either version of (þ.a) is used to issue a command, there is a reading of (þ.b) on which it follows (i.e., in which fact the command was issued is held fixed) and a reading on which it does not (i.e., on which the fact the command was issued is not).

Interestingly, data regarding mood in Spanish may provide some support for extending Chierchia's claims to imperatives. Whereas directives with a universal permit both indicative and subjunctive mood in the relative clause (as in (ʊ.a)), with the FCI 'cualquier' (as in (ʊ.b)), only the subjunctive is supported.

(ʊ) a. Come todo lo que haya / hay en el plato.
Eat all the that there-is$_{\text{SUBJ}}$ / there-is$_{\text{INDIC}}$ in the dish.
b. Come cualquier cosa que haya / ∗hay en el plato.
Eat any thing that there-is$_{\text{SUBJ}}$ / there-is$_{\text{INDIC}}$ in the dish.

I am grateful to Paula Menéndez-Benito for this observation.

must be a modal present in the complement of the FCI. Chierchia assumes that this can only be supplied by a post-nominal modifier.[36] Yet this leaves the account unable to explain universal force of FCI-'any' in directives which lack post-nominal modification, such as (24.a-c).

6.3 Kaufmann (2012)

Kaufmann (2012) (building on Schwager (2006b)) argues that all imperatives contain a covert necessity modal, but can come to have the discourse effect of issuing permission if the context satisfies certain conditions.

Like Aloni, she assumes that this operator associates with alternatives. Where its root clause contains an alternative-introducing expression, the imperative operator requires that not only is some alternative true in each accessible world, but each alternative is true in some accessible world. By assuming that in permissive-like imperatives FCI-'any' behaves like an indefinite and introduces alternatives, she is able to explain the entailment in, e.g., (18.b), that, for each item in the fridge, the addressee is permitted to eat that item. However, just as with Aloni, this approach also generates the undesirable stronger entailment that the addressee is required to eat some item.

A second issue, noted by Kaufmann, is that the proposal does not extend to explain the behavior of FCI-'any' in directives. Accordingly, she proposes that, in such environments, 'any' can have universal force instead and does not introduce alternatives. While this correctly predicts the interchangeability of (18.a) and (19.a), it appears at least somewhat stipulative. In particular, given that the distinction between permission-granting and obligation-imposing imperatives is purely pragmatic on Kaufmann's account, it is hard to see how it could give rise to this sort of variation in force.

Finally, as observed by Oikonomou (2016a, 57), Kaufmann's account generates problematic predictions about the distribution of FCIs.

(35) a. Order any dish except the lobster.
b. ?? You must order any dish except the lobster.

FCIs can combine with exceptives in imperatives like (35.a) if, and only if, the sentence receives a permissive interpretation. However, under necessity modals, the combination of FCI-'any' and ⌜except DP⌝ is unavailable. Accordingly, if permissives contained a covert necessity modal, we would expect (35.a) to be marked just as (35.b).[37]

[36] This assumption is needed to explain the infelicity of, e.g., episodics like 'Any student must be present'.

[37] Kaufmann (2012, §5.3) does endorse a semantic account of a particular class of permissive imperatives, ones which exhibit what she terms 'advice' use. In such uses (which obligatorily involve the parenthetical 'zum bespiel'/'for example' (in German/English, respectively)), she takes the imperative operator to have the quantificational force of a possibility modal. Its

7 Applications

The distinction between directives and permissives, the previous sections argued, is realized semantically by the presence of distinct operators. This marks a departure from dominant existing accounts, which attribute the differences between the two to purely pragmatic factors. In the concluding subsections, I will show how the existence of a lexicalized difference can provide a solution to the outstanding issues to do with imperatives and FCIs.

7.1 Choice Imperatives

A number of authors have identified imperatives like (36)-(37) as a problem for WSU-theories of FCI-'any' (Jennings (1994), Horn (2000, 85), Giannakidou (2001, 24), Dayal (2013)):

(36) Press any key.

(37) Pick any card.

Although an utterance of (36) or (37) can have the effect of issuing an instruction, the FCI does not have the same force as 'every' would do in the same position. This is unexpected on standard WSU-theories. Indeed, given the assumption that they should both be associated with directive force, it remains unexpected on each of the semantically heterogeneous theories sketched above.

It is not clear that this assumption is legitimate, however. To assess the force of imperatives like (36)-(37), it is helpful to consider the corresponding modal declaratives. In (38.a-b) we find that whereas the unmodified FCI-'any' is licensed under a possibility modal, under a necessity modal it is marked.

(38) a. You [may/??must] press any key.
b. You [may/??must] press pick any card.[38]

This is relatively unsurprising. It is well known that, even if post-nominal modification[39] is not always required (as demonstrated by (25.a-c); cf. Kaufmann (2012), Dayal (2013)), the licensing of FCI-'any' is still more restricted under necessity modals than it is under possibility modals.[40]

standard interpretation, with the quantificational force of a necessity modal, can then be derived via exhaustification.

