IMPERATIVES ARE MODAL

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Abstract: It has been noted repeatedly in the literature (Huntley 1982, Huntley 1984, Davies 1986, Wilson and Sperber 1988, Ninan 2005, Han 1998, etc.) that imperatives have a modal dimension, given that they present a proposition as a possible and desirable state of affairs. However, the opinion that imperatives are modal is not shared by all researchers. For example, Portner (2007) claims that imperatives are not modal, in spite of the fact that they share a range of interpretations with modals. In this article I argue that imperatives are in fact modal and that the differences that Portner (2007) identifies are relevant for distinguishing not only between priority modals and imperatives, but between two larger classes of verbal forms, that include priority modals and imperatives, respectively. Crucially, the larger class of verbal forms that includes imperatives and that contrasts with priority modals are undisputedly modal. Thus, differing from priority modals does not necessarily imply lack of modality, but simply a different type of modality.

Keywords: modal base, imperatives, actuality entailments, temporal anchoring, true deontics/epistemics

1. Introduction

In order to clarify the notion of modality I have in mind, I will first distinguish between **modality** and **mood**. In a nutshell, modality is a notion that has semantic content, whereas grammatical mood is a possible morphological manifestation of modality. Mood verbal inflections like indicative, subjunctive, or infinitive are thus one way in which modality can be encoded grammatically. Along with mood, there are other ways of expressing modal attitudes and concepts, such as modal verbs, adjectives, or nouns.

(1) a. Tom *must* be the murderer.
b. It is *possible* that Tom is the murderer.
c. It is *believed* that Tom is the murderer.
d. *Necessarily*, Tom is the murderer.

The view on modality that I adopt originates in Kratzer (1981, 1991) and was further extended by many researchers (Giorgi and Pianesi 1997, Hacquard 2006, Portner 2007, etc.). In Kratzer's view, the semantic core of modality is relational. A modal verb like *must* in (2), for example, expresses a relation between what is known (the **modal restriction**) and a proposition (the **modal scope**) – *They have arrived*. Sentence (2) can thus be paraphrased as 'In view of what is known, they have arrived'.

(2) They must have arrived.

(3)

Relational modal	Modal restriction	Modal scope
must in view of	*what is known*	*They have arrived*

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Some modal sentences express both arguments of the relational modality overtly.

(4) Given all this evidence, Tom must be the murderer.

However, with other sentences, the modal restriction is not overtly expressed. When this happens, the modal restriction is provided by the context. Given that the context can vary indefinitely, the fusion between the modal restriction provided by the context and a given proposition can also vary widely, giving rise to many different tinges of modality. Below are Kratzer's examples:

(5) a. All Maori children *must* learn the names of their ancestors.
b. The ancestors of the Maoris *must* have arrived from Tahiti.
c. If you *must* sneeze, at least use your handkerchief.
d. When Kahukura-nui died, the people of Kahungunu said: Rakaipaka *must* be our chief.

The *must* in (5a) invokes a set of norms or duties and is deontic. The *must* in (5b) relates to a piece of knowledge or evidence, and as such is epistemic. The kind of *must* in (5c) has been called a "dispositional" *must*: it relates to dispositions people have, when they can't help sneezing, for example. The *must* in (5d) relates to preferences or wishes ("bouletic" *must*). In addition, one can distinguish various types of deontic *must* – there are different types of duties, springing from various people or institutions, various types of epistemic *must* – knowledge or information may change, several kinds of dispositional *must* – dispositions can change, and several types of bouletic *must* – we do not always refer to the same wishes or preferences when we use a bouletic *must*. The many tinges of modality expressed by *must* (or any other carrier of modality, for that matter) is the result of the fact that modality is context dependent, in Kratzer's (1981, 1991) view. The context, then, or the **conversational background**, is a major ingredient of modality. The conversational background is defined as a set of propositions taken for granted in a context (the explicit or implicit premises for judgments speakers make). However, not all the propositions in the conversational background are relevant for the modal judgment. The subset of propositions that are relevant for a particular modal judgment forms the modal base. Depending on the relation between the common ground of the conversation and the context of evaluation (i.e. the set of propositions in relation to which a modal sentence is evaluated), several types of **modal bases** that can be identified. For example, if the (set of propositions in the) common ground coincides with the set of propositions in the context of evaluation, the modal base is totally realistic. If, on the other hand, the common ground never intersects the context of evaluation, i.e. the intersection between them is null, the modal base is non realistic. And if, for example, the modal restriction is a set of norms, laws, or regulations, the modal base is called deontic.

