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A modest proposal for the meaning of imperatives*

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1   Introduction

In this paper, we attempt to make a modest contribution to the understanding of the meaning of imperatives. By "imperative" we mean a verb form that is typically used to convey directive force, and is not typically used in subordinate roles (distinct from infinitives and subjunctives; but see later).

Now, one might think that there is an obvious answer to the question of what imperatives mean: imperatives are used to impose an obligation on the addressee to make the prejacent of the imperative true. A speaker who utters

(1)   Read this book!

is trying to get the addressee to take on the obligation to make it true that the addressee reads this book. If the imperative is successful, the addressee now has the obligation to read this book.

So, it's unsurprising that "command" is often taken to be the basic function of the imperative verb. In fact, in many languages, even the (folk-)linguistic name of the form is based on a verb that means "command":

- Romance *imperative* from Latin *imperare*, "to command"
- Greek *prostaktiki* from *prostazo*, "to command"
- Turkish *emir kipi*, "command" (noun)
- Slovenian *velelnik* from *veleti*, "to command"
- Hebrew *civuy*, "to command"
- Albanian *urdherore* from *me urdheru*, "to command"
- Arabic *fi'l ?amr*, "to command"

Are we done then? Well, no, even if the idea that imperatives express commands or impose obligations, were entirely correct, which as we'll see it isn't, we would still have to figure out what the morpho-syntax of imperatives is, how the meaning of imperatives arises compositionally, and what the division of labor between semantics and pragmatics is. The latter two questions are what we focus on in this paper.

In the syntactic literature it is often assumed that there is a functional projection whose content is the semantics (whatever this may prove to be) associated with the verb form and with which the verb merges. For example, Rivero & Terzi 1995 postulate an imperative mood feature which can appear at different heights of the tree in different languages and which attracts the verb. This analysis is meant to capture, among other phenomena, the fact that the imperative verb always precedes the clitic in a number of languages, even though the tensed verb normally follows it (see also Han 1998, 2000 and many others). The following examples are from Greek:

(2) i   Maria to dhiavazi
     the Mary   it read-prog

     'Mary is reading it'

(3) dhiavase to!
     read-imp it!

     'Read it!'

(4) *to dhiavase! (* as an imperative)
     It   read-imp

Though no project on the imperative can count as complete if it does not address syntactic phenomena like (3-4), we will not undertake this in the current paper. The hope is that a proper understanding of the interpretation of imperative forms will also provide an answer to the question of the target of verb-movement in (3). We leave this issue for a future occasion then, even though we need to admit at the outset that if our conclusions in this paper are correct, the functional projection in question has less content than is assumed in most syntactic work on imperatives.

Since imperatives are clearly expressions whose use changes the world (in the stereotypical case, they bring about obligations), a full theory of their meaning needs to specify both a denotational semantics and a model of how their denotation is used to change the context, including what exactly in the context is being changed. So, theory choice in this case is quite intricate. At the level of denotational semantics, we can distinguish "strong" theories that build something like obligation into the

denotation and "minimal" theories which are non-modal in their denotation. Let us look at three proposals in particular.[1]

Kaufmann 2012 proposes a rich denotational semantics, according to which imperatives denote modal propositions. In effect, *read this book!* gets a semantics very close to *you should/must read this book*. In addition, there are presuppositions that ensure that imperatives are not used as statements about what is required but only as performatives that (attempt to) change what's required.

Condoravdi & Lauer 2012 propose that imperatives convey the speaker's "effective preference". They are agnostic about whether this meaning comes directly from the semantics or "later" from the pragmatics.

Portner 2007, following Hausser 1980, proposes a rather minimal denotational semantics, according to which imperatives denote a property that is restricted to the addressee:

(5) $[\![\text{read this book}]\!] = \lambda x \colon x$ is the addressee. x reads this book

Any serious proposal about the denotation of imperatives needs to be accompanied by a theory of the dynamic pragmatics: what is it in the context that uses of imperatives change and how do they change it? Here, again, there are a variety of proposals, interconnected with proposals about the denotational semantics. What the proposals have in common is that there is a separate discourse component that the clause type of imperatives specializes in updating[2]. The particular proposals about what the discourse component is that imperatives affect include the To Do Lists (TDL) of Portner 2007, the plan sets of Han 2000, the permissibility spheres of Lewis 1979, or the effective preference structures of Condoravdi & Lauer 2012.

In the end, then, proposals about the meaning of imperatives are package deals of a denotational semantics and a dynamic pragmatics. We need to decide how much of that meaning is encoded in the compositional semantics and how much is due to higher level pragmatics. The less of the directive, context-affecting force is built into the denotational semantics of imperatives, the more needs to be done at the pragmatic level. There is no question that the typical meaning of an imperative is to express a command. The question is where this is achieved, in the syntax-semantics or in the pragmatics.

In this paper, we will argue for a particular package deal that combines Hausser's and Portner's minimal semantics with a modified version of Portner's dynamic pragmatics. In Portner's view, imperatives like the other two main sentence types

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1 For further alternatives, we refer the reader to surveys by Han (2011) and Charlow (2014). We think that the two empirical domains we explore here constitute serious problems for any strong semantics for imperatives.

2 Just like declaratives update the common ground and interrogatives update the stack of questions under discussion.

introduce a distinctive type of denotation: declaratives denote propositions, interrogatives denote sets of propositions, and imperatives denote addressee-restricted properties. There is a uniform pragmatics: an utterance of a sentence is used to update the appropriate component of the context. Declaratives are used to add a proposition to the common ground, interrogatives are used to add a question to the stack of questions under discussion, and imperatives are used to add a property to the addressee's TDL ("to do list"). For every individual, the TDL contains a list of properties that the individual "should" make true of themselves (the particular meta-modality involved in embedding the TDL in a theory of context is explored in detail in Portner 2007).[3] For Portner, then, the heavy lifting is done in the pragmatics: the sense of 'obligation' that we associate with imperatives is not encoded in the syntax/semantics but is part and parcel of the relevant discourse component. It is not the case, in other words, that Portner's account of the imperatives is "modality-free"; the modality is there, but just not in the syntax.

As we have said, we will call Portner's proposal (and similar ones) a "minimal semantics" for imperatives and we will use the term "strong semantics" for Kaufmann's proposal and the version of Condoravdi & Lauer's proposal that builds preference into the semantics. These accounts, minimal or strong, all in the end deliver something like a command-force meaning but differ in how much of that is encoded in the semantics of the imperative vs. the pragmatics. So how can we choose between these accounts and others in this neighborhood?[4]

We will use two kinds of uses of imperatives to argue for a minimal (non-modal, non-attitude) denotational semantics: (i) acquiescence and indifference uses and (ii) the use of imperatives in conditional conjunctions.

2 Weak imperatives: Acquiescence and indifference

There are two "weak" uses of imperatives that constitute a serious problem for any theory that encodes some kind of modal strength (or speaker preference) in the semantics of imperatives. Consider:

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3 There are, of course, as always, problems with the TDL-way of modelling the contextual effect of imperatives, many of which are canvassed by Condoravdi & Lauer (2012). We stress that the main thrust of our paper is that we need a minimal denotational semantics of imperatives. While we adopt the TDL view of the dynamic pragmatics for concreteness, we are open to alternative context models.

4 Condoravdi & Lauer float the intriguing possibility that there is "no fact of the matter about what the denotation of imperatives is" because the limited range of embedded uses of imperatives imposes too few constraints on the language learner. Indeed, it seems entirely plausible that sometimes the data underdetermine the semantics of an expression or construction and we may find populations that differ in their semantic "theories" of that expression or construction. Nevertheless, we believe that in the case of imperatives there is, in fact, a fact of the matter.

(6) A: It's getting warm. Can I open the window?

    B: Sure. Go ahead. Open it!

(7) Go left! Go right! I don't care.

We call the first use an *acquiescence* imperative and the second an *indifference* imperative. The first is often called a "permission" use, but we find that there is something slightly inaccurate in that terminology. It seems to us that what the imperative in (6) really conveys is that the hearer can rest assured that the speaker will not object to the window being opened, that they can expect that they will not have a problem with the speaker if they open the window.[5]

   These weak readings are cross-linguistically common. We have found them in all of the Mediterranean [6] and Western European languages that we've surveyed.