[38] Note that the necessity variants improve if it is assumed that it is the domain of cards/keys is unknown. This fails to support the hypothesis that (36)-(37) are directive however. With the assumption of ignorance, the necessity variant of, e.g., (38.a), entails that the address is obligated to press *every* key. In contrast, the absence of this entailment is precisely what is to be explained in the case of (36).

[39] Or other forms of sub-trigging.

[40] A number of explanations of why FCI-'any' is less easily licensed under necessity modals have been offered, not all of which depend on the presence of post-nominal modification (e.g., Dayal (1998, 2004, 2013), Saeboe (2001), Giannakidou (2001)).

Crucially, this pattern is reflected by directives/permissives. That is, where the FCI is licensed in a declarative below a possibility modal but not a necessity modal (as in (39.a-c)), the corresponding imperative is felcitous under a permissive interpretation, but not under a directive interpretation (as in (40.a-c)).

(39) a. You [may/#must] open any box.
b. You [may/#must] watch any film.
c. You [may/#must] sing any Beatles song.

(40) a. Open any box. Permissive/#Directive
b. Watch any film. Permissive/#Directive
c. Sing any Beatles song. Permissive/#Directive

Accordingly, the infelicity of the necessity variants of (38.a-b) gives us reason to think (36)-(37) should be treated as permissive rather than directive. The same conclusion is suggested by sequences like (41).

(41) Press any key. Alternatively, left-click the 'next' button instead.

If 'Press any key' were directive, we would expect the second sentence in (41) to be infelicitous (regardless of whether it were directive or permissive). Yet this is not what we find. (41) is a perfectly coherent bit of discourse, communicating that the addressee has more than one course of action available.[41]

If imperatives like (36) and (37) are permissive, it is unsurprising that FCI-'any' is not freely interchangeable with a narrow-scope universal quantifier. Afterall, this is precisely the pattern we observed in §3. However, we remain in need of an explanation of how the choice offering imperatives can have the effect of issuing an instruction.

It is well known that modals (both weak and strong) can combine with an infinitival clause which, as in (42), gives them practical flavor and serves to supply a goal or end.[42]

[41] Aloni (2007b) defends an alternative approach, discussed in 6.1, which takes imperatives to be headed by an operator which expresses neither necessity or possibility, but rather a form of mixed modality (cf. §6.1). This provides an attractively simple account of choice imperatives like (36)-(37). It also arguably avoids the issues with FCI-licensing that Kaufmann (2012) faces. Aloni suggests revising Kadmon & Landman (1993)'s domain widening condition on licensing, from strengthening to non-weakening. If this revision is accepted, the acceptability of the FCI in (36)-(37) can be explained. The acceptability of sequences like (41), however, remains a challenge, as do the issues with non-choice offerning imperatives discussed in the previous section. As an anonymous referee notes, Aloni's framework can generate the right predictions if (41) is translated as a disjunction of imperatives, although this comes at the cost of allowing disjunction to take scope over sentence boundaries.

[42] Note that where the infinitive occurs *below* the modal, the resulting sentence is ambiguous between a practical reading (on which it constrains the domain of quantification) and deontic/epistemic flavor (on which it constrains the action to be performed).

(42) To continue, you may press any key.

Focusing on its semantic content, (42) entails, for each key, that pressing that key is compatible with achieving the specified goal. However, it also carries a stronger entailment, that pressing each key is sufficient to achieve the goal. As such, an utterance of (42) will be expected to generate a relevance implicature, that the goal specified by the infinitive clause is desirable or in some other way under consideration by the addressee. Where the addressee has not already adopted the goal, RELEVANCE can be satisfied by the assumption that the speaker aim to introduce it as an obligation. Hence, given the right circumstances, (42) can be employed with the illocutionary effect of issuing an instruction.

Crucially, where the goal is sufficiently salient, the same effect can be achieved without the overt use of an infinitival clause. In an appropriate context, adopting an appropriate domain for the modal will lead 'You may press any key' to express the same content (and generate the same pragmatic implicatures) as (42).

Imperatives like (36) and (37), I suggest, should be understood in the same terms: as goal-directed permissives. Note that, like modal auxiliaries, imperatives can be relativized to a specific goal when combined with infinitivals, as in (43).

(43) To continue, press any key.

(44) Pick a card, any card.

Plausibly, just as with modal auxiliaries, context can serve to play the same role as long as the goal is sufficiently salient. For example, just as (36) is naturally heard as stating instructions for how to continue, (37) is heard as stating instructions for how to begin a trick. Where the addressee has not previously adopted the goal, it may be introduced via a relevance implicature, in the same was as the modal sentences. Alternatively, if a relevant obligation or goal is already established, it may function purely to issue a permission. Thus, I suggest that (44) is naturally heard as a sequence of a directive followed by a permissive (with a pseudo-gapped verb), where the latter serves to clarify that there is no restriction on which cards, if chosen, would satisfy the prior command.

(ϒ) a. You may use your laptop to take notes.
b. To take notes, you may use your laptop.

That is, (ϒ.a) has a reading on which it states using one's laptop for the purpose of taking notes is permitted (though using one's laptop for other purposes may not be). Note, however, that (ϒ.b) lacks any such reading.