The modal base is not the only factor that contributes to the diversity of modal meanings. The propositions in the modal base can be ordered by a set of principles, or an **ordering source**. Ordering sources capture the observation that the understanding of a modalized sentence often implies the use of idealized states of affairs, describing the world as it should be (according to the law, according to the normal course of events,

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according to what is desirable, etc.). An ordering source – a set of propositions describing the ideal – orders the propositions in the modal base according to the degree to which they realize the ideal described by the ordering source itself.

Modal expressions thus need to be interpreted relative to the modal base but also relative to the ordering source. Epistemic modality for example, has an epistemic modal base (what is known) and either no ordering or an ordering based on plausibility or stereotypicality. Deontic modality, on the other hand, can have a circumstantial modal base and an ordering source based on a body of laws or norms.

2. Imperatives and modality

In this section I will discuss modality as applied to imperatives. I will first present Portner's (2007) view and his arguments against the claim that imperatives are modal, which are based on the contrast between imperatives and priority modals. I will then argue that the differences Portner identifies between (priority) modals and imperatives do not in fact point to a lack of modal features on imperatives, but rather to the fact that imperatives express a different shade of modality than priority modals.

2.1 Portner (2007)

Portner (2007) points out that there are a number of interpretive similarities between imperatives and modals, but that, in spite of these parallelisms, imperatives should be kept apart from modals.

2.1.1 Parallelisms between imperatives and (priority) modals

According to Portner (2007), the range of meanings that imperatives may convey can be identified with the variety of interpretations that are possible for non-dynamic **root modals**, including deontic, bouletic, and teleological readings.

There are several classifications of modals in the literature, either as a two-way distinction between epistemic and root modals, or as a three-way distinction between epistemic, deontic, and dynamic modals. Portner (2007) assumes the three way distinction, but he replaces the label "deontic" with "priority" modal. Moreover, Portner proposes to further subdivide priority modals into deontic, bouletic, and teleological.

(6)

Classification A	Epistemic	Root			
Classification B	Epistemic	Deontic			Dynamic
Portner's classification	Epistemic	Priority			Dynamic
		Deontic	Bouletic	Teleological	

Below are Portner's examples:

(7) a. It must be raining. (epistemic)
b. i. John must be sent to prison. (The law says so.) (deontic)

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b. ii. Mary should try this brand of chocolate. (She loves dark chocolate.) (bouletic)
b. iii. Susan should quit her day job. (It's the only way she'll realize her dream of becoming a successful yoga teacher.) (teleological)
c. Dogs can swim. (dynamic)

The range of interpretations that non-dynamic modals can have is paralleled by the range of interpretations imperatives can have. Below are Portner's (2007) examples (18), (19) and (20), respectively.

(8) a. Sit down right now! (order)
b. Noah should sit down right now, given that he's been ordered to do so. (deontic)
(9) a. Have a piece of fruit! (invitation)
b. Noah should have a piece of fruit, given that it would make him happy. (bouletic)
(10) a. Talk to your advisor more often! (suggestion)
b. Noah should talk to his advisor more often, given that he wants to finish his degree. (teleological)

The parallelism between imperatives and non-dynamic root modals can be supported by comparing their respective modal base and ordering sources. The modal base of root modals, be they priority or dynamic, is realistic and circumstantial, consisting of contextually identified facts about how the world is. In order to utter (10b), for example, we take into account how long Noah has been trying to finish his thesis, when he was expected to finish, his desire to succeed in finishing, i.e. all the circumstances that are relevant for the meetings between Noah and his supervisor. Likewise, in Portner's (2007) view, the modal base of imperatives is also realistic and context dependent. Portner equates the modal base of imperatives with the common ground – the set of propositions representing the information that is mutually presupposed by participants in a conversation (Stalnaker 1974 and 1978). In uttering (10a), for example, the speaker takes into account the same range of facts that were relevant for the evaluation of (10b), i.e. how long Noah has been trying to finish his thesis, when he was expected to finish, his desire to succeed in finishing, i.e. all the information relevant for the meetings between Noah and his supervisor, jointly presupposed by speaker and hearer.

