

On the functions of the Japanese discourse particle *yo* in declaratives

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Abstract. This paper presents a novel analysis of two central uses – Davis’ (2011) “guide to action” and “correction” uses – of the Japanese discourse particle *yo* occurring in declarative clauses. *Yo* accompanied by the question-rise contour has a function to add the propositional content to the modal base for priority modality relativized to the hearer, thereby indicating that the propositional content is relevant to what the hearer should and may do. *Yo* accompanied by the non-rising (flat) contour has a function to indicate that the hearer should have recognized the propositional content beforehand. Four other functions of *yo* in declaratives will also be briefly discussed. It will further be pointed out *yo* accompanied by the rise-fall contour has similar functions as *yo* accompanied by the non-rising contour, but additionally expresses the speaker’s want for the hearer’s sympathy and/or understanding.

1 Introduction

This paper develops an analysis of some major functions of the Japanese discourse particle *yo*. Section 2 presents basic facts about *yo*. Section 3 briefly reviews three influential analyses of *yo*: Takubo and Kinsui (1997), McCready (2009), and Davis (2011), and discusses their limitations. Sections 4 and 5 present a novel analysis of two central uses of *yo*, which Davis (2011) calls the “guide to action” and “correction” uses. It will be argued (i) that *yo* accompanied by the question-rise contour has a function to add the propositional content (of the prejacent, i.e., the sentence without *yo*) to the set of propositions serving as the modal base for priority (deontic) modality relativized to the hearer, and (ii) that *yo* accompanied by the non-rising (flat) contour has a function to indicate that the hearer should have recognized the propositional content beforehand. Section 6 discusses some other functions of *yo* in declaratives. Section 7 demonstrates that *yo* accompanied by the rise-fall contour has similar functions as *yo* accompanied by the non-rising contour, but additionally expresses the speaker’s want for the hearer’s sympathy and/or understanding.

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2 Basic facts about *yo*

The functions of the discourse particles (also called the sentence-final particles) in Japanese, and in particular of *yo*, have attracted a great deal of attention in the literature.

Yo is one of the most frequently occurring discourse particles, and is used in a wide variety of speech styles and registers, e.g., both in male and female speech, and both in formal and informal speech. Also, it may occur in a wide range of clause types including declaratives, interrogatives, imperatives, and exhortatives.

It has been recognized that *yo* exhibits rather different functions depending on the intonation accompanying it (Koyama 1997; Davis 2011).¹ *Yo* may occur with (i) the rising contour commonly referred to as the “question rise” and assigned the label “LH%” in Venditti’s (2005) notational system, (ii) the non-rising contour (the “flat” contour in Kori 1997; the “falling” contour in Davis 2011) indicated by the absence of intonation label in Venditti’s system, or (iii) the “rise-fall” contour assigned the label “HL%” in Venditti’s system.² Following Kori (1997), I will use ↗ to indicate the rising contour (question rise), ↘ to indicate the non-rising contour, and ↑↓ to indicate the rise-fall contour. Below are some examples to illustrate the usage of *yo*.³

- (1) a. A, kasa-o wasureteiru-**yo**↗
oh umbrella-Acc forget.Ipfv.Prs-*yo*
‘Oh, you forgot your umbrella.’
- b. Karada-ni ki-o tsukero-**yo**↗
body-Dat mind-Acc put.Imp-*yo*
‘Take care of yourself.’
- c. Dooiu imi-da-**yo**↘
what.kind.of meaning-Cop.Prs-*yo*
‘What does that mean?’

This work primarily addresses what Davis (2011) calls the “guide to action” use and “correction” use of *yo*, but also discusses some other uses of *yo* in declaratives. *Yo* in clause types other than declaratives, as well as *yo* occurring in combination with other discourse particles such as *ne* and *wa* or the auxiliary *n(o)da* (e.g., *wasureteiru-yo-ne*, *wasureteiru-nda-yo*), will be excluded from the

¹ It is not immediately clear if an intonational contour is directly associated with a discourse particle like *yo*, or rather the contour is primarily an attribute of a larger utterance unit that may contain a discourse particle at its end. This issue does not have a direct bearing on the discussion in the current work.

² *Yo* is not compatible with the “insisting rise” contour (Kori’s “↑”; Venditti’s “H%”), with which some other discourse particles including *ne* are compatible (Oshima 2013).

³ The abbreviations used in glosses are: Acc = accusative, Attr = attributive, Aux = auxiliary, Ben = benefactive, Cond = conditional, Cop = copula, Dat = dative, DP = discourse particle, Gen = genitive, Imp = imperative, Ipfv = imperfective, Neg = Negation, Nom = nominative, Pro = pronoun, Prs = present, Pst = past, Q = question marker, Quot = quotative marker, Top = topic, Vol = volitional.

discussion, although it is clear that consideration of them is essential for a full understanding of *yo*.