7.2 Imperative-Declarative Conjunctions

Imperatives occur acceptably in conjunction with declaratives. While both orders of clause are possible (see, e.g., Starr (2018)), we will focus on issues arising specifically in cases where an imperative occurs in the LH-conjunct. Following Kaufmann (2012), call these 'imperative-and-declarative' conjunctions (IaDs). IaDs like (45.a) have a pair of puzzling features.

(45) a. Eat that yogurt and you'll get sick.
b. If you eat that yogurt, you'll get sick.

First, such conjunctions communicate a 'conditional' claim. An utterance of (45.a) can be used to express the same information as an utterance of (45.b). Second, despite its LH-conjunct, (45.a) is not naturally heard as issuing a command. Someone who utters (45) does not typically intend to impose an obligation to eat the yogurt on their addressee (rather, they intend to dissuade them from doing so). In this respect, (45.a) differs from (46.a). While an utterance of the latter also communicates a conditional claim (viz., (46.b)), unlike the former it is naturally heard as also issuing a command to the addressee.

(46) a. Throw that yogurt out and I'll go get some more.
b. If you throw that yogurt out, I'll go get some more.

Call conjunctions like (46.a) 'endorsing' IaDs (e-IaDs), and conjunctions like (45.a) 'non-endorsing' IaDs (n-IaDs) (cf. von Fintel & Iatridou (2017a)).

On the dominant existing account of IaDs, the difference between e-IaDs and n-IaDs is attributed to an ambiguity in the word 'and' (see Russell (2007), Kaufmann (2012), Klinedinst & Rothschild (2012), and Starr (2018)).[43] These authors follow Culicover & Jackendoff (1997) in positing that there are two operations associated with 'and': its common co-ordinating interpretation, which commits the speaker to each conjunct; and a (left-)subordinating interpretation, which commits the speaker only to the RH-conjunct. On the latter, the first clause functions only to provide a restriction on material in the second, but has no other contribution to the at-issue content of the sentence. The account hypothesizes that whereas e-IaDs involve standard conjunction, n-IaDs involve the left-subordinating alternative. IaDs (of both kinds) appear to require that the RH-conjunct has [+FUTURE] morphological marking (in English, this can be achieved either by the modal 'will', 'going to' or with simple present morphology). The LH-conjunct is then taken to introduce restriction of the quantificational domain of future alternatives, in the same manner as the antecedent of a conditional like (45.a).

[43] Keshet (2013) proposes an alternative, under which imperatives function to restrict a silent modal taking wide-scope over both clauses. Han (1998) offers an account closest to that defended here, according to which the LH-clause in (45.a) undergoes directive feature deletion. However, she also posits an ambiguity for 'and'.

The left-subordinating interpretation was originally proposed to explain the behavior of conjunctions like (47.a-b) (Culicover & Jackendoff (1997)).

(47) a. One mouthful of that yogurt and you'll get sick.
b. John eats that yogurt and he gets sick.

Syntactic tests for subordination suggest it is plausible that n-IaDs involve the same phenomenon as (47.a-b) (whether this is to be understood in terms of ambiguity, or in some other manner). However, appeal to left-subordinating conjunction cannot explain why n-IaDs, unlike e-IaDs, lack the effect of issuing a command. Why not? Because e-IaDs pass the very same tests.

Coordinating conjunction, unlike its subordinating variant, supports right-node raising (RNR):

(48) a. John threw out____, and I replaced____, the yogurt.
b. #John throws out____, and I will replace____, the yogurt.
c. #Throw out____, and I will replace____, the yogurt.

Whereas RNR is permitted in (48.a), which involves coordinating conjunction, in (48.b), which involves subordinating conjunction, it is not. The IaD in (48.c) patterns with the latter; RNR is not possible, even when the LH-conjunct is endorsed.[44]

Conversely, subordinating conjunction, unlike coordinating conjunction, supports the binding of expression in its LH-conjunct by a quantifier in the RH-conjunct (see Culicover & Jackendoff (1997), Russell (2007), Kaufmann (2012), Keshet & Medeiros (2018)).

(49) a. # Someone else found me his$_i$ address and I sent a letter to any congressman$_i$ in the state.
b. Someone else finds me his$_i$ address and I'll send a letter to any congressman$_i$ in the state.
c. Find me his$_i$ address and I'll send a letter to any congressman$_i$ in the state.

Here, while the indicated binding relationship is not possible in (49.a), in (49.b) it is. The IaD in (48.c), which has a strong preference for being interpreted as endorsing, again patterns with the latter.

These data suggest that in e-IaDs, as in n-IaDs, conjunction is subordinating rather than coordinating. Yet if this is right, the form of conjunction in n-IaDs like (45.a) cannot be what is responsible for the absence of endorsement.

[44] Plausibly, (48.c) can receive be interpreted as either endorsing or non-endorsing, depending on context (in particular, whether the speaker desires the addressee to discard the yogurt). All that is relevant is that RNR is unavailable on both interpretations.

