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Imperatives as Future Plans

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Abstract. Disjoint imperative sentences like (*Nimm die*) *Hände hach, ader ich schiesse!*, literally (*take yaur*) *hands up, ar I'll shaat!* intuitively present the addressee with all her alternatives for action. The speaker informs that all future worlds, as far as the speaker can forsee, are such that the addressee raises her hands or gets killed. I propose a semantic/pragmatic analysis for sentences in the imperative mood that adopts this exhausitve description of future alternatives as a semantic backbone. Different contextual instantiations of alternatives capture a wide range of uses of sentences in imperative mood, as well as coordinations of imperative and declarative sentences, in a uniform way.

1 Some Observations about Imperatives

1.1 Variety

It has frequently been noted that sentences in imperative mood (S_{imp}) can express a wide variety of speech acts, some directive, some not. I will take my starting point from the following range of examples.

(1) Leave my garden! *(cammand/request)*

(2) Lend me your bike, please!*(plea)*

(3) Take a cookie! (offer, invitation)

(4) Take an umbrella with you! *(advice)*

(5) Ok. Go kill yourself. Smoke! *(cancessian, „giving in")*

(6) Get well soon! *(well-wish)*

(7) Come and take the ball (if you dare)! *(dare)*

These are part of the agenda set by Condoravdi & Lauer (C&L, 2010a, b) in a recent series of talks, drawing on earlier literature (e.g. Schwager 2006a,

2008, Donhauser 1986, Bybee, Pagliuca & Perkins 1994).[1] It would be desirable to derive the different types of act compositionally from the literal content of the sentence, the semantics of mood, and knowledge in context that pertains to the interpretation of imperatives. Such an approach would certainly be preferable over stipulating a range of speech act operators and leave the choice of the correct operator subject to a holistic, noncompositional evaluation of the overall utterance situation (Searle 1969). An operator approach would, for instance, force us to postulate categorical distinctions between different act types where in practice, we find a gradual continuum between e.g. command and request, request and plea, request and advice and so on. Schwager (2006) and Portner (2007) have led the way in demonstrating how compositional semantics for imperative mood in speech acts can look like.

1.2 Conjoining S_{imp} and S_{decl}

S_{imp} can be conjoined with sentences in declarative mood S_{decl}. The result are speech acts of different natures, including anti-directive acts such as threats, like in (10).

(8) Clean your room, and I will take you to the movies.
(request + incentive)
(9) Open the newspaper, and you will find the king's picture on page 2.
(conditional)
(10) Touch this glass, and I will kill you. (threat + sanction)

Sometimes, the speaker wants the addressee to act as required by the imperative (*Do!*) but sometimes he aims to avoid exactly that, practically intending to say *Don't!* (Schwager 2006a, Russell 2007, van Rooij & Franke 2010, Bolinger). A commonality of examples like (8) to (10) seems to be that they all can equivalently be expressed by a conditional ('*If you clean your room, then I will take you to the movies'* etc.). This is why scholars have proposed to class S_{imp} as pseudo-imperatives here and propose a common *conditional* meaning for the construction. It would be attractive to have an analysis that relates the meaning of (8) to (10) to the interpretation of "normal" imperative sentences in a transparent manner.

1.3 Disjunctions S_{imp} *or* S_{decl}

S_{imp} can likewise enter disjunctions with a "face the consequences" clause, like in the following example.

[1] Two more types of act that they include, namely WISH and ILL-WISH, will only be touched later in this paper.

(11) Freeze! or I'll shoot you.

These intuitively present the addressee with all her alternatives for action. The speaker informs that all future worlds are such that the addressee raises her hands or gets killed. It is not possible to add a disjunct that describes more promising alternative prospects, in order to prohibit the addresse from acting as specified by S_{imp} (Russell 2006, van Rooij & Franke 2010 a.o.).

(12) Go on fighting, or you'll get chocolate.
≠ 'If you stop fighting, you'll get chocolate' (ironically?)