3 Previous discussions of *yo*

3.1 Takubo and Kinsui (1997)

Takubo and Kinsui (1997) claim, in brief, that *yo* is an inference-trigger. By uttering (2), for example, the speaker invites the hearer to make an inference such as “The hearer should take an umbrella with him” or “The picnic will be canceled”; note that the label for the question-rise contour was added by the present author, assuming that it is the intonation intended by Takubo and Kinsui.

- (2) Ame-ga futteiru-**yo**↗
 rain-Nom fall.Ipfv.Prs-*yo*
 ‘It is raining.’ (adapted from Takubo and Kinsui 1997:756)

“Direction to make an inference”, however, is not a sufficiently specific characterization of the function of *yo* in question. Compare (3) and (4), assuming that (i) A and B are members of the same student reading club, (ii) A is in charge of buying supplies such as stationery and utensils, and (iii) A is now at a supermarket on an errand, with B accompanying him to give a hand.

- (3) A: Kami koppu-mo katteokoo-ka-na.
 paper cup-also buy.beforehand.Vol-Q-DP
 ‘Perhaps I should buy some paper cups too.’
 B: Kami koppu-wa mada takusan nokotteru-**{yo↗/#∅}**
 paper cup-Top still many remain.Ipfv.Prs-*yo*/∅
 ‘We’ve still got plenty of paper cups.’
 (**Implicature:** You don’t need to buy paper cups now.)
- (4) B: Kami koppu-wa kawanai-no?
 paper cup-Top buy.Neg.Prs-DP
 ‘Are you not going to buy paper cups?’
 A: Kami koppu-wa mada takusan nokotteru-**{??yo↗/∅}**
 paper cup-Top still many remain.Ipfv.Prs-*yo*/∅
 ‘We’ve still got plenty of paper cups.’
 (**Implicature:** I don’t need to buy paper cups now.)

(3B) and (4A) invite similar inferences and convey similar conversational implicatures, and yet the use of *yo* is compulsory in the former while it is not so, and sounds even unnatural with the rising contour, in the latter.

To give another example, (5) is more natural with *yo* accompanied by the rising contour (*yo*↗ in short) if it is uttered by B (the passenger), but is more natural without it if it is uttered by A (the driver).

- (5) (**Situation:** A is driving and B is on the passenger seat. They are 100 km away from their destination.)

A, gasorin-ga moo nai-{yo↗/∅}
 oh gasoline-Nom already absent.Prs-yo/∅
 ‘Oh, we are running out of gas.’

Takubo and Kinsui’s analysis does not account for the described contrasts. *Yo* with the rising contour specifically has to do with (inference regarding) what the *hearer* should do or be (see Davis 2011:97 for a similar remark).

3.2 McCready (2009)

McCready (2009) suggests that *yo* is essentially a marker of *importance* (or relevance). Specifically, he argues that *yo* indicates that the informativity value — usefulness of a statement in providing an answer to the question at issue in the discourse — of the propositional content for the hearer (H) is above some contextual threshold, and also that the speaker (S) *insists* that H accepts the propositional content, even if it is not consistent with H’s previous beliefs. The importance and insistence indicated by *yo* are formulated as follows:

- (6) $\llbracket yo(\phi) \rrbracket =$
- a. Presupposition: $\mathcal{B}_{SIV_S}(Q, \phi) > d_s$
 (i.e.: The speaker believes that the informativity value of ϕ for the hearer with respect to the contextually specified question Q is higher than the contextually specified relevance threshold d_s .)
 - b. Semantics: $\sigma \parallel sassert(\phi) \parallel \sigma'$

where *sassert* stands for strong assertion, i.e., the operation to update the information state with a certain proposition whether or not it is compatible with the pre-update information state; when the proposition is incompatible with the pre-update information state, *downdate* (removal of content from the information state) takes place first so that inconsistency is avoided. Formally:

- (7) $\sigma \parallel sassert(\phi) \parallel \sigma' =$
 $\sigma \parallel \phi \parallel \sigma'$ if $\sigma \parallel \phi \parallel \neq \emptyset$
 $\sigma \parallel \downarrow \neg \phi; \phi \parallel \sigma'$ else.

Like Takubo and Kinsui (1997), McCready does not consider the contribution of intonation to the function of the discourse particles, although he admits that it is a crucial component for a full account (p.467).

McCready’s analysis, as it is, does not seem to account for the speaker/hearer asymmetry illustrated above. In (3) and (4), for example, the “question at issue” is presumably: “Is it necessary for A to buy paper cups?”. In both scenarios, the second utterance is definitely useful in providing an answer to it.

Also, under his analysis, it is hard to explain why the use of *yo* is often felt to be superfluous in a direct answer to an explicitly asked question, as in (8), while it tends to be compulsory in a context where the speaker gives a suggestion or warning in an indirect manner, as in (9) and (10) (see Takubo and Kinsui 1997:756; Inoue 1997:65–66; Davis 2011:99–100 for relevant remarks).