   How can a strong semantics for imperatives deal with acquiescence readings? That is, if anything like 'command' or 'obligation' is part of the denotation of the imperative verb, how can we derive the acquiescence reading? One appealing possibility would be that something in the context interacts with the semantics to weaken its force. So, we would have to identify what that something is and how it interacts with the strong semantics of imperatives to give the weak acquiescence meaning. The first question is perhaps easily answered: acquiescence readings are facilitated in contexts where it is obvious or at least possible that the hearer actually wants to carry out the relevant action. This has been observed by many people (Wilson & Sperber 1988, Portner 2012, Kaufmann 2012, Condoravdi & Lauer 2012).[7]

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5 One might wonder whether the modal *may*, the typical permission modal of English, can have the same range of uses as "permission" imperatives, that is, whether it also can have mere acquiescence uses. Consider:

(i) Can I open the window?
    Sure, go ahead, you may open the window!

To our ears, (i) carries an air of an authority giving permission. Using *can* here would perhaps correspond more closely to the acquiescence meaning. But getting involved in the question of deontic *may* vs. *can*, so fraught with prescriptive ardor, is not part of our mission here.

6 An early stage of this paper was presented in October 2010 at a conference on the syntax of Mediterranean languages in Athens. For that occasion, data on imperatives were collected in many languages spoken around the Mediterranean Sea.

7 We hasten to note that hearer desire may be necessary but it is not sufficient:

(i) A: I want to write a novel.
    B: So, write a novel!

The exasperated life coach uttering this imperative is not giving permission but instructing the hearer to write the novel he wants to write. Once one is in the life coach mode, it becomes easy to hear even imperatives like "Do whatever you want!", which are at first glance prime examples of acquiescence imperatives, as strong commands.

The second question is harder. An intriguing idea, first floated by Wilson & Sperber (1988) and spelled out in detail by Kaufmann (2012, Section 5.1), is that the modality expressed by an acquiescence imperative is relativized not to the speaker's desires, as usual, but to the hearer's desires. Kaufmann sketches her proposal as follows: an acquiescence imperative expresses that "'it is best that you p' where 'it is best' is understood as 'according to what you want/according to what your goals are'". Further assumptions about the context then lead to an inference that the speaker (who is ostensibly saying that the hearer's desires entail p) is conveying that they are permitting p.

Here's our problem with this analysis (and others along similar lines): if contextual weakening of this sort were possible, then we would expect it to not just occur with the modal/attitudinal proposition putatively expressed by imperatives but also with related expressions, other directives, desideratives, or deontics. Instead, what we find is that no other expression is subject to such a weakening in context.

For those who believe that imperatives contain a strong modal, it is a problem that performative deontic modals cannot be used to express acquiescence:

(8)   A: May I open the door?
      B: Sure, go ahead, open it!
      B': Sure, go ahead, #you must open it.
      B": Yes, in fact: you must open it!
      C: Sure, go ahead, you *should* open it.

must in (8B'/B") is clearly stronger than the acquiescence imperative and attempts to bestow an obligation which in the context in B', does not quite work. Even the weaker *should* in (8C) conveys speaker endorsement in a way that the acquiescence imperative does not.

For those who believe that imperatives express a speaker's preference, it is a problem that desideratives cannot convey mere acquiescence either:

(9)   A: Can I go out and play?
      B: Okay, go out!
      B': Okay, I want you to go out.

Again, the desiderative in (9B') expresses speaker endorsement in a way that the acquiescence imperative does not.

Lest you think that this difference in the availability of acquiescence readings is due to a difference between explicitly strong directives and the almost covert nature of imperative marking: Many languages have other verb forms that can be used as directives. Examples: infinitives, participles, subjunctives. Cross-linguistically, some non-imperative directives can only be used as strong directives, not allowing the

putative contextual weakening to express acquiescence. Hebrew is a case in point. It has an infinitive that can only be used to give commands and it has a future form, which can be used both to convey commands and acquiescence:

(10) la-   shevet!
      INF- sit

      'Sit!' (command only)

(11) te-   xabek   ot-   o!
      FUT.2- hug(sg.M) ACC- 3sg.M

      'Hug him! (command, acquiescence)

If contextual weakening is what brings about acquiescence readings, why wouldn't it be able to apply to the Hebrew infinitive?

Similarly, German has in addition to its imperative (which has acquiescence uses) an infinitive that when used directively can only express commands, not acquiescence:

(12) Geh raus!   imperative (command, acquiescence)

(13) Rausgehen!   infinitive (command only)

(14) A: Kann ich rausgehen und spielen?
      B: Na klar, geh raus!   acquiescence reading
      B': Na klar, rausgehen!   no acquiescence reading

So the Hebrew and German infinitives are bare verb forms that have a command use but cannot be weakened to acquiescence in context. We find the same pattern with subjunctives. Slovenian has a subjunctive that can be used to convey command, but not acquiescence:[8]

(15) da   mi   greS   domov
      DA me.dat go.2nd.sg.pres home

      'Go home!'

So if contextual weakening is what permits a strongly directive form to be interpreted as acquiescence, it should always be possible. But this is not always so, neither with overtly modalized forms, nor with covertly marked verb forms.

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8 *da* is the Balkan subjunctive INFL/COMP particle.

The issue with indifference uses is the same: no overt directive/desiderative/deontic expression that gets close to what the strong theory of imperatives says is their meaning can be used in an indifference context. Compare:

(16)   Go left! Go right! Either way is fine with me.

(17) #You must go left. You must go right. Either way is fine with me.

(18) #I want you to go left. I want you to go right. I don't care.

Note also that acquiescence imperatives can be followed by an expression of indifference, but an explicit priority modal cannot:
(19)   Sure, open the window! I don't care.

(20) #Sure, you should open the window. I don't care.

The upshot then is that imperatives (and as we will see, only a subset of their non-imperative cousins) allow weak acquiescence and indifference uses, unlike overtly marked strong directives (and some covertly marked ones). This would be unexpected if imperatives had a strong directive *semantics* that could be predictably weakened in context.

What we have seen so far is that accounts that build a strong directive meaning into the imperative face serious challenges with the acquiescence and indifference readings. What about Portner's account? Recall that Portner gives a minimal semantics to imperatives and proposes a pragmatics according to which the utterance of an imperative amounts to putting the property that the imperative denotes on the addressee's to do list. Now, a to-do list is just that: a list of things that a person is to do, in other words, a list of their obligations. This means that this analysis also is faced with the problem of acquiescence imperatives: saying "Sure, go ahead, open the window" doesn't put opening the window on the addressee's to-do list. Or, so it seems.

Portner 2012 recognizes the problem the weaker readings of the imperative pose and proposes that an imperative p! has a permission reading in the presence of a prior prohibition against p (or prior command of some q that is inconsistent with p). Portner associates with the to-do list a Kratzerian mechanism for calculating what is permitted and what is required (See Kratzer 1991, for an overview). One crucial property of that mechanism is that the presence of conflicting instructions leads to choice. If both p and q are on the to-do list and they are inconsistent (perhaps because q is not-p or because of some constellation of facts), the best the agent can do is to realize one of them (that's still better than neither of them, of course) but there is no built-in preference for one of them, which means that the agent can

choose which one to realize. That, Portner suggests, is a way towards permission or choice imperatives.

There is a serious problem with this approach (actually, both for the Kratzerian view about deontic conflicts and Portner's use of it for permission imperatives): conflicting requirements do not in fact give rise to choice. Consider:

(21) It's April 15, tax day. I have to finish my tax return.

(22) It's April 15. I have to send in my letter of recommendation.

Imagine that there's no way I can both finish the tax return and the letter of recommendation. Confronted with the dire truth that both these requirements hold, it is simply not so that I would rejoice and declare that luckily, I now have a choice and that I may choose to not do my tax return since I also have to send in the letter.[9]

Portner does recognize the issue and illustrates it with imperatives:

(23) [Party host to guest at 5pm]: Bring beer to the party!

(24) [Part host to same guest at 6pm]: Bring wine to the party!

Again, imagine that it is either impossible or un-called-for to bring more than one beverage. The guest will not conclude that they now have free choice between bringing beer or wine to the party. They will either take the most recent command to override the earlier one or they will ask for clarification: which does the host actually want?

Portner's response to this difficulty is to try and maintain that permission can result from conflicting imperatives but that in the default case, this doesn't happen. Permission imperatives need to be marked with an element that indicates that we are in a context where the conflicting requirements result in choice. We will not go into the details of his proposal, some of which are unclear to us. Suffice it to say that in the end, Portner embraces something like an ambiguity approach: imperatives convey commands unless they are explicitly marked to give rise to permission readings. But this, to some extent, pulls the rug from under the minimal approach, which Portner himself advocates for.

