On the Directive Interpretation of Non-Past Sentences in Japanese*

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1 Introduction

Japanese non-past sentences, which involve the non-past morpheme -(*r*)*u* on the verb stem, are usually interpreted as declarative sentences referring to present (habitual) or future events, as exemplified in (1).[1]

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[1] The following abbreviations are used: ACC = accusative, C = complementizer, GEN = genitive, IMP = imperative morpheme, NOM = nominative, NP = non-past morpheme, POL = politeness, Q = question marker, SFP = sentence final particle, TOP = topic particle

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(1) Ken-wa {mainichi / asita} hasir-u.
Ken-TOP every.day tomorrow run-NP
'Ken runs every day. / Ken will run tomorrow.'

In addition, they can also be used as a directive speech act, typically pronounced with phonological emphasis (represented by capitals in the following examples); e.g., see Onoe (1979), Nitta (1999), Miyazaki et al. (2002) and Nihongo Kijutsubunpoo Kenkyuukai (2003) for descriptive surveys, and see Arita (2015), Noguchi (2016), Ihara and Noguchi (2018) and Ihara (2020, 2021) for theoretical research. (2), for example, is interpreted as a directive sentence similar to the (standard) imperative (3), in which an imperative morpheme is attached to the verb stem.

(2) HASIR-U.
run-NP
'Run.'

(3) Hasir-e.
run-IMP
'Run.'

I refer to directive sentences like (2) as *non-past directives* (*NPDs*, henceforth). NPDs are generally considered to be interchangeable with corresponding imperatives.[2] However, it will be observed that the two differ in terms of their contextual restrictions; NPDs can be felicitous in a more restricted range of contexts than imperatives. This paper aims to propose a semantic analysis of NPDs that can capture their contextual restriction.

This paper proceeds as follows: Section 2 illustrates the contextual restriction on the use of NPDs. Section 3 establishes the assumption for the proposal in this paper. Section 4 proposes a semantic analysis of NPDs that can capture their contextual restriction. Section 5 introduces two pieces of evidence for the proposal. Section 6 concludes the paper.

2 Where NPDs are Felicitous

This section discusses the contexts where NPDs are felicitously uttered. More specifically, it will be shown that they are felicitous only in contexts where

[2] Some differences between imperatives and NPDs are observed by Ihara and Noguchi (2018) and Ihara (2020, 2021), including the availability of so-called weak readings like permissions. Since these do not concern the core directive uses that this paper focuses on, I will leave it to future work to examine how my proposal is relevant to their observations.

the addressee(s) seems to the speaker to be "lazy". Such "lazy" contexts can be characterized by the two descriptions in (4).

(4) a. The speaker believes that it is obvious to the addressee(s) that they should realize the prejacent *p* in the current situation.
b. It seems to the speaker that the addressee(s) will not realize *p* in the current situation.

With these in mind, witness now the following contexts:

(5) [It is a well-known rule in this PE course that students must run around the grounds when a class starts. In one class, the students somehow feel too lazy to run and keep chatting. When the class starts, the teacher is surprised to find that they have not started to run. He says to them:]
NPD (2): ✓ / Imperative (3): ✓

(6) [The teacher believes that the new first-year students know the rule of his PE course that students must run around the grounds when a class starts, which is not the case. So, when the first class starts, the teacher is surprised to find that they have not started to run. He says to them:]
NPD (2): ✓ / Imperative (3): ✓

Although the two contexts differ in whether the teacher's belief is true or not, they satisfy both (4a) and (4b); the teacher believes that it is obvious for the students that they should run, since he believes that they know the rule (cf. (4a)), but it seems to him that they will not run (cf. (4b)). Note, then, that the NPD (2) is felicitous in those contexts, as well as the imperative (3).

Consider now the following contexts, where (4a) or (4b) does not hold:[3]

(7) [The teacher is planning to make a rule for his new PE course that the students run around the grounds as a first exercise. In the first class, he says to them:]
NPD (2): # / Imperative (3): ✓

[3] I leave open why the sentence final particle *yo* is necessary for the imperative (3) in the context (8); see, e.g., Davis (2009, 2011) and Oshima (2014) for relevant discussion and further references.