The paralelism between root modals and imperatives extends to the ordering source, as well. The ordering source of root modals orders the propositions in the modal base according to some standard: either laws or regulations (in the case of deontic priority modals), wishes / desires (in the case of bouletic priority modals), or some goals (in the case of teleological priority modals). Likewise, the ordering source of imperatives will rank the propositions in the modal base according to some criterion. In Portner's (2004, 2007) view, the relevant criterion is the addressee's to-do list – a set of actions that the addressee is committted to taking. The propositions in the modal base of an imperative will thus be ordered according to how successful an individual is in bringing about what they are committed to bringing about. The various tinges of meaning exhibited by

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imperatives (deontic, bouletic, etc) can be accounted for by assuming that each participant in a conversation has multiple to-do lists, or by assuming that to-do lists are organized into sections: a part including orders, another part including desires, another part including goals, etc.

2.1.2 Differences between imperatives and (priority) modals

However, in spite of the similarities between the range of interpretations of imperatives and priority modals, Portner (2007) explicitly warns against equating the two. In particular, Portner argues that imperatives are not modal. The non-modal nature of imperatives is directly linked to the following properties, which set priority modals and imperatives apart from each other:

Denotation

While genuine modal sentences like (11a) can be called true or false, imperatives like (11b) cannot.

(11) a. Noah should sit down right now. (given that he's ordered to do so)
b. Sit down right now!

(11a) is true if it follows from the propositions in the modal base that Noah sits down and false if the rules fail to imply that Noah sits down. In contrast, there is no sense in which (11.b) can be said to be true or false.

The subject

Another difference pointed out by Portner is that priority modals can refer to actions of various subjects, whereas imperatives are limited to the actions of the addressee.

(12) a. **They** should sit down (deontic priority modal)
b. **You** should sit down (deontic priority modal)
(13) a. ***They** sit down! (imperative)
b. **You** sit down! (imperative)

While the priority modal *should* in (12) can take either a third person plural subject or a second person singular one, the subject of the imperative in (13) is reduced to second person singular features only.

Since both of the properties above are crucial for deciding whether a sentence is modal or not, and since imperatives do not pattern the same as modal sentences with respect to these properties, Portner (2007) concludes that imperatives are not modal.

2.2 Imperatives are modal

In what follows, I will argue that imperatives are in fact modal and that the differences above simply show that imperatives are not modal in the way priority modals

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are; in other words the modality of imperatives has a different flavor as compared to priority modals. The discussion that follows treats all imperatives alike, whether they are true imperatives or suppletive imperatives. Given the distinction between mood and modality, true and surrogate imperatives can be treated as various instances of mood, i.e. as various inflectional or morphological manifestations of modality.

In order to show that imperatives are modal, I will first introduce some additional differences between priority modals and imperatives and will then show that these differences (together with the differences pointed out by Portner (2007)) are relevant for distinguishing not only between priority modals and imperatives, but between two larger classes of verbal forms, that include priority modals and imperatives, respectively. Crucially, the larger class of verbal forms that includes imperatives and that contrasts with priority modals is undisputedly modal. Thus, differing from priority modals does not necessarily imply lack of modality, but simply a different type of modality. Since the non-modal nature of imperatives was established on the basis of the contrast with priority modals, and since other items that contrast with priority modals in the same way are in fact modal, I will conclude that imperatives are modal, too.

2.2.1 Two additional properties

The two additional properties according to which priority modals and imperatives differ and which I will discuss in what follows are the so-called "actuality entailments" and the temporal interpretation.

Actuality entailments.