We will return at the end of the paper to our own view for how to derive the acquiescence reading within a minimal semantics for the imperative. Here we would like to address one more possibility. One could imagine that imperatives do have a modal semantics but that they are systematically ambiguous between possibility and necessity meanings.[10] A possibility/necessity ambiguity for imperatives is in

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9 See von Fintel 2012 for further discussion of deontic conflicts.

10 Such $\exists/\forall$ ambiguities are of course attested in natural language: bare plurals appear to have both existential and (quasi-)universal readings (although, of course, where the duplicity of meaning comes from is controversial); modals in several languages have recently been described as being

fact what Grosz 2009 proposes, based on distributional facts of the German adverbs *bloß* and *ruhig*. The adverb *bloß* goes with the command reading of imperatives and the adverb *ruhig* goes with the acquiescence/indifference reading, a pattern that replicates how these adverbs combine with overt deontic modals.

(25) a. Iß *bloß/ruhig den Spinat! Das stört mich nicht.
       eat bloß/ruhig the spinach that disturbs me not

   'Eat bloß/ruhig the spinach! That doesn't disturb me.'

   b. Iß bloß/*ruhig den Spinat! Sonst wirst du bestraft.
      eat bloß/ruhig the spinach or.else will.be you punished

   'Eat bloss/ruhig the spinach! Or else you'll be punished.'

While we are, in principle, sympathetic to this possibility, we do not think it will work. There is, in fact, a serious problem for the idea that imperatives can express a possibility modal meaning. Consider our example of an indifference use and the obvious way in which a Grosz-style analysis could account for it:

(26) a. Go left! Go right! I don't care.
   b. You could go left. You could go right. I don't care.

The idea would be that the two imperatives, which would be contradictory under a strong semantics, have a possibility meaning, paraphraseable with something like *could*. But this idea would incorrectly predict that we could conjoin two such "contradictory" imperatives just like we can conjoin two "contradictory" *could*-statements. But that is not so:

(27) a. #Go left and go right! I don't care.
   b. You could go left and you could go right. I don't care.

If the imperative had an ∃-reading, why would the conjunction of contradictory imperatives in (27a) not be possible, since one would think it should get a reading as in (27b)? How can the minimal semantics approach explain the contrast between (26) and (27)? In (27a), we have a contradictory conjunction of properties, which is then to be added to the TDL, which of course is absurd: no addressee can logically make this contradiction true of themselves. In contrast, (26a) can be expected to be good, since it involves two separate speech acts, each of which is merely conveying acquiescence

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underspecified for modal force (Rullmann, Matthewson & H. Davis 2008, Deal 2011); infinitival relative clauses appear to have two readings: *this is the/a man to consult* (Hackl & Nissenbaum 2012). NB: Crnič & Trinh (2008) propose an adaptation of the Rullmann, Matthewson & H. Davis (2008) selection function approach to account for the variable force of imperatives. We believe that their account faces the same issues that we discuss in the main text for Grosz's account.

with respect to the prejacent of the two imperatives. The modal semantics cannot make use of the fact that there's two separate imperatives in (26) and a conjunction of two imperatives in (27), since under the modal semantics, there's two modals introduced in either case, with each imperative morpheme. To make (26a) good, the two modals have to be weak ones, but then (27a) would incorrectly be predicted to be as good as (27b). We submit, then, that there is no plausible story here under the modal semantics.[11]

We conclude that a strong directive *semantics* for imperatives is in serious trouble. Even a Grosz-style ambiguity analysis is in trouble. Portner's minimal semantics is looking better and better. But we hasten to repeat that we would need to explain how it can get mapped to both strong and weak readings (depending on context and clues). In the mean time, we will raise a second serious problem for strong imperative semantics.[12]

3 Imperatives in certain conjunctions

In this, somewhat sprawling, section, we will explore some issues arising from the use of the imperative in certain conjunctions, a construction succinctly called "IaDs" (**I**mperative **a**nd **D**eclarative) by Kaufmann. Here are three examples:

(28) a. Study hard and you will pass the class.

  b. Ignore your homework and you will fail this class.

  c. Open the paper and you will find 5 mistakes on every page.[13]

We note a clear distinction between two kinds of readings of IaDs: the first example (28a) is naturally interpreted as coming with an endorsement from the speaker about the advisability of studying hard, while the other two examples (28b,c) do not seem to come naturally with such an endorsement. We therefore suggest distinguishing between two kinds of interpretations of IaDs:

- endorsing IaDs ("e-IaDs")

- non-endorsing IaDs ("n-IaDs")

IaDs are very common in our survey of languages spoken around the Mediterranean. Here are examples of n-IaDs from Greek, Palestinian Arabic, French, Albanian:

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11 To explain the distinction, a modal semantics for imperatives might try to say that even though there are two imperatives being conjoined in (27a), there is only one imperative modal taking scope over conjoined verb phrases. We doubt that this is a promising avenue.

12 The problem we're about to discuss is a problem for ambiguity theories like Grosz's as well.

13 This is a version of example from Clark 1993.

(29) Fae   ena apo afta ke   tha   pethanis mesa se 24 ores
      Eat.IMP one from these and FUT   die   within   24 hours

      'Eat one of these and you will die within 24 hours'   (Greek)

(30) Ilmis-ha   w   b-tindam   tool 'omr-ak
      touchIMP-it and b-regret.2sgm   all   life-your

      'Touch it and you will regret it the rest of your life'   (Palestinian Arabic)

(31) ignore tes   devoirs   et   tu   échoueras
      ignore your homework   and   you   fail-FUT

      'Ignore your homework and you will fail'   (French)

(32) haje kete dhe do te   vdesesh brenda 24 oresh
      eat this and you will die   within 24 hours

      'Eat this and you will die within 24 hours'   (Albanian)

We have found one set of languages that does not have IaDs (either e- or n-IaDs), which we represent here by Turkish:

(33) ??/*Cok   CalIS   ve baSarI-lI   ol-ur   -sun!
          much work (imp.) and success-with be-aor   -2.sg

      'Study hard and you'll succeed'

(34) ??/*Ev   Odev-in   -i   unut   ve baSarI -sIz
          home work-2.sg.poss   -acc. forget (imp.) and success -without
            ol-ur-sun!
            be-aor.-2.sg

      'Ignore your homework and you will fail'

Other languages that, according to informal reports, behave like Turkish in not allowing IaDs, are Hindi, Bangla, and Persian. (One suspects an areal/historical connection.) We will return later to the question of where these languages differ from those that do have IaDs.

There is a very tempting approach to IaDs (adopted, among others, by Kaufmann 2012 and Russell 2007), according to which (i) e-IaDs are a conjunctive sequence of two speech acts: an imperative endorsing the prejacent followed by a declarative stating a modal claim about what will happen *if* the prejacent is made true; and (ii) n-IaDs do not involve an imperative at all but are an instance of a more widely attested

construction called "conditional conjunction" (Keshet 2012) or "left subordinating *and*" (Culicover & Jackendoff 1997).

Our plot gets a bit convoluted now. We first embark on a somewhat inconclusive (but hopefully fun) excursus about e-IaDs, which will inject some useful data and thoughts into the debate about their nature. We then turn to n-IaDs, which provide us with our second argument for a minimal, non-modal semantics for imperatives.

3.1 e-IaDs

e-IaDs are IaDs where the prejacent of the imperative is felt to be endorsed by the speaker. The question is why this is so. One obvious answer is that, duh, there's an imperative there and thus someone uttering such an IaD of course endorses the prejacent, since that's what imperatives mean. The competing answer is that there is no imperative issued but that we have here an instance of conditional conjunction. Let's call the analysis that involves a true imperative speech act the "Type I" analysis and the analysis that treats the IaD as a pure conditional the "Type II" analysis. So, our example of an e-IaD would be analyzed as follows by the two approaches:

(35) Type I analysis of e-IaDs:
Study hard   and   you will pass.
Study hard!$_{command}$ and [*if you study hard*$_{silent}$ you will pass]$_{modal\ subordination}$

(36) Type II analysis of e-IaDs (works for n-IaDs as well):
Study hard and you will pass.
If you study hard, you will pass.