Whenever the speaker seriously attempts to motivate the addressee to act according to S_{imp}, it is standardly possible to spell out his underlying incentives by an *or*-clause. Hence, while conjunctions like in 1.2 might be viewed as a deviant case, the use of disjunctions frequently just explicates the reasoning behind a typical directive uses of S_{imp}.[2] Again, it would be appealing to read that off directly from the semantics of imperative mood.

2 Modal Theories for Imperatives

2.1 Earlier Theories

I agree with earlier authors on imperatives who assume that literal meaning and speech act should be captured in one integral overarching theory. This leads naturally to analyses of S_{imp} that play on their semantic closeness to deontic necessity. A recent prominent example is Schwager (2006a, b and subsequent). We will generally assume that the sentential root $[\![S_{imp}]\!]$ denotes a property which gets instantiated by the addressee A to yield $[\![S_{imp}]\!](A)$.

$$[\![\textit{Freeze!}]\!]^{\text{Schwager}} = \forall w \, [\text{ “BEST-WORLDS}(w, w_o)\text{”} \rightarrow \text{FREEZE}(A, w)) \,]$$

I use BEST-WORLDS as a cover term for factors that determine the domain of quantification. These include the choice of a modal base (FUTURES which are CIRCUMSTANTIALLY POSSIBLE) and a partial ordering of the worlds which, among other criteria, refers to what ACCORDS.WITH.SPEAKERS.DESIRES(w_o,w). Schwager proposes that this is further specified by context (*"In what sense does the speaker want this to happen?"*) which leads to different flavours of imperatives. The modal quantification is contributed by an imperative mood operator, and finally the scope of this quantification is contributed by the content $S_{imp}(A)$ (following Kratzer 1981, 1991). Schwager's analysis is attractive because it shows tight fit with necessity modals, it can be naturally

[2] See Schwager 2006a, 2008 for a very lucid discussion of the relation between sentence mood and *typical* associated speech acts.

extended to conditionals, and it has a smooth semantics-speech act interface. The theory doesn't need extra components or ontology like TO-DO-lists, plans, action schemes or the like.

Another, more recent proposal in a similar line was issued by Condoravdi and Lauer (C&L, 2010a, b). They suggest that S_{imp} expresses the desire of the SPEAKER that the ADDRESSEE commits herself to act as if she (= A) preferred $[\![S_{imp}(A)]\!]$ (Condoravdi & Lauer 2010a: 10). Like Schwager, they assume that the information content of imperatives alone is sufficient to predict its speech act qualities, and envisage a smooth semantics – speech act interface. Portner's (2007) analysis will be disregarded here because it stipulates the use of an extra list of propositions called the TO-DO LIST.[3]

2.2 Coverage of Observations

Variety is accounted for by both approaches, where both fit more naturally for some cases than for others. Specifically, as both analyses rest on speaker desires, they will need to ascribe the speaker strangely desinterested and altruistic desires in some cases. Schwager captures flavours by different specific ACCORDS.WITH.SPEAKERS.DESIRES properties (capturing offer, warning, advice, wish, and several "deviant" uses). C & L (this volume) likewise attempt to derive known examples from their intricate mix of speaker and hearer preference, which I will discuss in section 4.

The **coordination** cases can not be captured easily by a naive extension of the modal analyses (Schwager, 2006a); perhaps to the exception of the S_{imp} *and* $S_{decl,good}$ cases. In view of the obvious problems that arise, Schwager (2006a) proposes very different, and much more sophisticated ways to interpret the respective conjunctions and disjunctions. The coordination S_{imp} *and* S_{decl} is simply interpreted as conditional. The imperative operator will contribute the modal quantification scheme:

$$\forall w\, [\, \text{FUTURE}(w_o,w) \wedge \text{CIRC}(w_o,w) \wedge \ \ldots\ P(w)\ \ldots \ \ \rightarrow Q(w)\,]$$

In non-coordinate imperatives, the syntax-semantics interface instantiates P(w) with speaker-desire, and Q(w) is instantiated by S_{imp}(A). In the conjunctive case, however, P(w) gets instantiated by the speaker's desires *plus* the content of imperative (*if you do* S_{imp}*...*) whereas Q(w) instantiated by *and*-clause (*…then* S_{decl} *will happen*). The result is descriptively adequate, but the semantic derivation of dubitable legitimation. (It is claimed that a topical status of the imperative leads to its analysis in the restrictor of some

