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Express Workshop on Non-Assertoric Speech Acts

Imperatives in a dynamic pragmatics

I offer a semantics and pragmatics for imperatives, developed in the framework of a dynamic pragmatics in the vein of Portner (2004, 2018, 2018b) and Roberts (1996/2012, 2012b, 2018).

Outline: 1.   Desiderata for a theory of imperative mood
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1.   **Desiderata for a theory of imperative mood**

The literature makes evident a number of important properties of imperative clauses. They:
a) typically have no subject (a strong cross-linguistic tendency), though they may appear to:[1]
      (1) Eat your soup!
      (2) Johnny eat your soup!
      (3) Somebody help me up!
    I'll call the entity, typically an agent (but see (6) below), to whom an imperative is directed the **target** of the imperative. Note that (3) shows that the target needn't be specific.
b) display evidence of tense and aspect, but always pertain to a present or future time:
      (4) Please have this done by the time I get back.
      (5) [In the short story "The lady or the tiger", a captive must choose one of two doors, knowing that behind one is a beautiful lady, behind the other a vicious tiger. He prays silently before opening one of the doors:]
           Be the lady!   [Carl Pollard, p.c.]
      (6) [speaker is unexpectedly taking a friend home for coffee, can't remember what shape the house was in when she left. Silently to herself:]
           Please don't be a mess!
      (7) a) Vote tomorrow!
           b) #Please vote by last night!
    Several authors (including Katz & Postal 1964:74-79, Arbini 1969, Huddleston 1970) have noted that when a tag is added to an English imperative, one uses the future form *will*. And von Fintel & Iatridou (2017) note that in rejecting an imperative, one also uses futurate *will*, as illustrated in their examples:
      (8) a) Take out the garbage, will you?
           b) Take out the garbage, won't you?
           c) A: Take out the garbage!
               B: No, I won't.

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[1] Apparent subjects are actually used to indicate who the intended addressee is, as in (2), where the lack of agreement in person between *Johnny* and *your* is one sign of the former's non-subjecthood. When quantificational, the DP indicates the proportion of the interlocutors to whom the speaker addresses the relevant instruction, as in (3), (i) (again displaying failure to agree with *your*), and (ii) (indicating that none of the interlocutors is advised or given permission to move, depending on the relative power status of the interlocutors):
(i) Everybody get your math book out!
(ii) Nobody move! (Veltman 2009)

c) may occur embedded. In English this is only as the complement of a verb of saying, and only as directed to the actual addressee:

    (9) John$_i$ said eat his$_i$ share of the chicken. He won't get home til late.

In (9) the third person *his*, coreferential with the subject *John*, precludes a direct quotation interpretation. In some languages, complement imperatives may have a shifted target, not the actual addressee but the agent of the embedding attitude (Zanutinni et al. 2012).

d) may be explicitly or implicitly conditional:

    (10)   If you're hungry, have some cheese and crackers.

    (11)   [Army combat instructor to students:]
             Before you walk into an area where there are lots of high trees, if there might be snipers hiding in the branches, use your flamethrowers to clear away the foliage. [after von Fintel & Iatridou 2003]

    (12)   [two crooks planning a robbery:]
             A: What should I do if the cops arrive?
             B: Start shooting.
               modal subordination interpretation: 'if the cops arrive, start shooting'

e) display a range of flavors, with two main types (Kaufmann's 2012 terminology):

Practical: something the target can do. Only felicitous if so far as the speaker believes it's possible for the target to realize the property denoted by the VP. The many sub-types include:

    <u>commands and prohibitions</u>

    (13)   [Boss to tardy employee:] Tomorrow get to work on time!

    (14)   And don't dawdle!

    <u>permission</u>

    (15)   Take your time!

    (16)   Have a cookie.

    <u>suggestion</u>

    (17)   [To a friend who's been ill:] See if you can take a day off to recuperate.

    <u>pleas</u>: see (3) above

    <u>advice</u>: speaker may be disinterested

    (18)   [Two friends chatting:]
             A: I'm worried that this contractor will put a lien on my property. But the guy's completely unreasonable. I can't talk to him.
             B: Hire an attorney.

    <u>instructions/directions</u>

    (19)   A: How do I get to Harlem?
            B: Take the A-train.

    (20)   To prepare an artichoke, pull out the central leaves and the fuzzy part down to the heart.

    <u>warnings</u>

    (21)   Be careful! There are sharks in the water!

    <u>concessives</u>

    (22)   OK, go to the silly party! See if I give a damn.

Expressive: nothing can be done; either the matter is already settled, or the target isn't in a position to do anything about it. Grounded in the wishes, desires, etc. of the speaker.

    <u>wishes</u>: see (5), (6) above.

    (23)   Enjoy the movie! (Kaufmann 2012)

f) are closely related to deontic modal statements, in that they:

- permit valid inference of their deontic modal counterparts, as in the following pairs:

    (24)   [father to son:] Finish your homework before you surf the web.
                      You must finish your homework before you surf the web.

    (25)   [to a friend in trouble:] Hire an attorney.
                      You should hire an attorney.