Under the Type II analysis, the endorsing nature of e-IaDs is not part of their semantics but is an inferred component of meaning: passing the class is likely a positive outcome, so saying that studying hard will lead to that outcome is naturally taken to be an endorsement of that course of action. Under the Type I analysis, the endorsement component follows straightforwardly, since the speaker of an e-IaD is actually using an imperative. Note that there is a kind of inclusion relation between the Type I and Type II analyses: both say that a conditional proposition is asserted, but the Type I analysis adds to this that, before that, the imperative is actually issued. Moreover, in the Type II analysis, the conditional antecedent IS the first conjunct, while in the Type I analysis, the antecedent is provided silently in the second conjunct via modal subordination.

We will discuss later how the Type II analysis gets the IaD to assert a conditional (since this is needed for the n-IaDs in any case), but for now let's focus on how the Type I analysis deals with the second component of the meaning it assigns to e-IaDs. The idea is that we're dealing with an instance of "modal subordination", the process

by which a modalized sentence can be implicitly restricted to scenarios made salient by a previous utterance. Consider the canonical example from Roberts 1989:

(37)   A wolf might walk in. It would eat us both.

The first sentence in (37) asserts that it is epistemically possible for a wolf to walk in. It thereby raises to salience the set of possible worlds where a wolf walks in. The modal *would* in the second sentence is then understood to quantify over worlds in that salient set. In effect, the second sentence thus means "if a wolf walked in, it would eat us both".[14] The modal in the first sentence doesn't have to be epistemic, it can also be a deontic/priority modal or desiderative:

(38)   a.   You $\left\{\begin{array}{l} \text{must} \\ \text{have to} \\ \text{should} \end{array}\right\}$ invest in this company! You will become rich.

       b.   I want you to invest in this company! You will become rich!

Perhaps unsurprisingly, we can construct sequences of an imperative followed by a modal sentence where the modal is restricted to the worlds where the prejacent of the imperative is made true:

(39)   Invest in this company! You will become rich.

So, the Type I idea of how e-IaDs work is that they are just like (39) but have *and* conjoining the two speech acts:

(40)   Invest in this company and you will become rich.
       ≈ Invest in this company! (and) (if you do,) you will become rich.

One worry one might have about this analysis is that conjunction of unlike speech acts isn't exactly a widely attested option (# *You are very handsome and can I have your phone number?*). But we will not dwell on this and assume that conjoining an imperative speech act with an assertion is, in principle, possible. What we will point out is that if an imperative contains strong directive semantics, and modal subordination is involved in the derivation of IaDs (i.e. the Type I analysis), it has quite different properties from cases of modal subordination with overt strong directive modals.

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14 This is as good a place as any to point out what should be obvious: a conditional *meaning*, is not the same as the *if p, q syntactic structure*, a common enough confusion. A variety of syntactic structures can map to a conditional meaning, and *if p,q* is but one of those; it has no privileged status. (37) shows that we can have implicitly restricted modals that convey conditional meanings, and the cases of conditional conjunction discussed later show that there are further ways of conveying conditionality. Even so, we will be using *if p, q* as a natural language paraphrase of a conditional meaning. Confusing the syntactic structure *if p, q* with conditional semantics happens often enough, including in Culicover & Jackendoff (1997). See Iatridou (2014) for discussion.

Let us start with pointing out that inserting a conjunction into sequences of speech acts is not an innocent operation.

The paradigm example of modal subordination with an epistemic modal in the first conjunct, as in (37), does seem to allow insertion of conjunction:

(41)   [Let me tell you why we shouldn't open the door]
         A wolf might walk in and it would eat us both.

However, deontic modals do not behave the same way as epistemic ones. A deontic/priority modal or desiderative in the first conjunct are to various degrees degraded[15]:

(42)   ??You $\left\{ \begin{array}{l} \text{must} \\ \text{have to} \\ \text{should} \end{array} \right\}$ invest in this company and you will become rich.

(43)   ??I want you to invest in this company and you will become rich.

On the other hand, the e-IaD in (40) is impeccable, as we saw. This asymmetry between overt strong modals and the imperative is unexpected under a Type I analysis.

We suspect that the reason why (42) and (43) are degraded is that conjunction is actually not as innocent as logicians might have thought. Bar-Lev & Palacas (1980) and Txurruka (2003) discuss contrasts like the following:

(44)   a.   Max fell; he broke his arm.
       b.   = Max fell and he broke his arm.

(45)   a.   Max fell; he slipped on a banana peel.
       b.   ≠ Max fell, and he slipped on a banana peel.

Without going into the details, it appears that *and* does not allow a (reverse) EX-PLANATION relation between the two conjuncts. Further, *and* does not allow a JUSTIFICATION relation, either[16]:

(46)   a.   You should do the Atkins diet. It comes highly recommended.
       b.   ≠ You should do the Atkins diet and it comes highly recommended.

This then sheds light on why there's a problem with conjunctions with any explicitly modalized statement of the sort we have seen so far in the first conjunct

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15 Daniel Lassiter, pc, has pointed out to us that there are naturally occuring examples of the "should *p* and will *q*" type. We maintain that there is intuitively a real difference in acceptability between e-IaDs and such *should*-conjunctions.

16 We borrow the Atkins diet scenario from Dorr & Hawthorne 2013.

and a putatively modally subordinated *will*-statement in the second conjunct which explains/justifies why the overtly modalized-statement is warranted:

(47) a. You should do the Atkins diet. You will lose a lot of weight.

  b. ≠ You should do the Atkins diet and you will lose a lot of weight.

Now, this inability of following up a modal with a conjoined justification carries over to imperatives, while a sequence without conjunction is just fine[17]:

(48) a. Do the Atkins diet! It comes highly recommended.

  b. #Do the Atkins diet and it comes highly recommended.

But with all this in place, it becomes mysterious why e-IaDs work so well:

(49) Do the Atkins diet and you will lose a lot of weight.

The preceding is an intricate pattern of data and we concede that there may be a way of reconciling an analysis of the e-IaD as a conjunction of an imperative and a modally subordinated follow-up with the restrictions we have found on when modal subordination is possible across conjunction. We await such attempts.

Another reason to be skeptical that the modal subordination account of e-IaDs (that is, the Type I analysis) is entirely correct is that modal subordination, as expected from an anaphoric process, allows a kind of indirection that we will call "polarity switch":

(50) a. Don't park there! You will be towed.

  b. = Don't park there! If you park there, you will be towed.

The modal in the second speech act is interpreted not with respect to the worlds where you don't park there (the ones that the imperative makes salient are the ones where its prejacent, *not park there*, is true) but with respect to the worlds where you, against the speaker's advice, park there. But now consider an attempt at an e-IaD version:

(51) a. Don't park there and you will be towed.

  b. ≠ Don't park there! If you park there, you will be towed.

  c. = Don't park there! If you don't park there, you will be towed.

So, IaDs do not allow polarity switch while modal subordination should in principle allow it. This is a considerable problem that a Type I account of e-IaDs faces.

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17 Here's another such contrast:

(i) a. Don't go in there! There are monsters in there.

  b.#Don't go in there and there are monsters in there.

We would like to give one more reason to doubt the Type I analysis of e-IaDs. Turkish has conjunction in modal subordination exactly where English allows it as well:[18]

(52) kapıda   bir kurt olabilir   ve Allah korusun hepimiz yer
      door.loc a   wolf might.be and God   forbid   all.of.us eat.aor

      'A wolf might be at the door and God forbid it would eat all of us'

But as we've already pointed out, Turkish has no IaDs, not even e-IaDs, an absence that would be mysterious under the Type I analysis.

Our tentative conclusion is that all IaDs, even endorsing ones, which at first blush might have appeared as easy candidates for a Type I analysis, involve conditional conjunction, rather than having a true imperative speech act followed by modal subordination across *and*. In other words, we favor a Type II analysis for *all* IaDs.

It is time to end the excursus on e-IaDs and turn to n-IaDs which are more central to the main argument of this paper. We will return to the question of the nature of e-IaDs later on and discuss some challenges to the unified analysis of IaDs.

3.2 n-IaDs

Non-endorsing IaDs such as the ones in (53) more or less clearly do not come with any endorsement of the prejacent of the imperative by the speaker:

(53) a. Open the paper and you will find 5 mistakes on every page.

      b. Ignore your homework and you will fail this class.