[3] While the components of Portner might be reconstructed in terms of the other two competing theories, a full comparison is beyond the scope of the present paper.

quantifier; the topical status is attributed to the imperative on basis of prosodic cues that are inconclusive.) According to Schwager on S_{imp} *or* S_{decl}, the idea that '*or*' could mean Boolean disjunction has to be radically denied. Her treatment of S_{imp} *or* S_{decl} rests on Geurts (2005) who proposes that '*or'* denotes a conjunction of modal quantifications where background and propositional slots get instantiated by the sentence to be interpreted. C_i are contextually given sets of worlds; $M_i \in \{\Diamond,\Box\}$ and P_i = disjuncts.

(14) $C_1\, M_1\, P_1 \wedge C_2\, M_2\, P_2$

Schwager makes use of this scheme in a sophisticated way, assuming that C_1 = CG (common ground); $M_1\, P_1 = \Diamond S_{imp}(A) \wedge [\![S_{imp}\, !]\!]$, second context C_2 = CG \ $S_{imp}(A)$ and finally $M_2\, P_2 = \Box\, [\![S_{decl}]\!]$. The result can be spelled out as "*It is possible that* S_{imp}*; and in all speaker-desirable worlds,* S_{imp} *actually happens; and in all worlds where it does not happen,* S_{decl} *will necessarily be true.*" This leads to a descriptively adequate semantic representation. However, Geurts' background theory and the cases at hand do not yet match perfectly. The first conjunct doesn't unify well with Geurts' scheme (14), likewise Geurts does not discuss changes between modal bases extensively (e.g. from epistemic to buletic to future-no-matter-what).[4] Condoravdi & Lauer do not address coordinate constructions with imperatives. I will come back to their proposal and undertake a more detailed comparison once the Hands-Up theory has been presented.

3 Hands-Up Theory for Imperatives

3.1 The Backbone

I propose two kinds of imperative construction operators [!] and [¡], each with syntactic requirements, denotation and presupposition. Given that I will not deal with conflicting desires or obligations explicitly, I will notate modal quantification in an entailment format. FUTURE, CIRC, DEONT etc. are intended to deliver the future, circumstantial etc. alternatives of w_o and LEWIS-SIM is used to remind us of the fact that we want to exclude the more obscure of all logical possibilities sometimes. The notation should be reversible to one based on modal base and ordering source.

[!]: Syntax:
one obligatory argument: finite sentence in imperative mood S_{imp}

[4] Schwager herself comments on the analysis in much the same spirit. It should be kept in mind that all simpler mappings from syntax to semantics were inevitably bound to yield wrong results, so this analysis constitutes true progress.

one optional argument: *or*-phrase with *or*-P → '*or*' S_{decl}
Semantics:
$\lambda p \lambda q \forall w$[FUTURE($w_o$,$w$)∧CIRC($w_o$,$w$)∧LEWIS-SIM($w_o$,$w$) → $p(w) \vee q(w)$]
Presupposition:
the speaker believes that the addressee, taking a choice in all life future options
λw.Future(w_o,w)∧Circ(w_o,w)∧Lewis-Similar(w_o,w)
prefers *p*-worlds to *q*-worlds.

[¡]: Syntax:
first obligatory argument: finite sentence in imperative mood S_{imp}
second obligatory argument: *and*-phrase with *and*-P → *'and'* S_{decl}
Semantics:
$\lambda p \lambda q \forall w$ [FUTURE(w_o,w)∧CIRC(w_o,w)∧LEWIS-SIM(w_o,w) →
$p(w)$; $q(w) \vee C(w)$]
Pragmatics:
C propositional variable to be instantiated in context
$C \subseteq \neg p$ and $C \cap \neg q \neq \emptyset$ (hence *C*-worlds might avoid the consequences presented in second conjunct[5])

The coordinations *and* and *or* do not enter semantic composition but are interpreted syncategorematically. Coordinating *and* is reflected as narrative sequencing; as in DRT. Usually, S_{imp} and S_{decl} are tightly linked anaphorically under conjunction. I will not go into the details of ⟦ S_{imp};S_{decl} ⟧ which would require dynamic lambda logic. The disjunction is strengthened to exclusive disjunction in most cases. I will in one case below refer to this strengthening. Finally note that the approach once again stipulates a semantic difference between *and*-coordinations and *or*-disjunctions. Unlike other analyses, the one defended here treats the two cases maximally parallel, differing only in how the same semantic parameters get instantiated in either case, and in the presence or absence of one presupposition.