- display constraints on interpretation of sequences of imperatives parallel to those on sequences of modal statements (Portner 2007, his example in (26), modified (27)):
  - (26) a. Be there at least two hours early.
    - b. Then, have a bite to eat.   [odd as permission after the order in (a)]
  - (27) a. You must be there at least two hours early.
    - b. Then have a bite to eat at that cute little place on the corner. [odd as suggestion after the moral injunction in (a)]
- display similar performative constraints on follow-up to those displayed by *must* but not *should* (Ninan 2005, his examples):
  - (28)   You should go to confession, but you're not going to.
  - (29) #You must go to confession, but you're not going to.
  - (30) #Go to confession! You're not going to go to confession.
- display a **Deontic Moore's Paradox** (Charlow 2011:49; Kaufmann 2015, her examples (31) and (32)): Even if the speaker has no interest in realization of the prejacent, as with concessions or disinterested advice, they commit her to endorsing it in some fashion:
  - (31) #You should go to Paris, but in fact, I think it is not advisable.
  - (32) A: How do I get to Harlem?
    - B: Take the A-train. #But I don't want you to do this.
- display non-Boolean behavior with disjunction ("Free Choice disjunction"), in some sense entailing both disjuncts, a phenomenon parallel with the free choice permission displayed by deontic assertions. This is reflected in a puzzle due to Veltman (2009):
  - (33) Pay the bill online or take it to the gas company.
  - (34) You can pay online or at the gas company.

  If the gas company website gives the instruction in (33) or (34), but the actual bill tells us *Don't pay the bill online*, intuitively they have given contradictory information. But if disjunction were Boolean in these examples, we wouldn't take them to be contradictory: the customer would simply conclude that she should take the payment to the company. Cf. Ross's (1941) Paradox in imperative logic: disjunction introduction doesn't seem to be valid for imperatives, like deontics but unlike non-modal indicatives:
  - (35) a. Have an apple!   does not imply (35b)
    - b. Have an apple or a pear!
  - (36) a. You may have an apple.   does not imply (36b)
    - b. You may have an apple or a pear.
  - (37) a. Noah ate an apple.   implies (37b)
    - b. Noah ate an apple or a pear.

g) display non-Boolean behavior that differs from that of deontics: In addition to the Free Choice phenomena noted above in (f), embedded imperatives cannot occur under the scope (syntactic or semantic) of negation or in the antecedent of a conditional.

h) unlike assertions, are not felicitously subject to judgments of truth or falsity.
  - (38) A: How do I get to Harlem?
    - B: Take the A-train.
    - C: #That's false!
    - C′: No, take the number 37 bus.

  As a response to (38B), (38C) is infelicitous. The felicitous (38C′) is not a truth value judgment, but a rejection of B's directions, i.e. a correction of B's proposed answer to A's question.

i) cannot occur with evaluative sentential adverbials (39), unlike deontic modal statements (40) or performatives (41):
  - (39) #Unfortunately, go to bed!
  - (40) Unfortunately, you must go to bed!
  - (41) Unfortunately, I now pronounce you man and wife.

This observation was initially due to Gärtner (2015), who didn't restrict the constraint to the evaluatives. But Matt Moss (p.c.) pointed out the acceptability of the following:

(42)   [to a friend who's considering not taking his meds:] Obviously, take them!

Ernst (2000) classifies *obviously* as an evidential (epistemic modal) speaker-oriented adverb, whereas *unfortunately* in (39)-(41) is an evaluative speaker-oriented adverb. I find Ernst's other evidential adverbs to be acceptable with imperatives, as well: *clearly*, *plainly* can acceptably replace *obviously* in (42). Other evaluatives (*luckily*, *oddly*, *significantly*, *unbelievably*) and Ernst's discourse oriented adverbs (*frankly*, *honestly*) are, for me, as unacceptable as *unfortunately*. Hence, Gärtner's generalization seems a bit too broad. Nevertheless, all the evaluatives and discourse oriented adverbs are acceptable with deontic modal statements (the counterparts of (40)).

j)   presuppose an **Epistemic Uncertainty Condition** (Kaufmann 2012): So far as the speaker knows, there are some future courses of events where the imperative is realized by the target, and others where it is not.

k)   strongly tend, across languages, when occurring in root clause to be used with directive illocutionary force, just as indicative mood tends to be used to make assertions, interrogative to pose questions. This directive force has consequences for felicity, and leads to important differences from deontic modal statements, (f) above notwithstanding. Consider Portner's (2017) contrast (his (35)):

(43)   You should not park in the dry cleaner's lot, because you'll get a ticket if you do. So,…
   a.   do not park in the dry cleaner's lot!
   b.   ??you should not park in the dry cleaner's lot!

(43a) contributes new content to the interchange, while at best (43b) sounds redundant, and odd because *so* suggest that what follows will be an informative conclusion. I think this difference results in the following contrast:

(44)   You shouldn't park in the dry cleaner's lot, because you'll get a ticket if you do. But who cares—it's just a ticket and you're in hurry. So,…
   a.   park in the dry cleaner's lot!
   b.   #you should park in the dry cleaner's lot!

Again, the imperative in (44a) contributes advice to the targeted addressee; but (44b) sounds odd because once the deontic ordering source for *shouldn't* has been evoked for *shouldn't p*, it is a bit odd to ignore it completely in order to consistently conclude *should p*.

l)   may be disjoined with a declarative or interrogative, with an 'or else' implication:

(45)   a. Take a step to the left or you'll fall down the stairs.   [Kaufmann 2021]
         b. Take a step to the left, or do you want to stay out of the picture?

Note that in these examples, the imperative itself is not issued as a directive. Rather, it seems like the speaker is talking about a possible action that the addressee might choose to make, the second disjunct pertaining to the consequences of *not* so choosing.

2.   **Dynamic pragmatics**

An **utterance** is an ordered pair of a linguistic constituent and a context of utterance (Bar-Hillel 1971).

Semantics is the study of how the conventional proffered content of an expression, under a syntactic analysis, is compositionally derived. Semantics radically under-determines meaning.

Pragmatics is the study of how context comes to bear in interpretation, concurrently with the compositional calculation of conventional content.