Instead, the most promising idea about n-IaDs is that they convey a purely conditional proposition, that is, what we called the Type II analysis earlier. So, n-IaDs would be an instance of a more general phenomenon: that some conjunctions have a conditional interpretation. The most famous investigation of these constructions is the one in Culicover & Jackendoff 1997. A few canonical examples:

(54) Louie sees you with the loot and he puts out a contract on you.

(55) You drink one more beer and I'm out of here.

(56) One more beer and I'm out of here.

Conditional conjunctions are attested cross-linguistically. Here are some examples from the same languages we showed earlier as possessing IaDs: Greek, Palestinian Arabic, French, and Albanian.

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18 Speakers tell us that "Allah korusun" is necessary in (i). We do not know why this is but it is irrelevant for our main point because the addition of this string to an (n-)IaD does not improve it.

(57) O   skilos mu akui keravnus ke krivete kato apo to trapezi
     the dog   my hears thunder and hides under   the table

     'My dog hears thunder and hides under the table'   (Greek)

(58) Ena lathos   akoma ke tha se   apoliso
     One mistake more   and will you fire

     'One more mistake and I will fire you'   (Greek)

(59) Bet-talla'   fee-ha w   be-hmarr   wejh-o
     b-look.3sgm in-her and b-redden3sgm face-his

     'He looks at her and his face reddens'   (Palestinian Arabic)

(60) Kamaan ghaltah w   betorr-o-ok
     Another mistake and b-fire.3-pl-you

     'Another mistake and they'll fire you'   (Palestinian Arabic)

(61) il voit son patron et   il s'enerve
     he sees his boss   and he gets nervous

     'He sees his boss and he gets nervous'   (French)

(62) une biere de plus et   nous vous expulserons
     one beer more   and we   you fire

     'One more beer and we will fire you'   (French)

(63) Mesuesi e-cl shikon   dhe ai fshihet nen   tavoline
     The teacher looks at him and he hides   under table-the

     'The teacher looks at him and he hides under the table'   (Albanian)

(64) nje gabim   dhe do te te pushoj (nga   puna)
     one mistake and fut you fire   (from work)

     'One mistake and I will fire you'   (Albanian)

Recall that Turkish does not have IaDs. It turns out that Turkish does not allow
conditional conjunctions either:

(65) *kadIn-lar-a   gülümse-me -si   yeter   ve hemen
     woman-pl-dat smile   -'ing'-3.sg.poss sufficient and immediately
        kendisin   -e tut   -ul   -ur- lar
        he (logophoric pronoun, 3.sg) -dat capture -(impers.) pass -aor -3.pl.

     int.: 'It's enough for him to smile at women and they immediately fall for
     him'

(66) ??/*Bir hata   daha ve sen   -i iS   -in   -den at
         one mistake more and you (sg.) -acc work -2.sg.poss -abl. throw
           -ar -Im
           -aor. -1.sg

     int.: 'one more mistake and I'll fire you from your job'

Since Turkish has imperatives, the fact that it lacks a conditional conjunction suffices
to explain the absence of IaDs, if such a conjunction is necessary for the formation
of IaDs. But we also have an argument for the unified analysis of IaDs: Turkish
(and Bangla, Hindi, Persian) lack both types of IaDs. If conditional conjunction was
necessary only for n-IaDs and e-IaDs were derived via a Type I analysis, we would
expect Turkish to lack n-IaDs but to have e-IaDs, contrary to fact. Obviously, we
would like to know why Turkish does not have conditional conjunction but we have
nothing to say here about that particular puzzle.

    Another reason to believe that IaDs are an instance of conditional conjunction is
that they show several of the properties identified with this phenomenon in Culicover
& Jackendoff 1997. For example, conditional conjunction permits inverse binding,
something that is not otherwise permitted in garden-variety conjunctions:

(67) a. You give him enough opportunity and every senator, no matter how
          honest, will succumb to corruption.   [C& J's (23a)]

      b. *We gave him enough opportunity and every senator, no matter how
          honest, succumbed to corruption.   [C& J's (23d)]

Inverse binding is also possible in IaD of both types:

(68) a. Give him enough opportunity and every senator, no matter how honest,
          will succumb to corruption.

      b. Ignore him and every senator, no matter how senior, will feel insulted

    Let us foreshadow the plot: at least n-IaDs, but maybe all IaDs, are conditional
conjunctions (CCs). We will rehearse some basic facts about CCs and sketch two
possible kinds of analyses. Either of these analyses can be applied to IaDs, but only

if there is no modal in the first conjunct, that is if (and only if) imperatives have a minimal, non-modal semantics; QED.

3.3 Approaching CCs

Conditional conjunctions show some of the same kinds of meanings that ordinary conditionals have. For example, run-of-the-mill indicative conditionals, with appropriate tense/aspect relations, can be read as being about one particular situation or about a multi-case regularity (an ambiguity called "one case" vs "multi-case" by Kadmon 1987):

(69)   If John leaves his house before doing his homework, he's grounded.

(69) is ambiguous between a reading where it makes a claim about one specific time (such as tonight) and a reading where it states a family policy that applies more broadly. A conditional conjunction variant shows the same ambiguity:

(70)   John leaves his house before doing his homework, and he's grounded.

Conditional conjunction can also give rise to counterfactual readings but only in a special case:

(71)   a.   One more beer and I would have fired you.

      b. * You had drunk one more beer and I would have fired you.

      c. * Drink one more beer and I would have fired you.

Three readings that ordinary conditionals allow are not possible with CCs: there are no epistemic CCs, no factual CCs, and no biscuit CCs[19]:

(72)   John is not here and he's at home.
      ≠ If John is not here, he's at home.

(73)   ?? You're so smart and you should do it yourself.
      ≠ If you're so smart, you should do it yourself.

(74)   !! You're hungry and there's biscuits on the sideboard.
      ≠ If you're hungry, there's biscuits on the sideboard.

As we canvas possible analyses of conditional conjunctions, we will want to keep in mind the limited set of conditional meanings that can be expressed by CCs and the cross-linguistic distribution (most languages in our sample have CCs but some, Turkish etc., do not).

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19 Proposals like the one in Franke 2009 that derive biscuit readings pragmatically from ordinary conditional meanings may have a problem here. Or maybe this shows that conditional conjunction encodes more "true conditionality" than conditionals of the form *if p, q*.

There are two main kinds of approaches to CCs: (i) positing a special meaning for *and* in CCs, (ii) a modal/conditional operator scoping over standard conjunction together with a method for taking the first conjunct to be the restriction of the operator. The first approach is exemplified by Culicover & Jackendoff 1997 and by Klinedinst & Rothschild 2012, while the second approach is advocated by Keshet 2012.

Culicover & Jackendoff (1997) argue that the conjunction *and* is transformed at a representational level they call "Conceptual Structure" into a left-subordinating conditional connective $_{LS}and$, whose semantics is basically the same as *if*. Klinedinst & Rothschild (2012), in effect, try to develop a less stipulative, but still lexicalized meaning for $_{LS}and$. Their special conjunction is like regular *and* in that the first conjunct dynamically updates a modal parameter that the second conjunct can be relative to (something very much like modal subordination), but unlike regular conjunction in that its first conjunct is not asserted/entailed. For bare CCs, they need to posit a covert modal in the second conjunct (a move known from Kratzer's work on conditionals, cf. Kratzer 1986).

Keshet 2012 argues that conditional conjunction is a case of internal partition. A modal takes wide scope over standard conjunction. Focus structure determines that the first conjunct restricts the modal and that the second conjunct becomes the "consequent". Consider the following CC:

(75)   You come on time and you get a good seat.

As we discussed, such examples are often ambiguous between a one-case reading and a multi-case reading. Keshet posits that (75) can either have a covert *FUT* operator (for the one-case reading) or a covert *GEN*-operator. In either case, the first conjunct is deaccented, signaled as given, and thus is interpreted as the restrictor of the *FUT/GEN* operator. The second conjunct is focused and thus is interpreted as the nuclear scope/consequent of the operator. Such a focus-driven partition process is well-known (Rooth 1985):

(76)   [MARY]$_F$ usually takes John to the movies.   [R's (3c), p.165]
       = Most times of someone taking John to the movies are ones where Mary does so.

(77)   Mary usually takes [JOHN]$_F$ to the movies.   [R's (3d), p.165]
       = Most times after Mary taking someone to the movies are ones where she takes John.

Keshet notes that sometimes operators from the second conjunct can take wide scope and supplant the *FUT/GEN* operators:

(78) You come on time and you sometimes get a good seat.