Priority modals allow the entailment that the event described by the lexical verb actually took place in the real world, whereas imperatives do not. In the following examples, the actuality entailment is brought about by the perfective aspect[1], as illustrated in the following examples taken from Hacquard (2006):

(14) a. Pour aller au zoo, Jane **devait** prendre le train.
for go-INF to zoo, Jane had take-INF the train
'To go to the zoo, Jane had to take the train.'

b. Pour aller au zoo, Jane **a** **dû** prendre le train
for go-INF to zoo, Jane has had take-INF the train
'To go to the zoo, Jane had to take the train.' (actualized necessity)

Example (14b), which includes a priority modal in the perfective ("passé composé"), carries an **actuality entailment**, i.e. it requires its complement to hold in the actual world, and not merely in some possible world – taking the train was the only possible option, and this option was actualized.

[1] The perfective aspect, to be held apart from the perfect, describes an event or state as a whole, ignoring its potential internal structure.

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Hacquard (2006) shows that the actuality component is not cancellable and therefore that it is an **entailment** rather than pragmatic **implicature**. The following example illustrates this.

(15) Jane a dû prendre le train pour aller à Londres, *mais elle a
Jane has must-PERF take-INF the train for go-INF to London, *but she has
pris l' avion.
taken the plane
'Jane had to take the train to go to London, but she took the plane.'

The actuality entailments of priority modals are not cross linguistically encoded in the perfective aspect, simply because the perfective and imperfective are not morphologically distinguished in all languages. Actuality entailments can also be brought about via temporal adverbs. As discussed in Bhatt (1999), the English ability modal *be able to*, when occurring in the past tense, is ambiguous between two readings which can be paraphrased as 'managed to' and 'had the ability to'. The two readings are made possible by two different temporal adverbials.

(16) a. Yesterday, firemen were able to eat 50 apples. (Bhatt 1999)
b. Back in the days, firemen were able to eat 50 apples.

If the adverbial is *yesterday*, as in (16a), the implication is that firemen actually ate 50 apples, whereas no such actuality entailment is carried by (16b), which contains a different time adverbial – *back in the days*. As in the French cases, cancellation of the actuality implication leads to a certain oddness. Below is Bhatt's example:

(17) Last night, a masked assailant attacked me on my way home. I was able to wrestle him to the ground. *But I didn't do anything since I am a pacifist.

The examples above contain dynamic modals, but the same judgments can be extended to examples involving priority modals.

(18) a. Yesterday, John had to work for 14 hours in a row. (past episodic, actualized)
b. In those days, John had to work for 14 hours in a row. (past generic, no actuality entailments)

Example (18a) implicates that John actually worked for 14 hours in a row, whereas (18b) does not carry such an actuality entailment.

Imperatives, on the other hand, do not carry actuality entailments, even in the rare situations when they are compatible with the perfective. Clearly, a non-perfective imperative does not offer any guarantee that the event happens or will happen in the real world.

(19) Close the door!

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Example (19) does not in any way imply or entail that the door got closed, gets closed, or will get closed. Perfective imperatives, when possible, also fail to be associated with an actuality entailment, even though the perfective does carry some teleological entailments. In Polish, for example, the perfective imperative is used when the addressee is to carry the action to completion, and the imperfective is used when the speaker isn't putting an emphasis on the end point of the action.

(20) a. Zrób to teraz! (Wierzbicka 2002)
do-2SG.IMP this-ACC now
'Finish doing it now!'
b. Rób to teraz!
do-2SG.IMP.IMPERF this-ACC now
'Do this now for some time!'

Similarly, the perfect in (21a) does not implicate that the addressee will actually try it before beginning to criticize, or that he will eat everything before the guests arrive in (21b).

(21) a. Do at least have tried it before you begin to criticize (Davies 1986)
b. Don't have eaten everything before the guests arrive (Davies 1986)

Temporal interpretation

A second additional difference between priority modals and imperatives has to do with the temporal interpretation. More precisely, while priority modals are compatible with the past tense for example, imperatives cannot be interpreted in the past.

(22) Jane a dû prendre le train. (Hacquard 2006)
Jane has must take-INF the train
'Jane had to take the train.'
(Given Jane's circumstances then, she had to take the train then.)
(23) a. Do try this!
b. *Did try this!