Central tenets of my understanding of dynamic pragmatics:

I.   The universal functions of human linguistic discourse (the goals of the language game) are **to share information** and **to coordinate activity** using illocutionary acts. These functions are reflected in the scoreboard of the language game, where we keep track of the state of play: We track both shared information and the current goals and plans to which the interlocutors are publicly committed, both individually and collectively.

The **scoreboard K for a language game** is a tuple, $\langle I, G, M, <, CG, QUD \rangle$, where:
I is the set of interlocutors at t
M is the set of moves made by interlocutors up to t, with distinguished sub-sets:
    $A \subseteq M$, the set of assertions
    $Q \subseteq M$, the set of questions
    $S \subseteq M$, the set of suggestions
    $Acc \subseteq M$, the set of accepted moves
$<$ is a total order on M, the order of utterance
CG, the common ground, is the set of propositions treated as if true by all $i \in I$ at t
$QUD \subseteq Q \cap Acc$ is the ordered set of questions under discussion at t, such that for all $m \in M$ at t:
    a. for all $q \in Q \cap Acc$, $q \in QUD(m)$ iff CG fails to entail an answer to q and q has not been determined to be practically unanswerable.
    b. QUD is (totally) ordered by $<$.
    c. for all q, q' $\in$ QUD, if q $<$ q', then the complete answer to q' contextually entails a partial answer to q.
and in addition:
    d. for all $Q \in QUD$ there is a $g \in G_{com}$ (see just below) such that g is the goal of answering Q, and
    e. for all $Q \in QUD$, it is not the case that CG entails an answer to Q
G is a set of sets of goals, intentions, and priorities in effect at t, such that
    for all $i \in I$, there is a (possibly empty) G_i which is the set of i's publicly evident prioritized desiderata, including those goals which i is publicly committed at t to trying to achieve; and
    $G = \{ G_i \mid i \in I \}$.
Moreover:
    for all $i \in I$, for all $g \in G_i$, g is a conditional goal, representing the intention to achieve the target goal should certain conditions be realized in the actual world.
and we can define:
    $G_{com} = \{g \mid \forall i \in I: g \in G_i\}$, the set of the interlocutors' common desiderata at t.
    $G_Q = \{g \in G_{com} \mid$ there is some $Q \in QUD$ and g is the goal of answering Q$\}$.
For all $i \in I$, if i is a sincere, competent and cooperative interlocutor in D, we can use G_Q to characterize two kinds of publicly evident desiderata and goals held by i (at time t):
Discourse Goals of i = G_Q
Domain Goals of i = $G_i \backslash G_Q$
$G_{com} \backslash G_Q$: the set of common Domain Goals of all the interlocutors

The discourse scoreboard is something to which all interlocutors are committed, so the presentation here constitutes a particular snapshot of their "commitment state". The individual commitments (e.g., to truth of particular propositions) are reflected in CG. Just as the present representation articulates the info in CG to draw out the interlocutors' domain and discourse goals G and QUD, one could articulate in such a way as to call out the commitments of individual interlocutors.

II. **Interpretation is the resolution of a simultaneous equation in multiple variables.**
The determination of the meaning of an expression uttered is often characterized solely in terms of its compositionally determined truth-conditional content, as given (say) by LF. But that is not the view reflected here. Rather, though we take that content to be the foundation of interpretation, an inviolable constraint on the reconstruction of the intended meaning, other concurrent constraints are equally essential. Call these latter, concurrent constraints, the **pragmatic constraints** on interpretation.

Here's a very general, powerful pragmatic constraint, a realization in this framework of Grice's Relation:

RELEVANCE: Since the QUD reflects the interlocutors' goals at any point in a discourse, in order for an utterance to be rationally cooperative it must address the QUD.

An utterance *m* **addresses a question** *q* iff *m* either contextually entails a partial answer to *q* (*m* is an assertion) or is part of a strategy to answer *q* (*m* is a question) or suggests an action to the addressee which, if carried out, might help to resolve *q* (*m* is a suggestion).

Arguably RELEVANCE is not an arbitrary stipulation here, an arbitrary rule of the game, but follows from the intentional character of the language game. The QUD is a distinguished subset of the interlocutors' goals and intentions, those immediate in the game itself. Holding a goal commits one to achieving it, and the one's immediate goals are those to be achieved first. Hence, if one is sincere in committing oneself to achieve the goals jointly established in the context, one is committed to addressing the QUD. This is what RELEVANCE captures.

RELEVANCE plays a central role in the resolution of ambiguity and anaphora, as well as ellipsis, in presupposition resolution and projection, in the determination of the scope of operators and their domain restriction, and, as Grice emphasized, in the generation of conversational implicatures. But it also plays a central role in the determination of the intended illocutionary force of an utterance: the way in which that illocutionary act is intended to affect the discourse scoreboard. So consider again (12) from above:

(12)   [two crooks planning a robbery:]
        A: What should I do if the cops arrive?
        B: Start shooting.
                modal subordination interpretation: 'if the cops arrive, start shooting'

B replies to A's question using an imperative clause, thereby issuing a Directive. But we don't understand B to direct A to start shooting in the present circumstance. Rather, we understand B's utterance to be intended to be relevant to A's question, and in order to make it relevant, we understand it as in the conditional paraphrase, borrowing the content of the *if*-clause from the question.

In contrast, consider (46) and (47):

(46)   A: What did John hear on Fox News?
        B: The Democrats have stolen the election—there's widespread fraud.
(47)   A: What are Mrs. Johnson's demands?
        B: Pay your rent by Monday, and keep your bicycle out of the hallway.