Imperative clauses can function to issue a command, even when they occur in the LH-conjunct of a subordinating conjunction.

What I want to show is that, by treating the difference between permissives and declaratives as lexicalized, we can explain the contrast between e- and n-IaDs without appealing to an ambiguity between subordinating and coordinating conjunction across the two. That is, rather than claiming that they involve different senses of 'and', we can instead claim simply that they differ in the force of the imperative conjunct. n-IaDs fail to give rise to an obligation because the LH-conjunct does not have directive force. Crucially, this is unavailable on accounts which attribute the distinction between the two to purely pragmatic factors, since it fails to allow for the ability of both kinds of imperatives to occur in embedded environments.

To account for the observation that IaDs communicate the same information as a conditional, we need only to assume that [+FUTURE] clauses involve quantification over a domain of future-orientated possibilities which is restricted by their local context (Montague (1973), Hornstein (1990), Kamp & Reyle (1993), Portner (2009), Cariani & Santorio (2018)). If, as suggested above (§5.2), an imperative in the LH-conjunct contributes its propositional root to the local context of the RH-conjunct, then the domain of possibilities quantified over in the RH-conjunct will be restricted to only those in which the imperative is satisfied. Hence, the RH-conjunct of (45.a) will convey the information that in all future possibilities in which the addressee eats the yogurt, they will be sick. Plausibly, this is precisely the information that is conveyed by the corresponding conditional in (45.b).[45] Thus, in explaining how IaDs acquire a 'conditional' interpretation the present proposal follows that of Starr (2018) (and, less closely, Han (1998) and Kaufmann (2012)). The relationship between the imperative and modal declarative clauses is treated as an instance of the more general process of modal anaphora, whereby a modal in the RH-conjunct acquires a restriction anaphorically from a clause in the LH-conjunct (Stone (1997)). However, it differs in the explanation of the contrast between e- and n-IaDs. Rather than attributing it to variation in the meaning of 'and', it is instead assumed to be directly encoded in the force-marking of the imperative conjunct.

This approach derives some preliminary support from von Fintel & Iatridou

[45] A referee asks why the same conditional information cannot be conveyed by a conjunction with a possibility modal in the LH-conjunct, such as (⁎.a).

(⁎) a. You may eat that yogurt and you'll get sick.
b. You may eat that yogurt but you'll get sick.

While I agree with the referee's judgment regarding (⁎.a), it is noteworthy that if contrastive conjunction is employed instead (as in (⁎.b)), something very like the conditional information is conveyed. One possibility is that with a declarative in the LH-conjunct (unlike with an imperative) contrastive discourse marking is required to obtain the necessary restriction of local context to possibilities in which its prejacent is satisfied. A more adequate treatment of this issue will have to be left for a later date, however.

(2017b, 309)'s observation that, in languages which mark the permissive/directive distinction syntactically (such as Hebrew), IaDs only arise with LH-conjuncts which permit permissive readings. *A fortiori*, the LH-conjuncts of n-IaDs always permit permissive readings. But more importantly, once we turn to consider it, there is a broad range of evidence that the imperative conjunct of n-IaDs always has permissive force.

First, FCI-'any' is not intersubstitutable with 'every' in n-IaDs. In this respect, (50) differs from e-IaDs like (51):

(50) Steal anything and you'll be fired $\not\Leftrightarrow$ Steal everything and you'll be fired.

(51) Tell me anything you know and you'll be free to go. $\Leftrightarrow$ Tell me everything you know and you'll be free to go.

As we saw above, the interaction with FCI-'any' is a central distinguishing feature of permissives and directives.[46]

Cross-linguistic evidence points to the same conclusion. First, Poletto & Zanuttini (2003) observe that in the rhaeto-romance dialect they investigated, n-IaD's are selective with respect to the imperative marking they can contain. While n-IaDs (52.a-b) containing the particles 'ma' and pö are acceptable, analogous constructions containing 'mo' and 'pa' particles, such as (53.a-b), are marked. This is striking since, as discussed above, the former are restricted to permissive imperatives, whereas the latter can occur only in directive imperatives.

(52) a. Fà-l *ma* che spo t'amareste.
do-it ma that then get-sick.

[46] A referee raises the possibility that (50) contains NPI-'anything' rather than the FCI. While I agree that n-IaDs license some NPIs in their LH-conjunct, this can be controlled for by considering modifiers such as 'absolutely' which combine exclusively with the latter.

(ʄ) a. Can anyone run a sub-2:30 marathon?
b. Can absolutely anyone run a sub-2:30 marathon?

(ʒ) Steal absolutely anything and you'll be fired.

(ʄ.a) is two-ways ambiguous between a free choice and negative polarity reading (the former has a clear negative answer, whereas the latter has a clear positive answer). (ʄ.b), in contrast, supports only the FCI reading (Horn (2000, 2005)). Applied to (50), the same test suggests that it does indeed contain an FCI. (ʒ) is acceptable and crucially, like (50), not equivalent to the variant with narrow scope universal quantification.