(8) [It is a well-known rule in this PE course that students must run around the grounds when a class starts. In one class, the teacher arrives a little early and so the students have not yet started to run. He expects them to start running soon since they have followed the rule in every class. As a reminder, he says to them:]
NPD (2): # / Imperative (3): ✓ (with the sentence final particle *yo*)

In (7), (4a) does not hold; the teacher does not believe that it is obvious for the students that they should run, since he has not told them about the rule. In (8), while (4a) holds, (4b) does not; the teacher does not have any reason to believe that the students will not run, given their obedience to the rule. Notice crucially that the NPD (2) is infelicitous in these contexts, unlike the imperative (3). The contrast between (5-6) and (7-8) thus indicates that NPDs are felicitous only in the contexts where both (4a) and (4b) are satisfied.

3 Assumption: Modal Approach

Before I propose the semantic analysis of NPDs, this section introduces the assumption for the proposal. Specifically, I adopt the modal approach to imperatives (e.g. Kaufmann 2012), according to which imperatives involve the imperative modal operator *IMP*. At the level of at-issue meaning, IMP is equivalent to necessity modals like *should* and *must*. It differs from them, however, in that it additionally triggers several presuppositions that make imperatives non-assertoric/performative. This paper focuses only on one of them that is relevant to the following discussion, namely *Ordering Source Restriction* (*OSR*, henceforth); I refer the reader to, e.g., Kaufmann (2012) for other presuppositions. Consider, for example, the imperative (3), repeated below. With the modal approach, I assume that (3) has the structure (9a), where IMP takes the propositional prejacent, and that it is interpreted as in (9b) (based on the Kratzerian modal analysis; e.g. Kratzer 1991, 2012).[4,5] (This paper assumes that any utterance context c determines the world w and a time t at which c takes place, what is common ground (CG) between the interlocutors (Stalnaker 1978), and what modal base f and ordering source g is salient.)

[4] For expository purposes, I assume that the prejacent of an imperative (and an NPD) involves a tense element that posits the event denoted by the prejacent in a temporal location which follows the index time i_c, as shown in (9b). Kaufmann (2012) argues that the temporal information of imperatives is encoded as a presupposition they trigger.

[5] This paper assumes without any argument that imperatives (and NPDs) involve a covert second person pronoun as their subject, as in (9).

(3) Hasir-e.
run-IMP
'Run.'

(9) a. [IMP [you run]]
b. $[\![(9a)]\!]^{c}$ = $\forall w' \in BEST(CG_c, g_c, t_c, w_c)[\exists t'[\text{you.run}(t', w') \ \& \ i_c < t']]$
presupposes, among others:
p (i.e. *you run*) resolves a salient decision problem of the addressee(s) $\Delta_{c,i'}$, such that the speaker and the addressee(s) consider the ordering source g_c the relevant criteria for solving $\Delta_{c,i'}$. (**Ordering Source Restriction**: OSR)

Three notes on some notions in the denotation (9b) are in order here. First, $BEST(CG_c, g_c, t_c, w_c)$ denotes a set of worlds which are compatible with the common ground CG_c (i.e. modal base) and best according to the contextually salient ordering source g_c at the utterance time t_c in the actual world w_c.

Second, $\Delta_{c,i'}$ denotes the salient decision problem of the addressee(s), consisting of future courses of their actions.

Third, following Saito (2018), I assume three salient times: the utterance time t_c, the index time i_c and the decision time i'_c. The index time i_c is part of the at-issue meaning of imperatives and is normally identified with the utterance time t_c. The decision time i'_c accompanies $\Delta_{c,i'}$ and refers to the time when the addressee(s) makes a decision of how to solve $\Delta_{c,i'}$. Saito assumes that i'_c corresponds to t_c in unmarked cases (i.e. if there is no contextually salient decision time before an imperative is uttered). Therefore, all the three salient times normally fall together (i.e. $t_c = i_c = i'_c$). In Section 5.2, however, we will observe the case where this equation does not hold.

Given all this, the at-issue meaning of the imperative (3)/(9a) is that the event of "your running" takes place after the index time i_c, or the utterance time t_c, in all the worlds of $BEST(CG_c, g_c, t_c, w_c)$, thus being equivalent to that of necessity modals like *should* and *must*.