(79) You work hard for the next month and you might get a raise.

On the whole we think that Keshet's approach should be considered the null hypothesis on how CCs work. That said, we have some worries that may in the end argue for some version of the $_{LS}and$ story. Independent evidence for the covert *FUT* operator is a bit slim. Certainly an example with narrow focus but no conjunction cannot get a conditional reading (but presumably should if *FUT* exists):

(80) You get a GOOD seat.
  $\neq$ If you get a seat, you'll get a GOOD seat.

Note that, in this sense, the putative covert *FUT*, and overt *will*, differ from overt *would*:

(81) a. You get a GOOD seat. (no conditional reading)

  b. You will get a GOOD seat. (no conditional reading)

  c. You would get a GOOD seat. (conditional reading)

Only the example with *would* has a conditional reading ("if you tried to get a seat, you would get a GOOD seat").

So, one might consider an elaboration of the $_{LS}and$ story to be more promising. Either story has many puzzles to address, and we will not make a choice here. Luckily, there's a clear lesson for the analysis of IaDs even without making a choice.

3.4 Back to IaDs

There are two properties of CCs that are of particular interest when we think about how to analyze IaDs (especially n-IaDs, but also e-IaDs if we're right that the Type I story for those is in trouble). The first property that is relevant is that CCs do not allow modals in their first conjunct to be the main operator. As we saw when we discussed Keshet's work, there is either a covert modal or an operator from the second conjunct. Consider for example:

(82) You should forget to call your mother and you (will) apologize.

This does not give rise to a sensible reading like "If you forget to call your mother, you should apologize", indicating that the *should* modal in the first conjunct can't act to create a deontic conditional. At most, a deontic modal in the first conjunct of a CC can be interpreted as part of the antecedent proposition:

(83) John has to take out the garbage and he complains endlessly.

(83) has a CC reading (in addition to a regular conjunction reading) that expresses the same as "if John has to take out the garbage, he complains endlessly".

The fact that imperatives can appear in the first conjunct of a CC without their putative modal force being present in the antecedent of the conditional meaning, while overt modals *must* contribute their modal force to the antecedent constitutes a serious problem for any analysis of imperatives that assigns them anything stronger than a minimal, non-modal semantics.[20]

The second property of CCs that is of relevance to IaDs is that CCs, for some reason, can have very minimal first conjuncts, famously the *one more*-phrases known from Culicover 1972:

(84) One more missed homework and you will fail this class.

So, under the minimal, non-modal semantics for imperatives, it is no surprise that imperatives can serve as the first conjunct of CCs:

(85) Ignore your homework and you will fail this class.

We should note that Russell 2007 tries to isolate the semantics of imperatives from the impact of n-IaDs by arguing that they do not in fact contain imperatives but some other kind of minimal (but crucially non-modal) verb form.[21] This possibility arises for English because imperatives are not morphologically distinguishable from bare infinitives. The critical issue with this idea is that IaDs are widely attested and are perfectly happy in languages with unambiguously imperatives in the first conjunct. This point was made many years before Russell by Grand Old Master Jespersen (1924):

> "As the imperative has no particular ending in English, one might perhaps feel inclined to think that these sentences contained infinitives (though how used?). Parallel uses in other languages show us, however, clearly that they contain imperatives."

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20 A fortiori, under Kaufmann's (2012) proposal, we would expect the performativity-inducing presuppositions to be triggered in the antecedent and then to project like presupposition from a conditional antecedent usually do. This is not good news, because there's no hint of performativity in n-IaDs.

21 This is reminiscent of what Bolinger (1977) wrote about IaDs such as (i):

(i) ([If] you) tell him anything, (and) he just looks at you blankly.
   "there has been an aphesis of the initial *if* or *if you*, which produces something with all the appearance of an imperative *and*"

We submit then that IaDs, and especially n-IaDs, give a compelling argument for a minimal, non-modal semantics for imperatives.

3.5   Some cross-linguistic explorations

We already mentioned that in addition to morpho-syntactic imperatives, many languages employ other verb forms to convey directive force. We often find infinitives or subjunctives used this way and there are others as well (participles, futures). We have conducted a survey of the languages spoken around the Mediterranean asking two questions about such forms: (i) Do they have acquiescence readings in addittition to stronger directive meanings (commands) or are they restricted to the latter only? (ii) Can they occur in the first conjunct of IaD-like conditional conjunctions? If so, can they give rise to both endorsing and non-endorsing readings?

What we found were forms that can only be used with command-like force and forms that can in addition have acquiescence meanings. We have found forms that can be used in IaDs and forms that cannot be used in IaDs.[22] An exceptionless generalization emerged:

(86)   Any form that can be used in IaDs can also be used with an acquiescence reading.

In other words: no directive that can occur in the first conjunct of IaDs is unambiguously strong. We take this to be clear evidence that it is correct to link the appearance of imperatives in IaDs with their possibility of expressing acquiescence meanings. And we conclude that adopting a minimal, non-modal semantics for such forms is the best way to explain the link.

Let us illustrate our findings with Hebrew. Hebrew uses both infinitives and futures to express imperative-like meanings. As we saw earlier, the infinitive can only be used with command-like force, while the future can be used both to express commands and to convey acquiescence. When we look at IaDs, we find that the future can be used in all IaDs, including n-IaDs:

(87)   ti-ftax   ?iton   ve-(ata)   ti-mca   xamesh
       FUT.2-open(sg.M) newspaper and-you(sg.M) FUT.2-find(sg.M) five

       ta?uy-ot   o yoter
       mistake-PL.F or more

       'Open the newspaper and you will find five or more mistakes'

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22 Strictly speaking, from this point on, "IaD" is used for "Imperative-like form and Declarative", since we're looking at forms that are not actually the imperative but are imperative-like in their relevant uses.

The infinitive, on the other hand, cannot occur in IaDs, not even e-IaDs, where the Type I analysis would have expected a strong directive to be able to occur:

(88) *la-shevet be-sheket ve-(ata)   te-kabel   pras
     INF-sit   in-quiet   and-you(sg.M) FUT.2-receive(sg.M) prize

Attempted: 'Sit quietly and you will get a prize'

Here is a quick summary of specific findings:

- One pattern is for imperative-like forms to have variable force, including acquiescence readings, and to be able to appear in the first conjuncts of IaDs. This is true of *all* imperatives (except in Turkish-type languages which do not have CCs at all). It is also true of the Hebrew future, negated infinitives in Italian, Croatian, Serbian, and the subjunctive in Albanian.

- What is not attested at all is a form that can *only* express command-like force but can occur in IaDs.

- Several forms (Hebrew infinitive, Catalan infinitive, Slovenian subjunctive) can express commands but cannot express acquiescence and cannot occur in IaDs.

One might suspect at this point that the possibility to be the first conjunct of an IaD and the possibility for an acquiescence reading are biconditionally related. But this is not so; (86) is not a biconditional. If a form (infinitive, subjunctive, imperative) can appear in IaDs, it indeed also has an acquiescence reading. But we have found that the reverse is not true: there are languages which have non-imperative forms with acquiescence readings but which cannot form the equivalent of IaDs. Let us illustrate.

Palestinian Arabic does not have negative imperatives. But there is a directive form that can be negated: the present imperfective and this form can be used as command or acquiescence:

(89) tkassel-sh
      laze.2sgm-neg

      'don't be lazy'

However, even though the form can be used as acquiescence, it cannot form IaDs:[23]

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23 This is different from Moroccan Arabic, where our speaker can have IaDs of both types with the negated present imperfective:

(90) *tkassel-sh   w   b-tenjah
     laze.2sgm-neg and b-succeed.2sgm

     'Don't be lazy and you will succeed'

(91) *esma'-sh   en-naseeha w   b-torsob
     listen2sgm-neg the-advice   and b-fail.2sgm

     'Don't listen to advice and you will fail'

Catalan provides a counterexample to the bi-directionaliy as well. It does not have negated imperatives but instead uses the subjunctive, which can be used as command or acquiescence:

(92)   No dormis!
      Not sleep-subj

      'Don't sleep!'

Our Catalan speakers are able to use the imperative substitute in e-IaDs but not in n-IaDs:[24]

(93)   No vagis a fisioteràpia i t'estalviaràs diners
      'don't go to physiotherapy and you will save money'

(94)   ??/*No vagis a fisioteràpia i et quedaràs coix
        'don't go to physiotherapy and you will stay crippled'

In other words, the following sentence is good only as long as you want Peter to win. If you want him to loose, it is not:

(i) ma   t-akul   shi
    Neg you-eat.IMP Neg

    'Don't eat!'