Further evidence can be drawn from languages in which there is no NPI/FCI ambiguity. For example, the Spanish FCI 'cualquier' (which does not have an NPI reading) can be used in n-IaDs such as (ɸ), where it is not interchangeable with the universal quantifier.

(ɸ) Roba cualquier cosa y te despido.
Steal any thing and you I-fire.
'Steal anything and I'll fire you.'

Again, I am grateful to Paula Menéndez-Benito for this observation.

'Do it and you'll get sick.'

b. Màngel *pö* che spo crëceste.
eat-it po that then grow-2SG.
'Eat it and you'll grow.'

(53) a. # Màngel *mo* che spo crëceste.
eat-it po that then grow-2SG.
'Eat it and you'll grow.'

b. # Màngel *pa* che spo crëceste.
eat-it po that then grow-2SG.
'Eat it and you'll grow.'

Second, in German, whereas the particle 'ruhig' can occur in n-IaDs, the same does not go for either 'bloß' or 'JA'.

(54) a. Iss [ruhig/#bloß/#JA] diesen Pilz aber dann wirst du
eat [bloß/JA/ruhig] this mushroom but then will-be you
krank,
sick
'Eat this mushroom and you'll get sick.' Grosz (2009, 3)

As observed by Grosz (2009), 'ruhig' and 'bloß'/'JA' force permissive and directive interpretations of the clause, respectively. (54) is marked in the presence of either of the latter particles. Using non-contrastive conjunction (i.e., 'und') recovers felicity, but in this case the sentence recieves an e-IaD reading.

Note that, in many (but by no means all) cases, an utterance of an n-IaD is intended to dissuade the addressee from performing the action denoted in the LH-conjunct. At least at first glance, this appears at odds with the hypothesis that such utterances simultaneously issue a permission. If a speaker wanted to discourage their interlocutor from pursuing some course of action, why would they explicitly permit that precise course of action itself?

Here, it is helpful to start by observing that there is evidence that n-IaDs do issue permissions, even in cases where they function pragmatically to dissuade their audience.

(55) a. You have to throw that yogurt away. ?Eat it and you'll get sick.
b. You have to throw that yogurt away. If you eat it, you'll get sick.

The discourse in (55.a) is somewhat marked. After asserting that there is a requirement to discard the yogurt, following it with the n-IaD is odd, at best. In contrast, the discourse in (55.b), in which the first assertion is followed by the corresponding conditional, is fine. This is readily explained if, unlike the conditional, uttering the n-IaD commits the speaker to the permissibility of the action denoted in its imperative conjunct.

In cases like this, I want to suggest, we should think of permission extended by the permissive conjunct of an n-IaD mostly as a side-effect, orthogonal to the (main) conversational purpose of the utterance. In uttering (45.a), a speaker (presumably) intends to dissuade the addressee from eating the yogurt, by communicating the same information as conveyed by (45.b). The primary role of the imperative, given this goal, is to impose a restriction on the declarative clause in the RH-conjunct. Its permissive effect is a secondary by-product of the mechanism by which this is achieved. The overall communicative intention of an n-IaD is to disincentive the addressee from pursuing the course of action described in the LH-conjunct, even if it is (in some sense) permitted. [47]

8 Conclusion

The distinction between permissives and directives is pre-theoretically motivated by judgments about illocutionary force; we can categorize utterances of imperatives differently according to the way in which they affect the prohibitions in place in a conversation. The theoretical standing of the distinction is buttressed by a collection of linguistic tests, which suggest that it tracks a real phenomenon of communication. However, both our pre-theoretic judgments and the linguistic tests discussed in §2 are neutral regarding the level at which the distinction is realized. That is, they leave it open whether it merely corresponds to a difference of illocutionary force or whether there is an underlying difference in the semantic content.

In §§3-4, I argued that interaction with FCIs can shed light on this issue. Our

[47] There remains a question of why, if n-IaDs extend permissions, the indicative conditional is not always preferred to convey the same information. Here, it may be helpful to compare n-IaDs with declarative conjunctions like (⋆.a-b).

(⋆) a. You don't have to pay your taxes but you'll get in trouble with the IRS.
b. You can eat the last cookie but I'll be disappointed.

(⋆.a-b) can communicate a 'conditional' claim (e.g., 'If you don't pay your taxes, you'll get in trouble with the IRS'). And, akin to n-IaDs, they also report a permission. In cases where such conjunctions are preferred to the indicative, this often serves an important, albeit secondary, role. The speaker concedes that the course of action in the prejacent of the LH-conjunct is (in some sense) permitted, while simultaneously advising the addressee against pursuing it.

A provisional hypothesis is that, where n-IaDs are preferred to the corresponding conditionals, it is due to having analogous, concessive connotations. If this is right, then while extending a permission may be orthogonal to the primary purpose of an utterance, it is not correct to say that it is entirely irrelevant to its intended communicative effect.

best theories of FCI-'any' appeal to interaction with scope-taking operators to explain patterns of behavior of the same kind as are found across directive and permissive imperatives. Thus, our best theories require us to posit operators with corresponding properties in imperative clauses, according to whether they are directive or permissive. I presented one theory which implemented this idea by combining a dynamic semantics for imperatives with a WSU-theory of 'any'. At the same time, I noted that neither component was essential, at least regarding the central puzzle—a similar explanation of the key data could be achieved with a NSI-theory of 'any' and/or a static semantics for imperative.