4 Proposal: Special Imperative Operator

Building on the assumption illustrated in the last section, this section proposes a semantic analysis of NPDs that can capture their contextual restriction. More specifically, I propose that NPDs involve a special type of IMP, *S*(*pecial*)-*IMP*. Consider, e.g., the NPD (2), repeated below; I argue that (2) has the structure in (10a), which crucially involves S-IMP, and it is construed as in (10b).

(2) HASIR-U.
run-NP
'Run.'

(10) a. [S-IMP [you run]]
b. $[\![(10a)]\!]^{c}$ = $\forall w' \in BEST(CG_c, g_c, t_c, w_c)[\exists t'[\text{you.run}(t', w') \ \& \ i_c < t']]$
presupposes, among others:
(i) *p* (i.e. *you run*) resolves a salient decision problem of the addressee(s) $\Delta_{c,i'}$, such that the speaker and the addressee(s) consider the ordering source g_c the relevant criteria for solving $\Delta_{c,i'}$. (**Ordering Source Restriction**: OSR)
(ii) The addressee(s) is(/are) behaving irrationally with respect to their decision problem $\Delta_{c,i'}$ at i_c. (**Irrational Behavior by Addressee**: IBA)

Note that S-IMP is minimally different from IMP in that it triggers the additional presupposition, *Irrational Behavior by Addressee* (*IBA*, henceforth). The "irrational behavior" described in IBA draws on the notion *Rational Choice* (11), which Kaufmann and Kaufmann (2012) propose that OSR entails. (In (11), $\Box^{f,g}q$ stands for a proposition where the prejacent *q* is modalized by a necessity modal like *should* and *must* with respect to the modal base *f* and the ordering source *g*.)

(11) A rational hearer who believes $\Box^{f,g}q$ such that *q* serves as a solution to the salient decision problem will aim to bring about *q*. (*Rational Choice*; Kaufmann and Kaufmann 2012: 219)

Positing IBA for S-IMP is motivated by two characteristics of the contexts (5-6), where the NPD is felicitous, repeated below:

(5) [It is a well-known rule in this PE course that students must run around the grounds when a class starts. In one class, the students somehow feel too lazy to run and keep chatting. When the class starts, the teacher is surprised to find that they have not started to run. He says to them:]
NPD (2): ✓ / Imperative (3): ✓

(6) [The teacher believes that the new first-year students know the rule of his PE course that students must run around the grounds when a class starts, which is not the case. So, when the first class starts, the teacher is surprised to find that they have not started to run. He says to them:]
NPD (2): ✓ / Imperative (3): ✓

In both contexts, (i) the teacher (correctly or wrongly) believes that the students know that they should run, based on his assumption that they know the rule, and (ii) Rational Choice should be entailed, since the imperative, which presupposes OSR (see (9)), is felicitous as well in these contexts. Given these and the definition of Rational Choice (11), in (5-6) the teacher should assume that the students will run as long as they are *rational*. Actually, however, it seems to him that they will not run. Hence, he concludes that they are *irrational*, thus presupposing IBA when using the NPD.

Let us now examine how IBA/S-IMP accounts for why the NPD (2) is infelicitous in the contexts (7-8), repeated below.

(7) [The teacher is planning to make a rule for his new PE course that the students run around the grounds as a first exercise. In the first class, he says to them:]
NPD (2): # / Imperative (3): ✓

(8) [It is a well-known rule in this PE course that students must run around the grounds when a class starts. In one class, the teacher arrives a little early and so the students have not yet started to run. He expects them to start running soon since they have followed the rule in every class. As a reminder, he says to them:]
NPD (2): # / Imperative (3): ✓ (with the sentence final particle *yo*)

Consider (7) first. Recall that in (7) the teacher does not believe that the students know that they should run (cf. (4a)), since he has not told them about the rule. Note here that to determine the rationality of the addressee(s) on the basis of Rational Choice (11), the speaker needs to assume that they believe $\Box^{f,g}q$. Therefore, there is no reason for the teacher to assume that the students are irrational, thus preventing him from presupposing IBA. Let us next consider (8). There, as observed in Section 2, the teacher has no reason to think that the students will not run (cf. (4b)), given that they have been obeying the rule. Hence, it does not seem to him that they are irrational in the sense of Rational Choice (11), and thus he cannot presuppose IBA. In a nutshell, the NPD (2) is infelicitous in (7-8) due to presupposition failure regarding IBA.