In neither the declarative (46B) nor the imperatives in (47B) does the content of the root clause uttered by itself constitute an assertion or a directive, though in other contexts that is how we would understand them. Here, in order to address the questions posed by A, we take these contents to be those of an assertion made on Fox News (46) or that of a directive posed by Mrs. Johnson (47). So here, neither the declarative clause nor the imperatives have their own illocutionary force in the context of utterance. And it is only RELEVANCE that tells us that.

III. There are three central types of moves in the language game, as reflected in M in the scoreboard K above: These are the illocutionary acts—acts made in and by uttering some linguistic expression, and are found in all human linguistic discourse:

An **assertion** is an illocutionary act wherein the speaker proposes that a proffered proposition be added to the CG.
An **interrogation** is an illocutionary act wherein the speaker proposes that a proffered question be added to QUD.
A **direction** is an illocutionary act wherein the speaker proposes that a proffered property indexed to the addressee x be added to G_x.

The use of *proffered* in these characterizations means that the proposed additions constitute the core conventional content of an utterance, rather than being, say, presupposed or conversationally implicated by the utterance. Note that there is an extensive literature in linguistics about how to distinguish proffered content from other aspects of the conventional content of a constituent, so this notion is independently motivated.

IV. Only utterances with a grammatical structure whose semantic content is
- complete (so that all functors are given their subcategorized arguments, with any anaphora or ellipsis fully contextually resolved),
- consistent, and
- coherent (all constituents and their denotata integrated into the syntactico-semantic structure)

may understood to constitute illocutionary acts: to constitute moves in the language game. Therefore, only utterances whose content is understood to be that of maximal root clauses may have illocutionary force. (Though, as we just saw, not all root clauses have illocutionary force.)

V. There are three universally attested clause types, with corresponding semantic types:

A **declarative** clause denotes a proposition.
An **interrogative** clause denotes a question (a set of propositions).
An **imperative** clause denotes an addressee-targeted property.

One might want to model these somewhat differently in a given semantic framework (e.g., questions as higher-order functions); all that's crucial here is that the three clause-types differ in semantic type, as this feeds into the thesis in VI just below.

VI. The default illocutionary force of a root sentence is a function of its clause-type.
The fact that III and V are both language universals is not a coincidence, but is a reflection of the way that these semantic types are perfectly suited to the pragmatic functions served by their respective default illocutionary acts: The clause types are tools designed for particular purposes in the language game.

Illocutionary Force Linking Principle [Roberts' (2018) modification and extension of Portner (2004), Zanuttini et al. (2011)]
  a. The default illocutionary force of a root sentence S whose denotation ||S|| is a proposition is that of an assertion.
  b. The default force of a root sentence S whose denotation ||S|| is a set of propositions is that of interrogation.
  c. The default force of a root sentence S whose denotation ||S|| is an indexed property is that of direction.

Besides the default uses of the three main clause types given by the Illocutionary Force Linking Principle, there are other ways to commit the illocutionary acts in III. Pragmatic factors may over-ride the default:
- If a speech act is evidently insincere or in some other way evinces lack of commitment, this may over-ride default force, as often explicitly indicated in tone-of-delivery. E.g., a declarative or imperative may be sarcastic, serve as an astonished echo of what someone else has just said, or constitute pseudo-advice (*Go suck an egg!* as an indication of disdainful write-off).
- Prosodic factors may be understood to over-ride the defaults, in the interest of consistency. E.g.:
  - Declaratives with rising intonation (Gunlogson 2001):
    (48)   You're gonna be home late ↑
    The contribution of the rising intonation (indicating something like uncertainty or lack of commitment) is inconsistent with the commitment that's concomitant with assertion. To avoid inconsistency, the intonation over-rides the default force-linking, leading addressee to understand the utterance as either only tentatively entertaining or questioning the truth of the proposition denoted. Taking the move to raise the question of the truth of the proposition expressed resolves that inconsistency. If assertive force were in the LF of the declarative clause, this would be harder to explain: It would predict semantic anomaly rather than a pragmatic inconsistency to be resolved.
      Something similar can occur with an imperative clause, as in (49), where B doesn't so much propose that A ask her mother as tentatively suggest she entertain that action.
    (49)   A: I don't know what to do!
            B: Ask your mother ↑
  - Falling intonation in questions:
    [Context: A and B both know that A has no money to spend on non-essential items.]
    (50)   A: I'm really tempted to buy this coat. It's on sale!
            B: Does it fit in your budget ↓
    A rhetorical question may just constitute a reminder about what's in the CG. The speaker isn't proposing that it be addressed, but using the question to remind the addressee about the answer. The falling intonation (though that's not necessary) can be used to indicate the finality, non-openness, implicating the commitment.
  Etc.

3.   **Imperative semantics and pragmatics**

Here are the central features of the semantics of imperative clauses:
- The **semantics** for an imperative yields a conditional, directed property (type <s,<e,t>>).
- As in Portner (and Starr 2013), this property is indexically **directed** to a target agent. In English, the presupposed target is always the addressee, in both root and embedded imperative clauses, and the function corresponding to the property is only defined when its target argument is the addressee. In other languages the target of an embedded imperative may be shifted, reminiscent of shifted indexicals (Portner 2004); and in the closely related Korean jussive (Pak et al. 2004) even matrix clauses may be directed to the speaker, yielding a promise.

- As in Kaufmann (2012), the denotation of an imperative is **conditional** in that it depends upon a Kratzerian modal base f and ordering source g. But here instead of restricting Kaufmann's deontic modal operator, instead, f and g determine the applicable circumstances in which the property should be realized (which one could think of as accessible world/times in a branching future).
- Instead of truth conditions, imperative clauses have **realization conditions**, spelling out what the world would have to come to be like for the property to count as realized by the addressee to which it's directed, in the applicable circumstances.