Before concluding, it is worth noting that the type of account proposed does not easily extend to provide an explanation of free choice effects in disjunction. On both WSU- and NSI-theories, the behavior of FCI-'any' in imperatives is attributed to distinctive properties of indefinites: their ability to take scope (in the case of WSU-theory) or their ability to be bound (in the case of NSI-theories). Neither appears plausible as a mechanism for deriving the free choice phenomena exhibited by disjoined imperatives. Merely assuming that the disjunction takes wide scope over disjuncts with permissive force (as indefinites do on WSU-theories) is insufficient. And (unlike indefinites on NSI-theories) disjunction is not capable of being bound by higher quantificational expressions. Thus, on either, separate explanations of free choice effects will be needed for indefinites and disjunction, respectively. For those, such as Aloni (2003a,b, 2007b) and Chierchia (2013), who take a unified account of free choice to be desirable, this will reasonably be viewed as a cost. Whether it is a disqualifying one will depend, in large part, on whether any unified account can adequately accommodate the full range of data. While not conclusively ruling this out, I have argued above that no existing unified theory succeeds.

Appendix A

A model is a tuple $\langle \mathcal{D}, \mathcal{W}, \mathcal{G}, [\![\cdot]\!] \rangle$. $\mathcal{D}$ is a set of individuals, $d, d', ...$; $\mathcal{W}$ a set of worlds, $w, w', ...$; $\mathcal{G}$ a set of assignments, $g, g', ...$; and $[\![\cdot]\!]$ an interpretation function.

Definition 1.

1. $\sigma, \sigma', ... \in \mathcal{P}(\mathcal{W})$ are **context states**;
2. $\Sigma, \Sigma', ... \in \mathcal{P}((\mathcal{P}(\mathcal{W})))$ are **context spaces**.

We define a language, L, along with a propositional fragment, L^-. $\mathsf{x}, \mathsf{x}', ...$ and $\mathsf{F}, \mathsf{F}', ...$ are schematic variables over sets of (non-schematic) variables and (unary) predicates respectively. $\mathsf{A}, \mathsf{B}, ...$ and $\phi, \psi, ...$ are schematics variables over L^- and L, respectively.

Definition 2.

1. $- \ \mathsf{F}(\mathsf{x}) \in L^-$;

- If $\mathsf{A}, \mathsf{B} \in L^-$, then $\neg\mathsf{A}$, $\forall \mathsf{x}\ \mathsf{A}$, and $(\mathsf{A} \wedge \mathsf{B}) \in L^-$;
- Nothing else is in L^-.

2.
- If $\mathsf{A} \in L^-$, then A, $\textsc{Dir}(\mathsf{A})$ and $\textsc{Prm}(\mathsf{A}) \in L$;
- If $\phi, \psi \in L$, then $\neg\phi$, $\forall \mathsf{x}\ \phi$, and $(\phi \wedge \psi) \in L$;
- Nothing else is in L.

The denotations of expressions in L^- and L/L^- differ in type. The former denote propositions: functions from worlds to truth values (type: $\langle s, t\rangle$). The latter denote context change potentials: functions between conversation systems (type: $\langle\langle st, t\rangle, \langle st, t\rangle\rangle$).

$(\cdot)'$ is a generalized complementation operation over expressions of type $\langle \alpha, \beta\rangle$ (where β 'ends in t').

$$(f)' = \begin{cases} \lambda x_\alpha . f(x) = 0. & \text{if } \beta = t; \\ \lambda x_\alpha . (f(x))'. & \text{if } \beta \neq t. \end{cases}$$

$\sqcap$ is a generalized intersection operation over two expressions of type $\langle \alpha, \beta\rangle$ (where β, again, 'ends in t'). $\bigsqcap$ is the derivatively defined n-ary operation.

$$f \sqcap g = \begin{cases} f \cap g, & \text{if } \beta = t; \\ \lambda x_\alpha . f(x) \sqcap g(x) & \text{if } \beta \neq t. \end{cases}$$

In interpreting our language, we define a single interpretation function recursively over the entirety of L.

Definition 3.