The incompatibility between the past tense and imperatives could be explained by the idea that putting an obligation on an addressee to bring about a past state of affairs is pointless. However, the incompatibility between imperatives and tense seems to be more general, and not simply confined to the past tense, as argued by Zanuttini (1991) and Han (1998) for instance.

This incompatibility between imperatives and tense could be explained by assuming that the time of evaluation of an imperative is always the speech time ("now"). In contrast, the time of evaluation of a priority modal is provided by Tense ("then", in (22) above)[2]

[2] In addition to the goal oriented interpretation, this example also has an epistemic interpretation. Under this latter option, the time of evaluation of the modal is the speech time ("now"), and the epistemic state reported is that of the speaker – Given my evidence now, it must be the case that Jane took the train then.

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We thus have four properties that distinguish imperatives from priority modals: two identified by Portner (2007) (having to do with the denotation, and the subject of imperatives) and two additional ones discussed above (having to do with the actuality entailments, and the temporal interpretation of imperatives). Interestingly, the same list of properties is instrumental in distinguishing not only between priority modals and imperatives, but between root modals in general on the one hand (a category that includes, but is not reduced to, priority modals, as discussed in Portner 2007), and non-root modals ("true" epistemics and addressee oriented deontics) on the other hand.

2.2.2 From priority modals to root modals

The examples in (24)-(27) illustrate how these properties extend to dynamic (ability) modals.

Denotation

Just like priority modals, dynamic modals can be true or false. (24) is true if Noah does indeed now have the ability to swim, and false if Noah doesn't have this ability[3]

(24) Noah can swim now. (ability)

The subject

Just like priority modals, a dynamic modal like *can* in (25) may refer freely to the ability of a third person plural subject or of a second person subject, for example.

(25) a. They can eat twenty apples in an hour. (ability, 3rd person plural subject)
b. I can eat twenty apples in an hour. (ability, 1st person subject)

Actuality entailments

Just like priority modals, ability modals carry actuality entailments. In (26b), which contains an ability modal in the perfect, other options might have been available but the actualized one was taking the train.

(26) a. Pour aller au zoo, Jane pouvait prendre le train
for go-INF to zoo, Jane can-NON-PERF take-INF the train
'In order to go to the zoo, Jane could take the train.'
b. Pour aller au zoo, Jane a pu prendre le train
for go-INF to zoo, Jane has can-PERF take-INF the train
'In order to go to the zoo, Jane was able to take the train.' (actualized possibility)

Temporal interpretation

Last, but not least, the time of evaluation of an ability modal is provided by Tense, just as in the case of priority modals.

[3] This is something noticed by Portner (2007) himself.

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(27) Jane could / was able to take the train.

Sentence (27) is anchored to the time expressed by Tense, i.e. past. A suitable paraphrase for (27) would thus be: 'Given Jane's circumstances **then**, she was able to take the train **then**.'

Given that ability / dynamic modals pattern with priority modals, the differences described above set imperatives apart from all root modals, not only from priority modals.

2.2.3 From imperatives to all non-root modals

On the other hand, imperatives are not alone in contrasting with root modals – imperatives pattern with epistemic modals (having to do with knowledge about the world) and deontic modals (i.e. having to do with permissions and obligations) with respect to the same properties.

The subject

Not only imperatives, but also epistemics and deontics can be keyed to a participant of the speech act (either the speaker or the adressee), rather than to the subject (Halliday 1970, Palmer 1986, Feldman 1986, Hacquard 2006).

Some deontics express an obligation or permission that is put on the addressee rather than on the subject. Following Hacquard (2006), I will call this subtype "true" deontics. Imperatives therefore pattern with true deontics rather than with subject oriented ones. Not all deontics are "true", however. Deontics split into two categories: true deontics (where the obligation is put on the addressee), and subject-oriented deontics (where the obligation is on the subject). To illustrate, one of the possible interpretations of deontic *must* in (28) is obligation which has the speaker as its source and the addressee as the one responsible for carrying out that obligation.