Thus, an imperative clause is modal (ranging over non-past circumstances) but neither propositional in type nor deontic in flavor.

A *circumstance* is a world/time pair $<w,t>$.
A *proposition* is a set of circumstances.

$!_{f,g}[_S VP_i]$ is the logical form of an English imperative clause, and uttered in context K (the scoreboard, as above), indexed to the addressee x_i, and relativized to modal base f and ordering source g.
- As in Kratzer, f takes a circumstance ($<w,t>$ the circumstance of issuance) as argument to yield a set of propositions, those which would warrant the realization of the property by the agent; their intersection $\cap f(<w,t>)$ is the set of circumstances in which all those propositions are true.
- Intuitively, we want to realize the property only in those circumstances which, besides satisfying the warrant, represent the agent's best options at the realization time, given all her other goals, plans and intentions at that point; we use g to pick out these best options. $g(<w,t>)$ also yields a set of propositions—reflecting some relevant ideals (e.g. the wishes of either the speaker or addressee, their other priorities and risks, etc.)—and we order the branching futures at the realization time in $\cap f(<w,t>)$ according to how close they come to realizing all those ideal propositions. Then the worlds of interest are those in $\cap f(<w,t>)$ that are most ideal under g.

Hence, these parameters work here exactly as they do in Kaufmann's modal theory.

Assume a strict order over times, across worlds: $t < t'$ just in case t is temporally prior to t'.

$<w',t'>$ is a **branching future** for $<w,t>$, $\textbf{BF}(<w',t'>,<w,t>)$, just in case $t < t'$ and w' is just like w at all times t'' s.t. $t'' \leq t$.

> I.e., w' and w have all the same entities with the same properties and relations, modal accessibility relations, etc., up through t, though they may differ subsequently.

Two circumstances $<w,t>$ and $<w',t>$ are on the **same branch** up until t, $\textbf{SB}_{<t}(<w,t>,<w',t>)$ just in case for all prior times $t' < t$, w is just like w' at t'.

> I.e., w and w' may differ at t or thereafter.

$\textbf{Applic}_{f,g}(<w,t>) = \{<w',t'> \mid \underline{BF}(<w',t'>,<w,t>) \ \& \ <w',t'> \in \cap f(<w,t>) \ \&$
$\qquad \forall w''[\ \text{SB}_{<t'}(<w'',t'>,<w',t'>) \ \& \ <w'',t'> \in \cap f(<w,t>) \rightarrow <w',t'> \leq_{g(<w',t'>)} <w'',t'>]\}$

Paraphrasing, $\text{Applic}_{f,g}(<w,t>)$ yields the set of applicable circumstances for a given $<w,t>$ (the circumstance of issuance), under f and g, a set which contains all those circumstances:
(a) which are on a branching future of $<w,t>$ (the circumstance of issuance), and so are effectively circumstances in the "same" world at some future time t' (the realization time), and
(b) which are the type of circumstance in which the modal base is realized (so that the conditions that warrant the realization obtain), and

(c) in which the realization is maximally consistent with the relevant agent's other plans, goals and priorities at that realization time t' as reflected in the ordering source: they are the agent's best options overall at t'.

CONVENTIONAL CONTENT of English $!_{f,g}[_S VP_i]$:
Given context K:
   Presupposed content:
        $x_i = $ addressee(K)
        f is a circumstantial modal base
        g is an ordering source that ranks actions relative to goals, priorities and ideals in G_K
   Proffered content: (type $<s,<e,t>>$)
        $\lambda<w,t> \lambda x: x \in \{x_i\} \cdot Applic_{f,g}(<w,t>) \subseteq \{<w',t'>| x \in ||VP||(<w',t'>)\}$

The use of the imperative presupposes a targeted addressee, modal base and ordering source. The proffered content takes a circumstance of evaluation $<w,t>$—the circumstance of issuance; in matrix clauses, this will be the speech time/world $<w^*,t^*>$, and in embedded clauses, it will be the eventuality reported in the matrix. As we just sketched, the presupposed modal base f and ordering source g determine the applicable conditions in the actual non-past—along a future branch. And the proffered content tells us that in any applicable condition the property denoted by the VP is realized by the targeted agent. These realization conditions effectively involve a modal with the force of necessity, a relation between sets of circumstances.

An imperative is **conditional** under the proposed semantics in that the required realization is conditional on the applicable conditions obtaining, as given by f and g. As in Kratzer, a modifying *if*-clause adds its proposition to the modal base determined by f. This, then, immediately predicts the correct interpretation for examples like (10) – (12):

(10)   If you're hungry, have some cheese and crackers.
(11)   [Army combat instructor to students:]
        Before you walk into an area where there are lots of high trees, if there might be snipers hiding in the branches, use your flamethrowers to clear away the foliage. [after von Fintel & Iatridou 2003]
(12)   [two crooks planning a robbery:]
        A: What should I do if the cops arrive?
        B: Start shooting.

On this account, these are not conditional speech acts. In each, including (10), the speaker issues a direction. But imperatives generally yield directions (or suggestions, etc.) to be realized contingent on certain conditions. An *if*-clause just makes some of the applicable conditions explicit.

The futurate temporal character of $Applic_{f,g}$ satisfies desideratum (b). The use of *will* in English for imperative tags like those in (8) above is even more natural if we take futurate *will* to be a modal, in such examples undergoing modal subordination via a modal base implied by the initial imperative.