3.2 Examples of [!]-Imperatives

I will now survey how the analysis can treat various kinds of uses of the imperative. Different types of propositional OR arguments yield different flavours of imperatives. I assume throughout that if the second argument of [!] is not overtly realised, it will be instantiated in context. Let us start with *Command*, the most prototypical use of imperative mood.

(16) Remove your car!

[5] Thanks to Sven Lauer who suggested this specific version of restriction.

The first argument of the [!] operator λ*w*[REMOVE(A, CAR-OF-A, *w*)] is provided by the imperative sentence. The hearer understands the presupposition that the speaker believes that the addressee will prefer *REMOVE-CAR*-worlds to *q*-worlds. Depending on the situation at hand, the hearer might guess that leaving the car will cause trouble with the police, e.g. she will get a ticket. Hence, the overall proposition conveyed is this:

$$\forall w[\text{FUTURE}(w_o,w) \wedge \text{CIRC}(w_o,w) \wedge \text{LEWIS-SIM}(w_o,w) \rightarrow [\text{REMOVE}(\text{A}, \text{CAR-OF-A}, w)\ ] \vee \text{TICKET}(w)\ ]$$

The utterance presupposes that REMOVE-worlds are better than TICKET-worlds. The "force" of the command derives from the threatening nature of the alternatives. The more likely the speaker holds the TICKET case, and the less she is inclined to loose money, the more likely will she comply to the command. — Next, consider *Warning/Advice*, like in (17).

(17) Wear a raincoat!

The speaker in (17) need not have a personal desire for the addressee to comply. (Theories that rephrase imperative sentences as reports about the speaker's desires will find such examples worrisome.) The present analysis predicts that [!] will take λ*w*[WEAR(A, RAINCOAT, *w*)] as its first argument. The second derives from common knowledge about the current weather, the health state of the addressee; let us assume a simple *q* = 'you will get wet'. The speaker conveys, and the hearer accepts the presupposition: RAINCOAT-worlds are better for the hearer than WET-worlds.

$$\forall w[\text{FUTURE}(w_o,w) \wedge \text{CIRC}(w_o,w) \wedge \text{LEWIS-SIM}(w_o,w) \rightarrow [\text{WEAR}(\text{A}, \text{RAINCOAT}, w)] \vee \text{WET}(\text{A}, w)]$$

In giving desinterested advice, the speaker points out certain facts and leaves it to A to act in the most reasonable way. We'd expect, however, that the speaker does not *mind* if A reacts in the indicated manner—or else, the speaker would not have pointed out these facts in the first place. We will come back to this fact.

The analysis can nicely reflect speaker's Authority and, more interestingly, the Lack of Authority. Consider the unspecific request in (18).

(18) *Be quiet!* (or ... ?)

$$\forall w[\text{FUTURE}(w_o,w) \wedge \text{CIRC}(w_o,w) \wedge \text{LEWIS-SIM}(w_o,w) \rightarrow [\text{QUIET}(\text{A}, w)\ ] \vee \text{PUNISHMENTS}(\text{A}, w)\ ]$$

The hearer could draw on knowledge about speaker like "wow, this speaker is a fierce guy who could earlier think of nasty PUNISHMENTS". The speaker

conveys the presupposition: "I, the speaker, believe that you'll like the QUIET-worlds better than PUNISHMENT-worlds". Drawing on earlier knowledge, the hearer will believe this presupposition and accordingly hold her mouth. Speakers with little authoritative force lead to a different kind of hearer knowledge, e.g. "this speaker's PUNISHMENTS are not severe". Again, the speaker conveys the presupposition that 'he believes that the hearer finds QUIET-worlds are better than PUNISHMENT-worlds'. The addressee, however, might disagree with the speaker and therefore opt for the worlds where $\lambda w.\neg$[QUIET(A, w)]. We see that Authority can be based on the experience that S was able to think about drastic measures in the "*or*"-case on earlier occasions. I will next address Permissions like the *cookie* invitation.