1. $[\![\mathsf{F(x)}]\!]^g = \lambda w . g(x) \in w(\mathsf{F})$.
2. $[\![\textsc{Dir}(\mathsf{A})]\!]^g = \lambda\Sigma\lambda\sigma : \sigma \in \Sigma.\ \sigma \subseteq [\![\mathsf{A}]\!]^g$
3. $[\![\textsc{Prm}(\mathsf{A})]\!]^g = \lambda\Sigma\lambda\sigma : \sigma \in \Sigma.\ \sigma \cap [\![\mathsf{A}]\!]^g \neq \emptyset$
4. $[\![\neg\phi]\!]^g = ([\![\phi]\!]^g)'$
5. $[\![\phi \wedge \psi]\!]^g = [\![\phi]\!]^g \sqcap [\![\psi]\!]^g$
6. $[\![\forall \mathsf{x}\phi]\!]^g = \bigsqcap_{d \in \mathcal{D}} [\![\phi]\!]^{g[\mathsf{x} \to d]}$

$[\![\mathsf{F(x)}]\!]^g$ is the set of worlds w which map F to an extension which includes $g(\mathsf{x})$. $[\![\textsc{Dir}(\mathsf{A})]\!]^g$ maps Σ to the set of its elements which are subsets of $[\![\mathsf{A}]\!]^g$. $[\![\textsc{Prm}(\mathsf{A})]\!]^g$ maps Σ to the set of its elements which have a non-empty intersection with $[\![\mathsf{A}]\!]^g$. Given an input Σ, $[\![\textsc{Dir}(\mathsf{A})]\!]^g$ and $[\![\textsc{Prm}(\mathsf{A})]\!]^g$ are defined on a context state σ iff $\sigma \in \Sigma$.

$[\![\neg\phi]\!]^g$ is the generalized complement of $[\![\phi]\!]^g$. $[\![\phi \wedge \psi]\!]^g$ is the generalized intersection of $[\![\phi]\!]^g$ and $[\![\psi]\!]^g$. $[\![\forall \mathsf{x}\phi]\!]^g$ is the generalized n-ary intersection of the set $\{[\![\phi]\!]^{g[\mathsf{x}\to \mathsf{d}]} \ : \ d \in \mathcal{D}\}$.

Adopting post-fix notation, we write $\Sigma[\![\phi]\!]^g$ for $[\![\phi]\!]^g(\Sigma)$. Finally, we define relations of support and entailment.

Definition 4.

1. $\Sigma \models\!\!\!\models_g \phi$ iff $\Sigma = \Sigma[\![\phi]\!]^g$
2. $\phi_i, ..., \phi_j \models \psi$ iff for all g and all Σ: $\Sigma[\![\phi_i]\!]^g, ..., [\![\phi_j]\!]^g \models\!\!\!\models_g \psi$.

Σ supports ϕ (relative to g) iff it is a fixed point of update with $[\![\phi]\!]^g$. $\phi_i, ..., \phi_j$ entail ψ iff for any assignment g and context space, Σ, sequential update of Σ with $[\![\phi_i]\!]^g, ..., [\![\phi_j]\!]^g$ supports ψ (relative to g).

We can now make some observations about our language. **Fact 1** says that Prm is the dual of Dir.

Fact 1. $\textsc{Dir}(\mathsf{A}) \models\!\!\!\models \neg\textsc{Prm}(\neg\mathsf{A})$

Proof: By **Def.3.2.**, we know that $\Sigma[\![\textsc{Dir}(\mathsf{A})]\!]^g = \{\sigma \in \Sigma \ : \ \sigma \subseteq [\![\mathsf{A}]\!]^g\}$. By **Def.3.4.**, we know that $[\![\neg\textsc{Prm}(\neg\mathsf{A})]\!]^g = ([\![\textsc{Prm}(\neg\mathsf{A})]\!]^g)'$, the generalized complement of $[\![\textsc{Prm}(\neg\mathsf{A})]\!]^g$. But observe that $\Sigma([\![\textsc{Prm}(\neg\mathsf{A})]\!]^g)' = \{\sigma \in \Sigma \ : \ \sigma \cap [\![\neg\mathsf{A}]\!]^g = \emptyset\}$. Since $\sigma \cap [\![\neg\mathsf{A}]\!]^g = \emptyset$ iff $\sigma \subseteq [\![\mathsf{A}]\!]^g$, it follows that for any g: $[\![\textsc{Dir}(\mathsf{A})]\!]^g = [\![\neg\textsc{Prm}(\neg\mathsf{A})]\!]^g$. *A fortiori*, for any g, $\Sigma[\![\textsc{Dir}(\mathsf{A})]\!]^g \models\!\!\!\models_g \neg\textsc{Prm}(\neg\mathsf{A})$ and $\Sigma[\![\neg\textsc{Prm}(\neg\mathsf{A})]\!]^g \models\!\!\!\models_g \textsc{Dir}(\mathsf{A})$.

Fact 2.1 says that $\forall\mathsf{x}$ commutes with Dir. **Fact 2.2** says that $\forall\mathsf{x}$ does not commute with Prm.

Fact 2.