5 Evidence

This section provides two pieces of evidence for the proposed analysis of NPDs, one regarding the "Hey, wait a minute." test (Section 5.1) and the other regarding past readings of imperatives in Japanese (Section 5.2).

5.1 *Hey, Wait a Minute.*

The first piece of evidence is based on the "Hey, wait a minute." test.[6] It is argued by von Fintel (2004) that a complaint after uttering "Hey, wait a minute." is regarding what the speaker presupposes, rather than what (s)he asserts. See (12), for example.

(12) A: The mathematician who proved Goldbach's Conjecture is a woman.
B: Hey, wait a minute. I had no idea that someone proved Goldbach's Conjecture.
B': #Hey, wait a minute. I had no idea that that was a woman.
(von Fintel 2004: 271)

In (12), A presupposes that someone proved Goldbach's Conjecture, as suggested by the subject *the mathematician who proved Goldbach's Conjecture*. After uttering "Hey, wait a minute.", B can complain about A's presupposing it, saying that (s)he did not know it. However, B cannot complain about the asserted content of A's utterance by saying that (s)he did not know that that mathematician was a woman.

Note that this test holds in Japanese as well, given that translating (12) into Japanese results in the same as (12), as shown in (13).

(13) A: Goorudobahha-no yosoo-o shoomeesita
Goldbach-GEN conjecture-ACC proved
suugakusya-wa zyosee nanda tte.
mathematician-TOP woman is SFP
'The mathematician who proved Goldbach's Conjecture is a woman.'
B: E, chotto matte. Goorudobahha-no yosoo-o
hey little wait Goldbach-GEN conjecture-ACC
shoomeesita hito-ga iru nante siranakatta yo.
proved person-NOM there.is C not.knew SFP
'Hey, wait a minute. I didn't know that (there is) someone (who) proved Goldbach's Conjecture.'
B': # E, chotto matte. Sono hito-ga zyosee da nante
hey little wait that person-NOM woman is C
siranakatta yo.
not.knew SFP
'Hey, wait a minute. I didn't know that that person was a woman.'

[6] I thank Yusuke Yagi (p.c.) for suggesting the "Hey, wait a minute." test for NPDs.

Let us now observe (14), where the "Hey, wait a minute." test is applied to the NPD. (The context in (14) is the same as that in (6).)

(14) [The teacher believes that the new first-year students know the rule of his PE course that students must run around the grounds when a class starts, which is not the case. So, when the first class starts, the teacher is surprised to find that they have not started to run.]
Teacher: HASIR-U.
run-NP
'Run.'
Student: E, chotto mat-tekudasai. Nani-o suru beki ka
hey little wait-IMP.POL what-ACC do should Q
wakaranakatta kara, hasiranakatta n desu yo.
not.knew because not.ran C is.POL SFP
'Hey, wait a minute. We didn't run because we didn't know what to do.'

In the context of (14)(/(6)), the teacher mistakenly believes that the students know the rule. He thus considers their not running to be irrational, satisfying IBA and making the NPD he utters felicitous. Notice now that, following the teacher's NPD, the student says "Hay, wait a minute." and then felicitously complains about the teacher's incorrect belief by explaining the reason why they did not run, to verify the rationality of their behavior. The felicity of the complaint thus suggests that IBA is encoded in the presupposition component of S-IMP.

Note further that the same result does not obtain if what the teacher utters is an imperative, as shown in (15).

(15) [In the same context as (14)(/(6)):]
Teacher: Hasir-e.
run-IMP
'Run.'
Student: # E, chotto mat-tekudasai. Nani-o suru beki ka
hey little wait-IMP.POL what-ACC do should Q
wakaranakatta kara, hasiranakatta n desu yo.
not.knew because not.ran C is.POL SFP
'Hey, wait a minute. We didn't run because we didn't know what to do.'

In (15), where the teacher utters an imperative, the student cannot felicitously complain about the teacher's wrong belief after saying "Hey, wait a minute."; the imperative would be interpreted as a mere order for the students to run.

This observation thus suggests that IBA is not encoded in imperatives, in contrast with NPDs.