(19) Take a cookie!
$\lambda q \forall w$[FUTURE(w_o,w)$\wedge$CIRC(w_o,w)$\wedge$LEWIS-SIM(w_o,w)$\rightarrow$
[TAKE(A, COOKIE, w)] $\vee$ q(w)]

(19) suggests that—contrary to earlier belief of A—it is not forbidden to take a cookie. Why? The speaker conveys the presuppositions that the addressee will prefer COOKIE-worlds to NO-COOKIE-worlds. If the speaker can be trusted, this includes a commitment to not punish Addressee if she takes a cookie. (19) is typically understood as a permission in contexts where the only disadvantage of NO-COOKIE-worlds for A is that she does not get a cookie (which the speaker should believe a desirable thing to have). Consequently, the addressee can decide to decline this offer—for instance if she is on a diet or does not like cookies very much. Hence, permissions arise as one possible instantiation of q. — Let us finally look at Concessives. I will use an example in a naturally sounding prediscourse.

(20) a. Don't smoke (, or you'll die young)!
b. (nag nag nag) — Well, then do smoke! Kill yourself!

Intuitively, (20) shows that speaker and addressee disagree in certain respects. This is reflected in the presuppositional discourse record. (20a) entails that the Speaker believes that Addressee prefers NON-SMOKE-worlds (= LIVE-LONG-worlds) to DIE-YOUNG-worlds (= SMOKE-worlds). In (b), [!] takes a first argument λw[SMOKE(A, w)] with the second argument missing. With the presupposition conveyed in (b), the Speaker acknowledges that Addressee prefers SMOKE-worlds (= DIE-YOUNG-worlds) to NON-SMOKE-worlds (= LIVE-LONG-worlds). As part of the discourse record, however, the speaker has made it clear that she does not share this preference and does not think it reasonable. This also leads to an ironic undertone.

I will leave the remaining cases to the reader. PLEAS are characterized by the moral pressure of the 'or'-alternative. The speaker hopes that the addressee will prefer making her happy to making her miserable. WELL-WISHES straightforwardly acknowledge addressee's preferences without that either addressee or speaker can do anything to drive the course of events towards such happier alternatives. DARE! cases, finally, convey an intricate conditional preference of the addressee: *If* A 'dares', i.e. overcomes her fear of bad consequences, then she will prefer worlds where she takes the ball (ex. 7) to worlds where she doesn't take it. 'Daring' is tantamount to 'countering the situation with enough strength and energy so as to overcome the obviously threatening dangers'. We find a continuum of attitudes between the encouraging "*come, take the ball if you dare"* by the provocative coach and evident threats as *Dare! (and you will see what happens)*. As the present analysis assumes that the flavour of imperatives derives from contextual instantiation of the 'or'-cases, we'd expect such a continuum.

3.3 Examples of [¡]-Imperatives

I will now turn to the conjunction S_{imp}-*and*-S_{decl} which are analysed with [¡]. Recall that the second argument is obligatorily instantiated (i.e. we overtly see the *and* clause) and there is no presupposition as to what is good or bad for the addressee. The content of the second argument alone determines whether the worlds where $S_{imp}(A)$ is true are better or worse for A.

(21) Come in, and you will get coffee.

[¡] = $\lambda p \lambda q \forall w$[FUTURE($w_o$,$w$)∧CIRC($w_o$,$w$)∧LEWIS-SIM($w_o$,$w$) → $p(w)$;$q(w)$ ∨ $C(w)$] will apply to the first argument λz.COME-IN(A, z) and the second argument by dynamic update: λz.GET(A, COFFEE, z). Pragmatics requires that C is a proposition to be instantiated in context where $C \subseteq$ [[NOT S_{imp}]] = $\lambda z.\neg$ COME-IN(A, z) and moreover $C \cap$ [[NOT S_{decl}]] = $C \cap \lambda z.\neg$GET(H, COFFEE, z) $\neq \emptyset$. The elsewhere-case C describes a missed occasion: Speaker believes that Addressee prefers COFFEE-worlds to NO-COFFEE-worlds.[6] As in the cookie example, the "force" of the offer depends on the addressee's eagerness not to miss an occasion to get coffee. Note that it is incoherent to combine motivational conjuncts and threatening disjuncts.