The default pragmatics for a Direction issued by uttering an imperative, with the parallel pragmatics for Assertion and Interrogation:

Direction:
        If a targeted property is issued to the addressee i in a discourse context K and is accepted by i, then revise G_i in K, including i's evident plans and intentions, to include the realization by i of the property in any applicable circumstances.

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G_i is revised to remove the realization of the targeted property once it is no longer potentially applicable (it has been realized, or it is determined that it cannot be practically realized) or any over-arching goals and plans it subserves have been realized or abandoned.

Assertion: (following Stalnaker 1979)

If a proffered proposition is accepted by the interlocutors as true in a discourse K, the proposition is added to CG_K.

Interrogation: (Roberts 1996)

If a proffered question, a set of propositions, is accepted by the interlocutors in a discourse K, then the question is added to the QUD_K.

   A question is removed from QUD_K once its answer is entailed by CG_K, or it is determined to be practically unanswerable, or it is no longer relevant to some question or goal it subserves in the strategy of inquiry reflected in QUD_K (the super-question or goal has been answered or abandoned).

Elaboration to account for Expressive Directions:

Direction:

If a targeted property is issued to the addressee *i* in context *K*, and is accepted by *i*, then:

(a) **PRACTICAL DIRECTIONS**: if so far as the interlocutors know that an agent can reasonably intend to realize the property, take *i* to be the addressee and revise G_i in K to include the realization by *i*, in any applicable circumstances, of the property.

(b) **EXPRESSIVE DIRECTIONS**: if so far as the interlocutors know an agent can*not* reasonably intend to realize the property, revise the speaker's $G_{speaker}$ in K to reflect that the speaker prefers that *i* have the property in any applicable circumstances.

In either case, G_K is revised to remove the ideal of realizing the targeted property once it is no longer potentially applicable (it has been realized, or it is determined that it cannot be practically realized) or any over-arching goals and plans it subserves have been realized or abandoned.

3.2 **Satisfying the desiderata**

The satisfaction of (a) – (d) is obvious in the previous section. (h) and (i) follow from the semantic type of an imperative clause: non-propositional.

To clarify how this semantics is intended to capture the variable flavor of modals, desideratum (e), here is the informal application to a few examples from above, where $<w^*,t^*>$ is the circumstance of utterance:

<u>a command</u>:

(13)   [Boss$_7$ to tardy employee$_{11}$:] Tomorrow get to work on time!

$f_{13}(<w^*,t^*>) \subseteq CG$:   {. . ., that x_7 has power over employees, that employees serve at the pleasure of x_7, that x_7 is x_{11}'s boss, that x_{11} has been late several times, that being late is unacceptable and displeases x_{11}, that it is in principle possible for x_{11} to be on time tomorrow, x_{11} is on the way to work the day after the utterance time,. . .}

$g_{13}(<w^*,t^*>)$:   {. . . , p = that x_{11} should continue to be employed, q = that x_{11} should please x_7, . . .}

   • *p*, *q* correspond to goals in the employee's G_{11}, where *q* subserves *p*

   • *q* corresponds to a goal in G_7, though x_7 may be indifferent to *p*

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The applicable circumstances for (13), given these f and g, are those in which the circumstances in $f_{13}(<w^*,t^*>)$ obtain and which come closest to the ideal in which x_7 pleases x_{11} and thereby retains her position. Then the realization conditions, what the world would have to come to be like in order for this command to be realized by the target employee, are that in all the applicable circumstances (where x_{11} is on the way to work the next day), x_{11} gets to work on time.

a conditional instruction:

(11)   [Army combat instructor to students:] Before you$_6$ walk into an area where there are lots of high trees, if there might be snipers hiding in the branches, use your$_6$ flamethrowers to clear away the foliage.

$f_{11}(<w^*,t^*>) \nsubseteq$ CG: {. . ., that if your$_{generic}$ enemy sees you before you see them, there is a greater chance that they'll kill you than that you'll kill them, that hiding in high trees gives snipers an excellent vantage point over the entire area—better than that of someone entering on the ground level, that flamethrowers can destroy foliage at a distance from a sheltered position, that you$_{generic}$ are in a combat situation with a high likelihood of enemy in the vicinity, that it is possible for you$_{generic}$ to use the flamethrower, . . .}

$g_{11}(<w^*,t^*>)$:   {. . ., p = that one should survive, q = that one should kill as many enemy as possible, r = that one should refrain from killing innocent non-combatants, . . .}

- for all $x_{60} \in x_6$, p, q, r all correspond to goals in G_{60}, where presumably p < r < q, and q subserves p.

Note that the underlined propositions in $f_{11}(<w^*,t^*>)$ are about a hypothetical type of situation, hence are not in the actual CG; (11) is probably uttered in an extended context describing how to behave in a combat situation. The remaining propositions are general knowledge in the CG. The applicable circumstances are those in which the circumstances in $f_{11}(<w^*,t^*>)$ obtain and which come closest to the ideal in which x_{60} both survives and kills as many enemy as possible, preferably while not killing non-combatants. In order to realize these instructions in such a circumstance, x_{60} uses the flamethrower to exfoliate the trees.

a wish:

(5)   [In the short story *The lady or the tiger*, a captive must choose one of two doors, knowing that behind one is a beautiful lady, behind the other a vicious tiger. Silently to himself before opening one of the doors, the captive says:] Be the lady!