(ii) ma t-kasl   shi w   gha t-njaH
    Neg you-be.lazy Neg and will you-succeed

    'Don't be lazy and you will succeed'

(iii) ma   t-qra   shi w   gha t-sqT
     Neg you-study.IMP Neg and will you-fail

     'Don't study and you will fail'

24 Greek subjunctive na-clauses show a similar pattern.

(95) No treguis la reina de cors i guanyarà en Perex
       'don't throw the queen of hearts and Pere will win'

We do not know what this contrast is due to but since it appears in the domain of the negated substitute and not the imperative as such, we will risk staying away from it for now. The larger point is that while having an acquiescence reading is a necessary condition for a verb form to appear in an IaD, it is not sufficient.

Again, our tentative conclusion from this survey is that the source of acquiescence readings and the ability to occur in IaDs is the same: a minimal, non-modal semantics.

4 What now: Conclusion and open ends

4.1 Conclusion

Exloring acquiescence and indifference uses of imperatives and the appearance of imperatives in the first conjunct in conditional conjunctions (IaDs) has led us to the conclusion that imperatives have a minimal, non-modal semantics à la Hausser and Portner. There are many remaining tasks on our to do list, the first one of which is to understand the acquiescence readings themselves. We have said that we follow Hausser and Portner in endowing imperative forms with a minimal semantics but we found Portner's derivation of the acquiescence readings problematic. In the upcoming section, we first comment on what one might do to derive the weak readings. After that, we go through some other remaining questions, including some rather recalcitrant facts.

4.2 Open ends

Capturing weak readings   The fact that imperatives appear in the antecedent of non-endorsing IaDs, to us, provides strong support for a non-modal semantics for imperatives, such as the one developed by Portner. The fact that imperatives have weak uses, to us, means that Portner's dynamic pragmatics needs to be modulated (Portner's own proposal for dealing with the weak uses was critically discussed above). The basic insight we would like to develop is that we need to take the "proposal" aspect of contextual update moves seriously.[25] The idea is that the core of imperative pragmatics is that the addressee-restricted property that the imperative denotes is put on the table as a *possible* addition to the addressee's TDL. How strongly the speaker endorses this addition is variable. Surely, strong speaker

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25 As Condoravdi & Lauer (2012) point out, there are precedents to this idea in C. Davis 2011, pp. 151, 154 and Farkas 2011.

endorsement is the default, but weaker levels of endorsement all the way down to begrudging acquiescence are possible in the right circumstances.

We would like to point out that the level of speaker endorsement doesn't just appear to be variable in the case of imperatives. Low endorsement assertions can be signaled by intonation and/or tags as investigated by Malamud & Stephenson (2015), and presumably by other means as well:

(96) He's home?

(97) He's home, isn't he?

There are low endorsement questions as well, questions where the speaker is indicating a low level of urgency for having the question be on the question stack. Consider the "conjectural questions" attested in Romanian (cf. also Greek *araye*):

(98) Oare Petru a sosit deja?
     oare Peter has arrived already

'Has Peter arrived already?'

Farkas & Bruce 2010 write that this Romanian question "indicates that settling the issue is not necessarily a projected conversational future and therefore that answering the question is optional".

The idea, then, is that any of these core speech moves — assertion, question, imperative — by default carries full speaker endorsement: an assertion commits the speaker to the proposition asserted, a question means that the speaker wants the conversation to address this question now, and an imperative means that the speaker wants the addressee to add the prejacent to their TDL. But in the right circumstances and perhaps depending on linguistic clues, any of these speech moves can have weaker speaker endorsement levels: an assertion may just float a proposition, without much or any indication that the speaker believes it, and expect the hearer to decide whether it should be added to the common ground; a question may just be put in the room without any urge to put it on the top of the question-under-discussion stack; and an imperative may just be put out there without speaker endorsement, leaving it fully to the addressee whether to add it to their TDL. We submit that the latter corresponds to acquiescence and indifference uses.

Beyond this suggestion, what would be needed to turn this into a full account of weak uses of imperatives (and ideally, the other speech moves)? The first order of business will be to specify a model of conversational dynamics that makes endorsement levels explicit. Then, we'd have to talk about compositionally interpreted expressions that manipulate endorsement levels. Finally, we'd have to put in place a mechanism to ensure that the default level of endorsement is at the strong end of the scale.

The first task is addressed by Malamud & Stephenson (2015), who build on the very influential discourse model by Farkas & Bruce (2010). According to the latter, a discourse move puts an object on "the table", records speaker commitment, and projects the future of the conversation. An assertion, for example, puts a proposition on the table, commits the speaker to the truth of the proposition, and projects that the common ground will become one where the proposition is taken for granted. To model lower levels of speaker commitment, Malamud & Stephenson (2015) add additional elements (projected speaker and hearer commitments) and allow the speaker to put an object on the table without committing themselves to that object. This is a rich model, which therefore may be rich enough to model weak commitments to imperatives when married with Portner's TDL system.

The second task, a compositional semantics for speech act weakening expressions, is something that has not yet been worked out. The systems devised by Farkas & Bruce (2010) and Malamud & Stephenson (2015) are not compositionally grounded (as they freely admit). We will not attempt here to embark on such a project.

Finally, in the absence of weakening markers, imperatives, like the other speech moves, are perceived to come with full speaker endorsement. How can that be captured? Much of the answer will of course depend on the specifics of the solutions to the first two problems. But we would like to suggest that there may be a general principle at work:[26]

(99) Default Strength of Speech Acts
      When a speaker utters a sentence α, this is understood with the highest level of speaker endorsement compatible with the context and any strength/weakness markers in the sentence.

One might see this principle as related to the Strongest Meaning Hypothesis, Maximize Presupposition, and other strength-related pragmatic generalizations.

But, one might object: just because we weaken the force of speaker endorsement of an addition to the hearer's TDL, that doesn't really seem to capture acquiescence. If the hearer does decide to add the imperative property to their TDL, doesn't Portner's system now predict that the hearer is *obligated* to make that property true? And isn't that far too strong a prediction: after all, doesn't it seem like the hearer still has full choice whether to act on the imperative, even if they accept the speaker's acquiescence? This worry isn't unique to acquiescence uses, but also arises with other uses of imperatives: an advice imperative doesn't seem to result in an obligation to follow the advice. Portner is well aware of this and what he says in Portner 2007 about advice uses (and others; but not for permission uses, where, as

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26 This principle is modelled after the principle called "Contextually Determined Speech Act Force", proposed in von Fintel 2003 for the special case of possibly epistemically weakened assertions.

discussed earlier, he proposes a different approach) can be adapted here to cover acquiescence as well. First, we should be clear about what the "to do" in TDL means: when a property is on somebody's TDL they are committed to making it true of themselves (officially: the participants in the conversation take it for granted that the individual will only be considered rational and cooperative if they endeavor to make the property true). This is not quite the same as an obligation. But still, a commitment taken on because you were commanded to is different from a commitment taken on because you got useful advice from an expert. If you don't follow through on a commitment from a command you will be looked upon much more severely than if you don't follow through on advice; let alone, if you don't follow through on a commitment freely chosen when a speaker signaled acquiescence. Portner models this by implementing a system where a TDL has "sections", subsets of properties that were put on the TDL in different ways: a command section, an advice section, and so on[27]. Without fully advocating a wholesale adoption of this system, we do think that something along these lines may prove necessary. If this is so, then we don't see an issue with allowing a section on the TDL that contains commitments taken on freely by the individual.[28] So, a speaker who signals low endorsement levels conveys to the hearer that they can freely choose to add the imperative's prejacent to their TDL. And, the discourse model keeps track of the fact that, if added to the TDL, the addition was of the hearer's own choosing. This can cover both acquiescence and indifference.

We might also point out that keeping track of the provenance of items on the TDL seems quite parallel to the fact that we may need to keep track of the provenance of items in the common ground: some propositions are in the common ground because the participants in the conversation have very reliable first hand evidence for them and others are there because of much weaker evidential support. This will have consequences for when we discover new facts that conflict with what's being taken for granted; some propositions are easier to give up than others. In the case of the TDL, all items on it are actions the hearer has committed to, but the ones that were put there because of a strongly endorsed imperative from an authoritative source are much harder to reneg on/remove from the TDL than ones that the hearer freely chose to put on the TDL (perhaps with the license that came from a low endorsement imperative).