(21) a. #Come in, and you will get coffee, or I won't talk to you for days.

[6] In a richer account, the not-getting coffee needs to be tied to a limited interval of time; the time that would correspond to the time after the non-occurring entry.

This is captured by the syntactic (raw) analysis. Given that the coordinate clause S_{imp}*and/or*S_{decl} as a whole does not count as $S_{imp,}$ the structure is not recursive. More interestingly, perhaps, is what happens in the Threat case.

(22) Touch this cookie, and I will kill you.

(22) a. first argument of [¡]: $\lambda z.$TOUCH(A, COOKIE, z)
second argument of [¡], dynamic update: $\lambda z.$KILL(S, A, z)
Psp. for alternatives *C:* (i) $C \subseteq \lambda z.\neg$TOUCH(A, COOKIE, z)
(ii.) $C \cap \lambda z.\neg$KILL(S, A, z) $\neq \emptyset$

The speaker assumes that Addressee prefers not being killed to being killed. The imperative informs her that if she avoids touching the cookie there is a chance to stay alive.

Earlier theories interpret S_{imp}-*and*-S_{decl} as conditionals. The present analysis treats S_{imp}-*and*-S_{decl} maximally similar to other imperative clauses but it predicts that S_{imp}-*and*-S_{decl} entail conditional statements. The example in (23) is a typical conditional case, but the reasoning holds for all examples.

(23) Open the newspaper, and you'll see the king on page 2.
first argument of [¡]: $\lambda z.\exists x$(NEWSPAPER(x) $\wedge$ OPEN(A, x, z))
second argument of [¡]: $\lambda z.$SEE(A, KING, PAGETWOOF(x), z)
Presupposition: C in context,
(i) $C \subseteq \lambda z.\neg\exists x$(NEWSPAPER($x$) $\wedge$ OPEN(A, x, z))
(ii.) $C \cap \lambda z.\neg\exists x$(NEWSPAPER($x$)$\wedge$SEE(A, KING, PAGETWOOF($x$), z)) $\neq \emptyset$
i.e. there is a chance for A to see the photo of the king.

The instantiation of C is restricted to sets of worlds where A doesn't open a newspaper. The overall modal quantification states that all future courses where newspapers get opened by A are such that the king's picture is on p.2. This entails the conditional "*If you open the newspaper, you'll see the king*". Admittedly, the entailment is again hard-wired in the interpretation of [¡] and maybe therefore no less stipulative than in competing analyses. However, the stipulation here echoes the strengthening of disjunction in the plain imperative case. [!]-imperatives typically inform the addressee what happens if, and what happens if she does not engage in certain actions (e.g. freezes). In the simple case, this dichotomy can be modeled by exclusive disjunction. In the [¡] case, exclusive disjunction will not be sufficient to maintain this division of worlds into cases. The condition that $C \subseteq \neg p$ therefore simply transfers exclusivity of cases to the [¡] denotation.

This concludes the discussion of examples. What is missing so far are ill-wishes like *"Die!"*, *"Eat shit!"*. These obviously rest exclusively on what is

desirable for the speaker. They do not fit into the basic version of the analysis and will be touched in section 4.2.

4 More Ties to Earlier Literature

4.1 Van Rooij and Franke, 2010

In making the assumption that there are two imperative operators [!] and [¡], I stipulate a fundamental difference between *and* and *or* in imperatives. Of course, it would be desirable to derive the different behaviours from more basic facts about imperatives and coordination. In a recent paper, van Rooij & Franke propose that it can be predicted on a game theoretic basis. They address the fact that only *and* can be used to "reverse" the intention of an imperative, as illustrated again in (24). Only (24b) conveys a serious invitation to eat spinach.