$f_5(<w^*,t^*>) \subseteq$ CG: {. . ., that there are two doors in front of speaker x_3 and behind one is a lady, the other a vicious tiger, that the vicious tiger would kill x_3 if its door were opened, that x_3 is just about to open one door d, that at the time of uttering (5) x_3 doesn't know what is behind d, that x_3 is addressing whatever entity x_{20} is behind d, that x_{20} cannot do anything about being either a lady or a tiger, . . .}

$g_5(<w^*,t^*>)$:   {. . ., p = that x_3 should continue to live, . . .}

- p corresponds to a goal in G_3
- x_{20} has no evident goals in this scenario

The applicable circumstances are those in which the propositions in $f_5(<w^*,t^*>)$ are true (both now and in the immediate future) and which come closest to the ideal in which x_3 continues to live. The wish will be realized in the applicable circumstances if x_{20} is the lady. Another way of characterizing these realization conditions is 'given the current circumstances and that I prefer to live, let the entity behind the door I'm

about to open be a lady'. Here, the wish is not actionable on the part of the speaker or the addressee (the unknown entity behind the door), so this is an Emotive Direction.

With respect to desiderata (f) and (g), pertaining to the relationships between imperatives and deontic declaratives: Portner (2004, 2007, etc.) offers an account closely related to my own:
- Directions are intended to update the ToDo lists of the addressee.
- A ToDo list in a dynamic pragmatic context is a reflection of the target's public commitments. Accordingly, these commitments are also reflected in the CG as deontic propositions: If I'm committed to realizing δ, then it's true that I *should* do δ.

This accounts for the deontic-like behavior of the imperatives in (24) – (32): Given that the *speaker* makes certain commitments in issuing a deontic assertion, something similar obtains with the issuance of a Directive, accounting for the Directive version of the Deontic Moore's Paradox.

In keeping with Dan Harris' presentation yesterday:
In all these cases, it is not that the logic of the proffered content of an imperative clause entails the apparent inference or the infelicity. Rather, when an imperative is used to issue a Direction, its acceptance and adoption by the addressee entails certain other commitments that can be paraphrased in deontic terms. **It is the pragmatics that is deontic, in other words, not the conventional content itself.**

With respect to Free Choice disjunction and Ross's Paradox, desideratum (g), my account differs from Dan's, in his presentation yesterday:
- Dan (see his slide 44) adopts an idea due to Richard Holton (2008,2011), wherein an agent can have "partial intentions", effectively involving existential rather than universal force. He claims that these are the "denotata" of "weak imperatives" like his *So, have a piece of cake* in (51), giving it the sense 'you **may** have a piece of cake'.

(51) a. Have a piece of cake or have some ice cream.
      b. So, have a piece of cake.   [Dan Harris, talk on 1/28/21]

- I propose instead the use of domain restriction using the Kratzerian contextual parameter *g* to yield merely apparent weakness with the strong semantics for imperatives above. If we restrict the domain of the modal so that the applicable circumstances in which the addressee is to attempt to realize the property of having a piece of cake are those in which that agent's own wishes and desires are paramount, this yields an effect like that of permission: without the obligation to act against her own interest in any way, the addressee is licensed to choose to act as her interests dictate.

With respect to Ross's Paradox, the reason that (35a) does not seem to entail (35b), as with the parallel deontic pair in (36), is that if we interpret these as involving permission (again, only "weak" in that we have restricted the domain so as to consider only those applicable circumstances in which the addressees druthers are paramount), the permission issued with the disjunctive Directive is broader than that issued with one or the other of the disjuncts.

(35) a. Have an apple!   does not imply (35b)
      b. Have an apple or a pear!
(36) a. You may have an apple.   does not imply (36b)
      b. You may have an apple or a pear.

Hence, as in the other cases Dan discussed, the intuited relation between these utterances is not logical entailment. The clauses uttered in (35) aren't even propositional in semantic type. The intuition arises due to the pragmatic implications of the issuance of these directives: what we can infer about what follows

when these are issued with the attested intentions and adopted by the addressee. What is thereby permitted to the addressee?

The same kind of explanation can be given for Frank Veltman's (2009, 2018) (52), explaining why the speaker of (b) seems to contradict the advice issued in (a), rather than merely implying by (a) ∧ (b) that the addressee should drink apple juice, as in the parallel indicative (53):

(52)   a. Drink milk or apple juice.
       b. Don't drink milk.   apparently contradicts (52a)   [Frank Veltman, ref]
(53)   a. You will drink milk or apple juice.
       b. You won't drink milk.   after (53a) entails you will drink apple juice

Issuance of (52a) gives the addressee permission to drink milk, whereas issuance of (52b) forbids it, contradicting the permission just given.

The *prima facie* puzzle in these inference puzzles, couched in logical terms as a failure of the semantics to entail from !(p ∨ q) and !¬p that !q, is really not semantic at all. Rather, the relevant inferences follow from the pragmatics of proffering an imperative. *Pragmatically*, the suggestions, and hence (in case the speaker has the requisite authority) the permissions granted are inconsistent: One cannot consistently suggest that the solution to one's decision problem lies in either drinking juice or milk, while suggesting at the same time that the solution to the same decision problem lies in not drinking milk. Similarly, one cannot grant permission to drink either milk or juice and concurrently preclude drinking milk. But these illocutionary acts—suggesting or granting permission—are not part of the semantics of the constituents uttered.

Time precludes discussion of (j) Kaufmann's Epistemic Certainty Condition, but I've explained how that follows in Roberts (2018). I can discuss how to address the 'or else' disjunctions in (l) during the question period, if you like. I leave (k) as an exercise for the reader.