We realize that we have only given the bare outlines of a full account of weak uses of imperatives. What we hope to have done is convince the reader of the

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27 Though, not a "permission" section, to be clear.

28 In fact, our real-life daily to do lists have exactly that character: they may contain items like "file tax return", which are full-blown obligations and come with severe sanctions if not made good on, and items like "watch Mad Men", which are freely put there as reminders of our evening plans, but where there are little or no sanctions if we don't make them true.

plausibility, if not necessity, of such an account (that is, that previous accounts have not successfully captured weak uses) and lay out one possible avenue of further research. What follows are other open ends that call out for further work.

Understanding CCs   We need to make a decision on the best analysis of conditional conjunction, adjudicating between the $_{LS}and$ approach and Keshet's approach, or finding a third way. In addition, we need to understand why certain languages, like Turkish and Persian, lack conditional conjunction.

Intrinsic Consequence   A challenge for any theory of CCs and also IaDs is a fact pointed out by Bolinger (1967), namely that the second conjunct must be an intrinsic consequence of the first conjunct. Here are some examples from Bolinger, involving statives, that illustrate this fact:

(100)   a.   Like her and her friends will love you.

  b. *Like her and I'll introduce her to you.

(101)   a.   Own a piece of property and you get taxed mercilessly.

  b. *Own this property and I'll buy it from you

(102)   a.   Understand Chinese and you can get any of these jobs.

  b. *Understand Chinese and I need you for a teacher.

We do not know what this pattern is due to.

Sufficiency CCs   We have seen that modals cannot appear in the first conjunct of a conditional conjunction. Yet there is a counterexample to this generalization: the case of sufficiency conditional conjunction, illustrated in the following examples:

(103)   a.   You $\left\{\begin{array}{c}\text{only}\\\text{just}\end{array}\right\}$ have to look at him and he shies away in fear.

  b. $=$ If you $\left\{\begin{array}{c}\text{only}\\\text{just}\end{array}\right\}$ look at him, he shies away in fear.

  c. $\neq$ If you $\left\{\begin{array}{c}\text{only}\\\text{just}\end{array}\right\}$ have to look at him, he shies away in fear.

The example in (103a) is special among CCs in that it contains a modal (specifically the sufficiency modal construction studied in von Fintel & Iatridou 2007) that does not contribute to the antecedent proposition. (103a) is synonymous with (103b) and not with (103c). In other words, the paradigm in (103) shows that it is not the case that the first conjunct of a conditional conjunction has the exact same possibilities as

31

the antecedent of the "equivalent" conditional of the *if p, q* form. We feel that fully understanding this construction would help us enormously with understanding how CCs work. Alas, we are not even close to reaching that goal.

Challenges to a unified approach of IaDs   While we are generally optimistic about a uniform Type II analysis for IaDs, which treats all of them as cases of conditional conjunction, there are also a few difficulties. One that we have already seen is the case of Catalan, which permits the formation of e-IaDs with a negated subjunctive, but not of n-IaDs. But there are other potential differences, involving not imperative substitutes but the imperative itself. Greek imperatives permit second person subjects[29]. In an e-IaD, the subject can be preverbal (as well as post-verbal), in an n-IaD it must be postverbal[30]:

(104)   e-IaD

Esi kane ta   mathimata su   ke   ola tha pane kale
You do   the lessons   your and all will go   well

(105)   n-IaD

a.??Esi fae   ena apo   afta   ke   tha pethanis mesa se 24 ores
    You Eat.IMP   one from these and FUT die   within   24 hours

b. fae   esi ena apo   afta   ke   tha pethanis mesa se 24 ores
    Eat.IMP   you one from these and FUT die   within   24 hours

Other differences between e-IaDs and n-IaDs were identified by Han 1998 and Russell 2007 and experimentally confirmed by Scontras & Gibson 2011: *do*-support and overt imperative subjects favor e-IaD interpretations. Since we do not think that there are two different structures for e-IaDs and n-IaDs, we need to provide some other foothold for markers that favor an endorsing reading. The obvious thought would be that some of these markers are conventional indicators of speaker endorsement, somewhat like a hidden way of adding an appositive remark:

(106)   If you invest in this company, which I strongly advise, you will become rich.

We have no worked out analysis along these lines (plus, it's not clear how this might extend to the effect of having an overt subject).

Embeddability of IaDs   Since n-IaDs, and possibly e-IaDs as well, express conditional propositions and do not seem to encode any speech act other than assertion,

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29 Greek, in fact, permits *only* second person subjects, unlike English, which permits third person as well.

30 Bulgarian shows the same phenomenon, Roumi Pancheva p.c.

one would think that IaDs can be embedded wherever proposition-expressing constructions can be embedded. But while CCs in general can be embedded more or less felicitously, IaDs cannot:

(107)   He doesn't believe that you look at him and he shies under the table.

(108)   a. *He doesn't believe that ignore your homework and you will fail.

      b. *He doesn't believe that study and you will succeed.

IaDs have the embeddability properties of imperative forms, in that they can't be embedded in most places but can be embedded where imperatives can (see Crnič & Trinh 2008, 2009, for discussion of the embeddability of imperatives):

(109)   a.   John said call him.

      b.   John said ignore him and you will regret it.

      c.   John said talk to him and everything will be fine.

We do not have a thoroughly worked out explanation for this but this pattern is reminiscent of a phenomenon described in Gazdar et al. 1985 and Progovac 1998, in which we see that it is the first conjunct that satisfies the subcategorization requirements of the higher verb. The verb *depend on* subcategorizes for a DP and cannot take a CP as complement. When a DP and a CP are conjoined, that conjunction will do as a complement of *depend on* but only if the DP is the first conjunct:

(110)   a.   You can depend on my assistant

      b. *You can depend on that he will be on time.

      c.   You can depend on my assistant and that he will be on time.

      d. *You can depend on that my assistant will be on time and his intelligence.

It is possible then, that the contrast beween (108) and (109b,c) is due to the imperative, as the first conjunct, being visible to the subcategorization needs of the higher verb in a manner that is general for conjunctions at large. This visibility creates a problem for (108) but is fine in (109b,c) since this verb can embed imperatives, as is independently attested in (109a).

Rejections and tags   Intriguingly, when one adds tags to imperatives, they use the future form *will*:

(111) a. Take out the garbage, will you?

b. Take out the garbage, won't you?

There were early proposals that took this data point to argue for an analysis of imperatives that had an underlying future morpheme (see especially Katz & Postal 1964, pp. 74–79; and see Arbini 1969 and Huddleston 1970 for early follow-ups). One might also point out that the most idiomatic way of rejecting an imperatives seems to involve *will*:

(112) A: Take out the garbage!

B: No, I won't do that.

Half of the authors think that this connection between imperatives and the future might motivate a rethinking of the nature of the TDL and replacing it with some kind of more future-oriented discourse component, rather than a list of straightout obligations. The other half doesn't quite know what to make of this.

Imperatives and negation   The position that an imperative verb form does not contain a command or force operator raises problems that one might have considered solved and that will now have to be re-investigated. There are languages that do not have "true" negative imperatives. This means that in the presence of negation, the verb form must be taken from a non-imperative directive paradigm, typically an infinitive or a subjunctive, like, for example, in Greek:

(113) a. *mi   dhiavase   to
          NEG   read.IMP   it

b.   mi   to dhiavasis!
     NEG   it   read.SUBJ

'Don't read it!'

The explanation of Han 2001 and Zeijlstra 2013 of this phenomenon crucially relies on the syntactic presence of a force operator. They argue that the syntax of languages like Greek is such that the force operator would end up in the scope of negation, and this is not a licit configuration. If there is no force operator in the syntax, we obviously need a different explanation for (113a,b).

Conditional imperatives   One prima facie suggestive reason to think that imperatives have a modal meaning is that there are conditional imperatives:

(114)   If he calls, tell him I'm not here!

Assuming the restrictor theory of conditionals, the easiest way to understand (114) is to say that the *if*-clause restricts the imperative modal. If imperatives have a minimal, non-modal semantics, we need a different analysis of conditional imperatives. We do not have one at the moment.

4.3 One last summary

Imperative have a minimal, non-modal semantics. Imperatives have variable pragmatic force (but so do the other major speech moves).

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