(28) Kitty must / has to brush her teeth. (Bhatt (1998)
  a. According to some set of rules, Kitty must brush her teeth.
  b. (Talking to the babysitter) **I** (i.e. **the speaker**) am putting an obligation on **you** (i.e. **the addressee**) to see to it that Kitty brushes her teeth

As discussed above, subject orientation is a property of root modals. In fact, Portner (2007) explicitly categorizes subject oriented deontics with root modals. Interestingly, subject oriented deontics show all the other properties that we identified above for root modals: they can be true or false, they carry actuality entailments, their time of evaluation is provided by Tense.

Similarly, epistemics also split into two subtypes: one subtype that express an epistemic state of the speaker, and another one that expresses an epistemic state of the subject. So, at least one subtype shares with imperatives the property of being anchored to a participant of the speech event.

(29) Pour aller au zoo, Jane a dû prendre le train.
for go-INF to zoo, Jane has had take-INF the train
'In order to go to the zoo, Jane had to take the train.'

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Sentence (29) is ambiguous: it could be interpreted as oriented towards the subject or towards the speaker. In order to get the subject oriented epistemic interpretation, we take into account Jane's knowledge of the relevant circumstances, i.e. her knowledge of the distance to the zoo, of the availability of other means of transportation, of the time when she wanted to go to the zoo, etc. Hence the modal base is circumstantial. The proposition is true or false depending on whether the evidence available to Jane in the particular circumstances in which Jane is placed is conducive to the decision of taking the train. In contrast, in order to get the speaker oriented interpretation, what counts is the evidence available to the speaker, and the proposition may turn out to be true or false depending on whether this evidence is compatible with going to the zoo by train.

For the sake of parallelism with the two subtypes of deontics discussed above, I will use the label "true" epistemics for the ones that are oriented towards the speaker. It is true epistemics that pattern alike with imperatives in that they are both oriented towards a participant of the speech event. The other type of epistemics, the non-true ones, shows the properties of root modals, rather than non-root ones. Apart from being subject oriented, they can be true or false, they carry actuality entailments, and their time of evaluation is provided by Tense.

Denotation

Just like imperatives, true epistemics and true deontics also seem to lack a truth value.

Consider first true epistemics. Under its speaker oriented interpretation, (30) can't be said to be true or false. This is because the true epistemic modal "is the speaker's assessment of probability and predictability. It is external to the content, being a part of the attitude taken up by the speaker: his attitude, in this case, towards his own speech role as 'declarer'" (Halliday 1970: 349).

(30) Superman must be jealous of Lois. (Papafragou 2006)

Such sentences fail to pass the standard diagnostic tests for truth conditionality: they can'' occur in the complement of factive predicates (31a) and their content cannot be challenged or endorsed by the hearer (see 31b, c, d) – see Halliday (1970), Palmer (1986), Drubig (2001), etc.

(31) a. ?It is surprising that Superman must be jealous of Lois.
b. Superman must be jealous of Lois.
?I don't believe it
c. Superman must be jealous of Lois.
?That's not true
d. Superman must be jealous of Lois.
?I agree

The same goes for true deontics, which also fail the tests for truth conditionality.

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(32) You must leave now.
a. ?It is surprising that you must leave now.
b. ?I don't believe it
c. ?That's not true
d. ?I agree

And so do imperatives:

(33) Leave now!
a. ?It is surprising that you must leave now.
b. ?I don't believe it
c. ?That's not true
d. ?I agree

Actuality entailments

Just like imperatives, true epistemics and true deontics carry no actuality entailment in the perfect aspect. (34a) and (34b), which contain true epistemics, show no difference in actuality entailments: in both examples, the speaker asserts at the time of utterance what must have been the case at a salient past time, but none of these sentences entails that Darcy actually loved Lizzie at the relevant past time.

(34) a. Darcy a dû aimer Lizzie.
Darcy has must-PERF love-INF Lizzie
'Darcy must have loved Lizzie.'
b. Darcy devait aimer Lizzie.
Darcy must-NON-PERF love-INF Lizzie
'Darcy must have loved Lizzie.'