5.2 Past Readings

The second piece of evidence concerns past readings of imperatives. Japanese imperatives can refer to (unrealized) past events, arguably translated as "you should have …" (e.g. Ihara and Noguchi 2018, Saito 2018, Tagawa 2019, Ihara 2020, 2021). I call imperatives with such a past reading *past imperatives*. See, e.g., (16), where the temporal adverb *kinoo* 'yesterday' forces it to be construed as a past imperative.[7]

(16) Kinoo gakkoo-ni ik-e yo.
yesterday school-to go-IMP SFP
Lit. 'Go to school yesterday.' ≈ 'You should have gone to school yesterday.'

This paper follows Saito's (2018) analysis for past imperatives. Assuming a modal approach like the one illustrated in Section 3, he proposes that past imperatives involve the shifting operator OP_T, which shifts the index time i_c to the decision time i'_c. (For these temporal notions, I refer the reader back to Section 3.) Compare the structure and denotation of normal imperatives in (17) with those of past imperatives in (18).

(17) normal imperatives:
a. [IMP [p(*rejacent*)]]
b. $[\![(17a)]\!]^c = \forall w' \in BEST(CG_c, g_c, t_c, w_c)[\exists t'[P(t', w') \,\&\, i_c < t']]$
presupposes OSR (see (9b)), among others.

(18) past imperatives:
a. [OP_T [IMP [p]]]
b. $[\![(18a)]\!]^c = \forall w' \in BEST(CG_c, g_c, t_c, w_c)[\exists t'[P(t', w') \,\&\, i'_c < t']]$
presupposes OSR, among others (where i'_c is the decision time of the relevant salient decision problem that the imperative provides an answer to).

Crucially, (18a) contains OP_T, unlike (17a). As a result, in (18b), the original temporal argument, namely the index time i_c in (17b), has been shifted to the decision time i'_c. According to (18b), the event denoted by the prejacent is

[7] It has been observed in the literature that past imperatives are usually followed by the sentence final particle *yo* as in (16) and that its absence would make them at least marginal. This paper does not delve into this issue, since it will not be relevant to the following discussion.

temporally placed after i'_c, rather than t_c. In the case of (16), for example, the (unrealized) event of the addressee's going to school yesterday temporally follows i'_c, or when she decided not to go to school. The temporal alignment is thus consistent. Without the shifting, however, the event in question would be located after the utterance time t_c, resulting in a contradictory temporal alignment.

Let us now consider what results if OP_T is applied to NPDs; (19) and (20) show the structure and denotation of NPDs without and with OP_T respectively.

(19) NPDs without OP_T
   a. [S-IMP [*p*]]
   b. $[\![(19a)]\!]^c = \forall w' \in BEST(CG_c, g_c, t_c, w_c)[\exists t'[P(t', w') \ \& \ i_c < t']]$
      presupposes, among others:
      (i) OSR
      (ii) The addressee(s) is(/are) behaving irrationally with respect to their decision problem $\Delta_{c,i'}$ at i_c. (**Irrational Behavior by Addressee**: IBA)

(20) NPDs with OP_T
   a. [OP_T [S-IMP [*p*]]]
   b. $[\![(20a)]\!]^c = \forall w' \in BEST(CG_c, g_c, t_c, w_c)[\exists t'[P(t', w') \ \& \ i'_c < t']]$
      presupposes, among others:
      (i) OSR
      (ii) The addressee(s) is(/are) behaving irrationally with respect to their decision problem $\Delta_{c,i'}$ at i'_c. (**Irrational Behavior by Addressee**: IBA)

(20b) consists of the denotation for past imperatives (18b) and the additional presupposition IBA. Notice crucially that in (20b) the temporal argument in IBA, which is originally the index time i_c as (19b) shows, has been shifted to the decision time i'_c, as a result of applying OP_T. Given all this, it is predicted that past readings are possible with NPDs as well in the contexts where (i) past imperatives are also felicitous and (ii) IBA is satisfied with respect to the decision time i'_c. To examine this prediction, consider (21).

(21) [Mai's father drives Mai to a piano lesson early morning every Sunday. On one Sunday morning, Mai has not woken up, so her father tries to wake her up. She says to him that today's lesson was canceled yesterday. He says to her:]
   Sore-wa kinoo i-e yo.
   that-TOP yesterday say-IMP SFP
   Lit. 'Say that yesterday.' ≈ 'You should have said that yesterday.'