4.   **Comparison with other accounts**

Account:	I Embedded imperatives (c)	II Deontic parallels (f)	III Conditional imperative, varied flavors (d), (e)	IV Non-propositional behvior (g), (h), (i)	V Free Pragmatic Pay-off
Captures:					
Kaufmann	✔	✔	✔	X	X
Portner	X	✔	X	✔	✔
Charlow	✔	✔	✔	X	✔
Roberts 2017	✔	✔	✔	✔	✔

Table 1: **Pros** and **Cons** of some theories of Imperative Meaning

Comparing this account with the one Manfred Krifka proposed yesterday:
The central point on which we agree:
> Illocutionary force is about update potential: tells us how the utterance is intended by the speaker to update the context of utterance.

The central respect in which we disagree:
> Manfred builds illocutionary force into the semantics for imperative clauses, changing the static content of the clause into a dynamic semantics with CCP; whereas I do not, leaving force to the pragmatics.

Putting ForceP in root clauses is problematic because:

(a) As we saw above, sometimes a root clause by itself has no illocutionary force, instead constituting a fragmentary answer, s.t. that only the entire content retrieved has illocutionary force:
  (46)   A: What did John hear on Fox News?
          B: The Democrats have stolen the election—there's widespread fraud.
  (47)   A: What are Mrs. Johnson's demands?
          B: Pay your rent by Monday, and keep your bicycle out of the hallway.

(b) There is no determinate correspondence between the syntactic form of an utterance (say, its clause-type as reflected syntactically) and the illocutionary force we understand its utterance to have:
> Sometimes the clause-type in question can be used to make a different kind of speech act (rising declaratives, rhetorical questions).
> And there's no way of determining whether the content *is* asserted/asked/suggested without considering contextual factors.
> Then, arguably, the central determinates of illocutionary force are contextual factors, as constrained by the clause type of the utterance. Though they constrain it, syntax and compositional semantics don't determine force.

(c) As I pointed out yesterday, making illocutionary force part of the proffered content of an assertion would suggest that it can be directly addressed in affirming or denying the truth of the proposition expressed. But, as with Manfred's logical forms, the speaker's intentions and commitments in making the utterance cannot be called into question by saying *That's true!* or *That's false!*. Illocutionary force is never part of what's at-issue in the content of an utterance. Hence, it is not itself part of what we respond to directly. Rather, it's a reflection of how we *use* content.

Moreover, from a theoretical point of view, whether encoding force in LF is a good idea depends how what role we want LF to serve in the overall account of meaning we're developing.

• If we want a single representation of the meaning of an utterance, no matter where all elements of that meaning come from, then so be it: that's your LF.
> For example, Manfred can capture at LF the differences he considers on his slide 7 between assertions and explicit performatives, or between descriptive and performative uses of speech act verbs like *nominate*. But this is not the only way to capture the attested (in)felicities. An adverb like *truly, indeed*, or slifted (parenthetical and post-posed) *I guess*, indicating level of commitment, is appropriate where the speaker feels the need to encourage the acceptance of her assertion by indicating confidence in its truth. But this is quite odd when the speaker expects that her interlocutor knows that she is warranted in issuing an explicit performative, since the very act of utterance makes the content of the speech act true, the presence of the addressee then constituting the best evidence for its truth. This is a pragmatic account of the infelicity with performative uses.

• I'm after different game: a cognitively interesting competence theory of interpretation which is empirically adequate as well, correctly predicting which interpretations will arise in which contexts. This is an approach wherein pragmatics, rather than being an explanatory wastebasket (Bar-Hillel),

both serves an explanatory function and enables an empirically superior account of how we predict interpretations in context.

In a competence theory of interpretation, morpho-syntax (compositional semantics) and pragmatics offer strong concurrent constraints on interpretation, constraints that must be simultaneously satisfied in order for an utterance to be meaningful and felicitous. These two modules thereby constrain each other tightly, though the conventionally given, compositional interpretation is the inviolable foundation.

> The analogy with the architecture of visual perception here is very strong: percepts at the retina must be respected but underdetermine how the image is parsed, the latter concurrently guided by knowledge and expectations. See Roberts (2017) for extended discussion and citation of relevant literature.

If we're interested in such a theory, we only encode some particular aspect of content in LF if we have evidence for some particular element(s) in the morpho-syntax that either

(i)   it regularly, without fail makes that contribution to interpretation as part of its proffered content, in which case that content enters into the compositional calculation of the utterance's conventional content, appropriately represented in LF, or

(ii)   it conventionally triggers a presupposition whose contextual resolution is the content in question, in which case there should be a free variable in LF to represent the triggered presupposition.

But if some aspect of meaning does not come about in one of these ways, then it does not belong in LF: If we find that it is a clear part of the meaning of the utterance in a particular context, we investigate the extent to which it can be predicted to arise, or not, as a function of the context of utterance interacting with the proffered content, and if that is the case, what the contextual factors might be that predict its distribution.

> When an aspect of interpretation is purely triggered and determined by context, that content is pragmatic and not given by compositional semantics. Hence, it should not be an element of LF.

There is strong, empirical evidence from the psycholinguistic literature that the various elements of the articulated model of context I've developed play distinguished roles in interpretation, coming to bear concurrently with compositional interpretation to constrain the solution of the interpretive puzzle presented by an utterance. Among the factors (Roberts 2017):

> anaphora resolution
> presupposition satisfaction and projection
> intrusive implicatures (Simons 2009)

Similarly, this independently motivated characterization comes to bear in both

- the determination of whether a root clause uttered by itself *has* illocutionary force (QUD),
- if so, what that force may be, and
- if, say, directive, what flavor that directive carries.

So long as it is context that determines the felicity of this aspect of interpretation, we can avoid the problems encountered when we put illocutionary force into LF and still get the desired results and predictions by adopting a dynamic pragmatics that interacts with semantics to yield interpretation.

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