On the other hand, true deontics are not normally compatible with the perfective aspect. But, even for speakers who do accept true deontics in the perfective, the actuality entailment doesn't go through – if a sentence like (35) is uttered when the obligation is on the addressee rather than on the subject, such as when talking to a babysitter, for example, it is rather odd:

(35) ??Kitty a dû faire ses devoirs et elle les a fait. Bravo!
Kitty has must-PERF do-INF her homework and she them has done bravo
'Kitty had to do her homework and she's done it. Good work!' (Hacquard 2006)

Temporal interpretation

Finally, imperatives pattern with true epistemics and true deontics with respect to their temporal interpretation, as well. Above, we saw that the time of evaluation for an imperative is always the speech time ("now"). The same holds for true epistemics and true deontics. To illustrate the temporal interpretation of true epistemics first, consider the example below, taken from Hacquard (2006):

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(36) They might (already) have won the game.

In (36) the epistemic possibility is about a past time, but is evaluated at the time of utterance: it is possible, as far as I (the speaker) know (right now), that (at some past time) they won the game.

Consider also the French example in (29), repeated below as (37b), which is ambiguous between a true epistemic interpretation and a goal oriented, root interpretation:

(37) Pour aller au zoo, Jane a dû prendre le train.
for go-INF to zoo, Jane has had take-INF the train
'In order to go to the zoo, Jane had to take the train.'
a. true epistemic: given **my (i.e. the speaker)** evidence, it must be the case that Jane took the train
b. goal oriented: given **Jane's** circumstances, she had to take the train

As pointed out above, with the true epistemic reading, the epistemic state that is reported is that of the speaker, while with the goal oriented reading the circumstances that are reported are those of the subject. The two interpretations also differ with respect to the time of evaluation of the modal. The actual tense on the modal in this example is past, but the time of evaluation of the modal is past only under its goal oriented interpretation, in (37b), while under its true epistemic interpretation the time of evaluation of the modal is the speech time ("now"). Thus, even when true epistemics occur in the past, the epistemic state that is reported is present (the epistemic modal is evaluated at speech time, "now").

The same type of anchoring to the speech time ("now") is also shown by true deontics. The following example with *devoir* can be used as a true deontic only in the present, i.e. (38a) can be used when the speaker is addressing the babysitter, for example:

(38) a. Kitty doit faire ses devoirs. (Hacquard 2006)
Kitty must do-INF her homework
'Kitty must do her homework'
b. Kitty devait faire ses devoirs.
Kitty must-PAST do-INF her homework
`Kitty had to do her homework'

In contrast, when *devoir* is in the past, as in (38b), a true deontic interpretation is not possible at all – (38b) cannot be used when the speaker is addressing the babysitter. Both (38a) and (38b) are fine with a goal oriented interpretation, where the obligation is not on the addressee (the baby-sitter) but on the subject (Kitty).

The incompatibility between true deontics and the past is due to the fact that true deontics are also evaluated at speech time, just as true epistemics and imperatives. This brings about a clash between the time of the request on the addressee ("now") and the time of the proposition that is the content of the request ("then", past). This is different from true epistemics, which are compatible with the past tense (but are still evaluated at speech time). This is most likely because it is conceptually fine to report a (current)

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epistemic state about a past state of affairs, whereas it is not possible to request someone to bring about a past state of affairs (Ninan 2005, Hacquard 2006).

3. Conclusions

In Portner's (2007) view, imperatives are similar, as far as their semantic properties go, with priority modals, a subtype of root modals. However, there are a number of properties that set priority modals apart from imperatives. The existence of these differences led Portner to the conclusion that imperatives are not modal. In this article I pointed out that the list of differentiating properties can be enlarged and that the total set of differentiating properties are instrumental in setting up a contrast between root modals in general (which include priority modals, but are not limited to them) on the one hand, and true epistemics and true deontics, on the other hand. Imperatives were shown to pattern with the latter class and to contrast with root modals. The existence of a contrast between these two classes of predicates does not necessarily point to the lack of a modality feature in one of the classes, since true epistemics and true deontics are clearly modal, in spite of the fact that they contrast with root modals. Similarly, the fact that imperatives contrast with root modals does not mean that they are not modal. Instead, this contrast is indicative of two different shades of modality.

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