(24) a. *Don't eat your spinach, or I will give you a dollar.
b. Leave your spinach, and I will beat you.

R&F's idea is simply this: Both imperatives in (24a) and (24b) state what the speaker wants *not* be done. Both erroneously prime the listener to not eat spinach. (24a) counteracts by promising a reward for the elsewhere case; (24b) counteracts by promising a punishment in the imp! case. Now the reward case competes with other ways to call out similar rewards, e.g. (25).

(25) If you eat your spinach, I will give you a dollar.

Van Rooij and Franke argue that the reward in (25) can be somewhat lower than the one in (24a) because in (25), it only needs to overcome the addressees reservations against spinach whereas (24a) has to overcome these *plus* the additional linguistic priming to not eat spinach, caused by the imperative. Therefore (25) systematically wins over (24a).
In principle, the dual threat in (24b) faces a similar competition. The speaker likewise could decide to say '*If you eat your spinach, I will not beat you.'* or such. And again, cheaper threats are required here because priming of the unwanted action has been avoided. However, van Rooij and Franke say, a costly punishment is not as binding a social commitment as a costly reward. Society will sanction those who promise big rewards and do not pay. In contrast, society rather rewards those who lower punishment. Therefore, false priming is not equally uneconomic when it only raises punishment costs: You can always lower your costs again by simply not punishing so badly.
This argument would certainly be appealing, but there are parallel examples where speakers indeed offer promising vs. unpromising alternatives in those

costly ways that R&F want to exclude. This is possible both with disjoint declaratives and with disjoint imperatives. (26) demonstrates the strategy in a common parent-child interaction (the parent wants actually to get home).

(26) You can either stay on the playground longer, or we'll have time to have an ice cream on our way home.[7]

(27) is to be understood in a context which advertises cosmetic surgery. (Of course, I do not submit to the argument.)

(27) It's your decision: Remain an unremarkable average person for the rest of your life, or make an appointment with Dr. Knock's cosmetic surgery clinics today!

Such examples show that speakers are indeed willing to make suggestions in ways where priming has to be countered with higher rewards, even suggestions that are worded in the imperative mood. The pattern is just conventionally not available for the S_{imp} *or* S_{decl} coordination. I therefore conclude that the asymmetric behaviour of *and/or* coordination is a conventional part of the pragmatics of S_{imp} *coord* S_{decl} and needs to be coded in grammar.

4.2 Condoravdi and Lauer, again

C&L (2010a, b, 2011) argue in favour of a general model for speech acts in terms of public beliefs and commitments. Specifically, they propose that "the utterance of an imperative *p*! commits the speaker to act as if he had a preference for the hearer committing himself to act as if he preferred *p*" (C&L, 2010b). They assume that commitments are part of public beliefs in common ground update (Stalnaker, 2002). Public commitment to *p* will add *p* to a (public) list of the agent that reveals his preferences that drive his decisions for action. Preference lists feed modal quantification and offer a natural link to statements like '*I must p*' that are entailed by imperatives. General public will watch whether the agent's behaviour accords with his public commitments. If discrepancies get too large, the general public can decide on sanctions, thereby taking responsibility for the 'elsewhere' worlds that are part of the imperative's meaning in the Hands Up! approach.

C&L's analysis is a sophisticated variant of a speaker-buletic modal. It is therefore ideally suited to analyse imperative uses for wishes, including ill-wishes. These are hard for my own proposal, according to which the speaker basically asserts that it would be in the hearer's own interest to take a certain action. Arguably, this does not fit the *'drop dead'* example.

[7] Thanks to Manfred Sailer who brought up this type of example.

(28) *Please, be blond!* (wish in absence of addressee)
Drop dead! (ill-wish)

For the same reason, however, C&L's analysis has problems with imperatives used for desinterested ADVISE, cookie INVITATIONS, CONCESSIVES and DARE! imperatives. They do not discuss the use of imperatives in threats of the S_{imp} *and* S_{decl} form, but given that the speaker will not have an interest for the listener to follow S_{imp}! in these cases either, these coordinations should be extremely problematic in that approach. The appealing vision in C&L's approach is that ordering sources in modal semantics can be reconciled with preference lists in action planning. In accepting an imperative *p!*, the addressee is assumed to rank *p* high on his list of preferences. The actual ranking of preferences will not be fully determined by the imperative utterance, because the hearer could have other aims that he pursues with even higher priority. This underspecification is certainly adequate.