1. $\forall\mathsf{x}\ \textsc{Dir}(\mathsf{A}) \models\!\!\!\models \textsc{Dir}(\forall\mathsf{x}\ \mathsf{A})$
2. $\forall\mathsf{x}\ \textsc{Prm}(\mathsf{A}) \models\!\!\!\not\models \textsc{Prm}(\forall\mathsf{x}\ \mathsf{A})$

Proof: Starting with **Fact 2.1**, first, note that updating a context Σ with $[\![\forall\mathsf{x}\ \textsc{Dir}(\mathsf{A})]\!]^g$ returns the new context space $\bigcap_{d\in\mathcal{D}}\{\sigma \in \Sigma \ : \ \sigma \subseteq [\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]}\}$. Similarly, updating Σ with $[\![\textsc{Dir}(\forall\mathsf{x}\ \mathsf{A})]\!]^g$ returns the new context space $\{\sigma \in \Sigma \ : \ \sigma \subseteq [\![\forall\mathsf{x}\mathsf{A}]\!]^g\}$. Note that $[\![\forall\mathsf{x}\mathsf{A}]\!]^g = \bigcap_{d\in\mathcal{D}}[\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]}$. So $\Sigma[\![\textsc{Dir}(\forall\mathsf{x}\ \mathsf{A})]\!]^g$ is the set $\{\sigma \in \Sigma \ : \ \sigma \subseteq \bigcap_{d\in\mathcal{D}}[\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]}\}$.

But observe that, by elementary set theory, $\bigcap_{d\in\mathcal{D}}\{\sigma \in \Sigma \ : \ \sigma \subseteq [\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]}\} = \{\sigma \in \Sigma \ : \ \sigma \subseteq \bigcap_{d\in\mathcal{D}}[\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]}\}$. It follows that for any g, $[\![\forall\mathsf{x}\ \textsc{Dir}(\mathsf{A})]\!]^g =$

$[\![\textsc{Dir}(\forall \mathsf{x}\ \mathsf{A})]\!]^g$. Accordingly, for any g and Σ, $\Sigma[\![\forall \mathsf{x}\ \textsc{Dir}(\mathsf{A})]\!]^g \models_g \textsc{Dir}(\forall \mathsf{x}\ \mathsf{A})$ and $\Sigma[\![\textsc{Dir}(\forall \mathsf{x}\ \mathsf{A})]\!]^g \models_g \forall \mathsf{x}\ \textsc{Dir}(\mathsf{A})$.

Turning to **Fact 2.2**, first, note that updating a context space Σ with $[\![\forall \mathsf{x}\ \textsc{Prm}(\mathsf{A})]\!]^g$ returns the new context space $\bigcap_{d\in\mathcal{D}}\{\sigma \in \Sigma \ : \ \sigma \cap [\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]} \neq \emptyset\}$. Similarly, updating Σ with $[\![\textsc{Prm}(\forall \mathsf{x}\ \mathsf{A})]\!]^g$ returns the new context space $\{\sigma \in \Sigma \ : \ \sigma \cap [\![\forall \mathsf{x}\ \mathsf{A}]\!]^g \neq \emptyset\}$. Note that $[\![\forall \mathsf{x}\mathsf{A}]\!]^g = \bigcap_{d\in\mathcal{D}}[\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]}$. So $\Sigma[\![\textsc{Prm}(\forall \mathsf{x}\ \mathsf{A})]\!]^g$ is the set $\{\sigma \in \Sigma \ : \ \sigma \cap (\bigcap_{d\in\mathcal{D}}[\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]}) \neq \emptyset\}$.

We know that $\{\sigma \ : \ \sigma \cap (\bigcap_{d\in\mathcal{D}}[\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]}) \neq \emptyset\} \subseteq \bigcap_{d\in\mathcal{D}}\{\sigma : \ \sigma \cap [\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]} \neq \emptyset\}$. So $\Sigma[\![\textsc{Prm}(\forall \mathsf{x}\ \mathsf{A})]\!]^g \models_g \forall \mathsf{x}\ \textsc{Prm}(\mathsf{A})$.

However, crucially, $\bigcap_{d\in\mathcal{D}}\{\sigma : \ \sigma \cap [\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]} \neq \emptyset\} \not\subseteq \{\sigma : \ \sigma \cap (\bigcap_{d\in\mathcal{D}}[\![\mathsf{A}]\!]^{g[\mathsf{x}\to d]}) \neq \emptyset\}$. Thus, $\Sigma[\![\forall \mathsf{x}\ \textsc{Prm}(\mathsf{A})]\!]^g \not\models_g \textsc{Prm}(\forall \mathsf{x}\ \mathsf{A})$.

As a countermodel, suppose that $\mathcal{W} = \{w, v\}$ and $\mathcal{D} = \{d, d'\}$, letting $w(\mathsf{F}) = \{d\}$ and $v(\mathsf{F}) = \{d'\}$. Consider the context space $\Sigma = \{\{w, v\}\}$. Σ is a fixed point of $[\![\forall \mathsf{x}\ \textsc{Prm}(\mathsf{A})]\!]^g$, since $w \in [\![\mathsf{F}(\mathsf{x})]\!]^{g[x\to d]}$ and $v \in [\![\mathsf{F}(\mathsf{x})]\!]^{g[\mathsf{x}\to d']}$. However, updating Σ with $[\![\ \textsc{Prm}(\forall \mathsf{x}\ \mathsf{A})]\!]^g$ returns $\{\{\}\}$, the absurd space, since $\bigcap_{d\in\mathcal{D}}[\![\mathsf{F}(\mathsf{x})]\!]^{g[\mathsf{x}\to d]} = \emptyset$.

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