Note first that the past imperative in (21) is felicitous in the given context. In addition, in that context, IBA is satisfied with respect to the decision time i'_c, when Mai decided not to tell her father that the lesson was cancelled; the father should believe that it was obvious to Mai at i'_c that she should report the cancelation to him, given the norms that are generally accepted by everyone in their family, and thus should consider her failure to report to have been irrational. It is then expected that an NPD corresponding to the past imperative in (21) is felicitous in the above context. This is borne out, as (22) shows.

(22) [In the same context as (21):]
SORE-WA KINOO YU-U.
that-TOP yesterday say-NP
Lit. 'Say that yesterday.' ≈ 'You should have said that yesterday.'

Furthermore, it is also predicted that past readings cannot obtain with NPDs in the contexts where IBA is not satisfied with respect to the decision time i'_c. Consider, for example, (23) and (24).

(23) [A conference was hosted by Tokyo University yesterday. Some graduate students, including Ken, had been chosen to help the conference; the others, including Mai, could come for help but were not required to. It was expected that many people would come to the conference, so Ken told Mai in advance that he wanted her to join the conference for help. But Mai did not show up in the conference, and thus the students were very busy and got exhausted. Today, Ken complained to Mai:]
Kinoo gakkai-ni sankasi-ro yo.
yesterday conference-to join-IMP SFP
Lit. 'Join the conference yesterday.' ≈ 'You should have joined the conference yesterday.'

(24) [A conference was hosted by Tokyo University yesterday. Some graduate students, including Ken, had been chosen to help the conference; the others, including Mai, could come for help but were not required to. More audiences came to the conference than expected, and so the students were very busy and got exhausted. Ken wanted more help, but no one came for help. Today, he told Mai how busy they were and said that he wanted her to join the conference for help. He then said to her:]
Kinoo gakkai-ni sankasi-ro yo.
yesterday conference-to join-IMP SFP
Lit. 'Join the conference yesterday.' ≈ 'You should have joined the conference yesterday.'

Note first that the two contexts in (23) and (24) are common in that the past imperative is felicitous in those contexts. However, they are different in whether IBA is satisfied with respect to the decision time i'_c. In (23), on the one hand, IBA is satisfied with respect to the decision time i'_c, when Mai decided not to join the conference; given that Mai knew at i'_c Ken's desire for her to join the conference, Ken must consider her absence to have been irrational. In (24), on the other hand, IBA is not satisfied with respect to i'_c; since Mai did not know at i'_c that Ken wanted her to join the conference, he cannot think that her absence was irrational. The proposed analysis then predicts that an NPD corresponding to the past imperative given above is felicitous in (23) but not in (24). (25) indicates that this prediction is borne out.

(25) a. [In the same context as (23),]
KINOO GAKKAI-NI SANKASU-RU.
yesterday conference-to join-NP
Lit. 'Join the conference yesterday.' ≈ 'You should have joined the conference yesterday.'

b. [In the same context as (24),]
#KINOO GAKKAI-NI SANKASU-RU.
yesterday conference-to join-NP
Lit. 'Join the conference yesterday.' ≈ 'You should have joined the conference yesterday.'

To sum up, the observations in this subsection support the current proposal that S-IMP consists of (i) the same content as IMP and (ii) the additional presupposition IBA.

6 Concluding Remarks

This paper has proposed a semantic analysis of NPDs to capture the fact that they can be felicitously used only in the contexts where the addressee(s) seems to the speaker to be "lazy", unlike imperatives. More specifically, based on the modal approach to imperatives, I have proposed that NPDs involve S-IMP, which has the same denotation as IMP except that it triggers an additional presupposition IBA. I have further provided two pieces of evidence for the proposal, one concerning the "Hey, wait a minute." test and the other concerning past readings of imperatives.

I finally note that the contextual restriction of NPDs illustrated in this paper is not observed in declaratives used as directive in other languages (e.g. *You will run!* in English; see, e.g., Recanati 1987). This difference buttresses the idea that the directive interpretation of NPDs results from a modal operator which can be parameterized, rather than from pragmatic principles.

Given the overall similarity between NPDs and imperatives, the proposal may serve as tentative support for the modal approach to imperatives (i.e. the "strong" theory) (see von Fintel and Iatridou 2017 for discussion; Portner 2004 for an alternative "minimal" theory).

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