The Hands Up! analysis, in contrast, contributes in a more local, but also more explicit way to the facts that determine the addressees actions. Take the drastic initial *Freeze, or I will kill you!* Before hearing and believing the content of this imperative, the addressee A might have planned (= preferred with high priority) to not freeze but have a coffee. By learning that his next future options are either to freeze or to get killed, A does not simply demote his earlier plan '*I will now have a coffee'* to a somewhat lower rank. What A indeed faces is a quite drastic belief revision: He learns that the coffee plan is not part of any possible future at all, and that his choice is a quite different one.

4.3 Ross' Paradox

Let me finally show how Ross' paradox can be avoided. Ross (1944) is quoted as the first to observe that simple-minded modal analyses of imperatives carry the danger of falsely predicting that (29) entails (30).

(29) Come!
(30) Come, or stay!

The problem arises due to the fact that any world that has property *p* also has the weaker property $p \vee q$. The Hands-Up! analysis does not predict this false entailment: In the following, I will use the proposition SANCTIONS as a cover predicate for contextually given sanctions that the hearer could understand.

(29') $[\![[\ !\ ]\ \textit{Come!}\ ]\!] = [\ !\ ]\ (\lambda w.\textsc{Come}(A,w))\ (\lambda w.\textsc{Sanctions}(A,w))$
$= \lambda z.\forall w[\textsc{Future}(z,w) \wedge \textsc{Circ}(z,w) \wedge \textsc{Lewis-Sim}(z,w)$
$\rightarrow$ Come(A,*w*) $\vee$ Sanctions(A,*w*)]

Presupposition: Speaker believes that A will like worlds in λw.COME(A, w) better than worlds in λw.SANCTIONS(A, w).

(30') ⟦[!] *Come, or stay!* ⟧
= [!] (λw.COME(A, w) ∨ STAY(A, w)) (λw. SANCTIONS (A, w))
= λz. $\forall w$(FUTURE(z, w) ∧ CIRC(z, w) ∧ LEWIS-SIM(z, w)
→ (Come(A, w) ∨ Stay(A, w)) ∨ Sanctions(A, w))

Presupposition: Speaker believes that A will like worlds in λw[COME(A, w) ∨ STAY(A, w)] better than worlds in λw.SANCTIONS(A, w).
There are two ways to avoid Ross' paradox. The first way is to assume, as we did in earlier places, that the *or* which separates the sanction case from the Imp! cases is an exclusive *or* $\vee_e$. With this assumption, (29') no longer entails (30'): Assume that there is a world which is both a STAY(A)-world and a SANCTION-world. Then (29') can be true but (30') will be false. Hence, (30') is not entailed by (29').

Exclusive disjunction: ($\phi(x) \vee_e \xi(x)$) $-\times\rightarrow$ (($\phi(x) \vee \psi(x)$) ∨ $\xi(x)$)

The second way to block the inference from (29) to (30) will leave us the option for inclusive 'or' in the representation of imperatives in the Hands Up! format. It argues via presuppositions. (29) presupposes that the speaker believes that the addressee prefers worlds in λw.COME(A, w) over worlds in λw.SANCTIONS(A, w). (30) presupposes that the speaker believes that the addressee prefers worlds in λw(COME(A, w) ∨ STAY(A, w)) over worlds in λw.SANCTIONS(A, w). We can model these preferences by universal statements of the following kind: All worlds in λw(COME(A, w) ∨ STAY(A, w)) are better than any world in λw.SANCTIONS(A, w). With this explication of preferences, the person who utters (29) will not be committed to the content of the presupposition of (30) because s/he believes that some STAY worlds are also SANCTION worlds and therefore not any better than other SANCTION worlds. The details of weighing worlds against worlds would need to be worked out in detail, but the approach opens up another way to avoid Ross' paradox in the Hands Up! theory.

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