- (8) (**Situation:** A is looking at a handwritten math formula.)
 A: Kore-wa nana, soretomo ichi?
 this-Top 7 or 1
 ‘Do you have a “7” here, or is it a “1”?’
 B: Nana-desu- $\{\#yo\nearrow/\emptyset\}$
 7-Cop.Prs.Polite-*yo*
 ‘It’s a “7”.’
- (9) (**Situation:** A and B are at a noodle restaurant. It is the first time for A to eat there.)
 A: Soba-ni shiyoo-ka-na, soretomo udon-ni shiyoo-ka-na.
 soba-Dat do.Vol-Q-DP or udon-Dat do.Vol-Q-DP
 ‘I wonder if I should have soba (buckwheat noodles) or udon (wheat noodles).’
 B: Koko-no soba-wa oishii-desu- $\{yo\nearrow/??\emptyset\}$
 here-Gen soba-Top good.Prs-Polite-*yo/\emptyset*
 ‘The soba here is good.’
 B’: Koko-no soba-wa amari oishikunai-desu- $\{yo\nearrow/??\emptyset\}$
 here-Gen soba-Top particularly good.Neg.Prs-Polite-*yo/\emptyset*
 ‘The soba here is not particularly good.’
- (10) (**Situation:** A and B are at a supermarket. B takes a package of English tea from the shelf. A knows that B prefers green tea and suspects that B meant to take green tea.)
 A: Sore, koocha-desu- $\{yo\nearrow/??\emptyset\}$
 that English.tea-Cop.Prs.Polite-*yo/\emptyset*
 ‘That’s English tea.’

It is counterintuitive to suppose that (8B) is less informative than (9B,B’)/(10A) in their respective context.

One may suspect that McCready’s analysis is suitable for $yo\searrow$, though not for $yo\nearrow$. I will show in Section 3.3, however, that it is not adequate for $yo\searrow$ either.

3.3 Davis (2011)

Davis (2011) recognizes two main uses of *yo* in declaratives, which are respectively accompanied by the rising and non-rising intonation. He characterizes the function of $yo\nearrow$, illustrated in (11) (see also (3), (5), (9) and (10)), as “guide to action”, and that of $yo\searrow$, illustrated in (12), as “(call for) correction”.

- (11) A: Eiga-o miru mae-ni gohan-o tabeyoo-ka?
 movie-Acc watch.Prs before meal-Acc eat.Vol-Q
 ‘Shall we eat before watching the movie?’
 B: Moo shichi-ji-sugi-deshoo? Eiga-wa
 already 7-o’clock-past-Cop.Presumptive.Polite movie-Top
 hachi-ji-kara-da- $yo\nearrow$
 8-o’clock-from-Cop.Prs-*yo*

- ‘It’s already past 7, right? The movie starts at 8.’ (Davis 2011:19)
- (12) A: Eiga-wa ku-ji-kara-da-kara gohan-o taberu
 movie-Top 9-o’clock-from-Cop.Prs-because meal-Acc eat.Prs
 jikan-wa juubun-ni aru-ne.
 time-Top sufficiently exist.Prs-DP
 ‘Since the movie starts at 9, there’s plenty of time to eat.’
 B: Chigau-**yo**↘ Eiga-wa hachi-ji-kara-da-**yo**↘
 wrong.Prs-*yo* movie-Top 8-o’clock-from-Cop.Prs-*yo*
 ‘That’s wrong. The movie starts at 8.’ (Davis 2011:19)

Davis develops an analysis of *yo* where the semantic contribution of the particle itself and that of the accompanying intonation are distinguished. In line with Gunlogson (2003), Davis departs from the standard Stalnakerian assumption that declaratives update the common ground (the intersection of the interlocutors’ belief sets) and hypothesizes that declaratives usually have the speaker’s public beliefs (those beliefs that both the speaker and the hearer acknowledge that the speaker has) as the target of update. He then argues that *yo* itself instructs to update not only the speaker’s public beliefs but the hearer’s public beliefs too (or more generally, *all* discourse participants’ public beliefs).

The empirical consequences of this claim are not clear. Davis states that due to this contrast only a declarative with *yo* (either with the rising or non-rising contour) but not a bare declarative can be felicitously used when the hearer has to give up one or more of his previous beliefs before accepting its propositional content (pp.112,117). As will be shown below (with data in (15) and (16)), however, a bare declarative can naturally – and under certain circumstances, more naturally than a declarative with *yo* – be used to make a “corrective” statement. In the rest of this section, I put aside this component of Davis’ account of *yo*, and focus on the others having to do with (what he calls) the “intonational morphemes” combined with *yo*.

The “guide to action” use Regarding *yo*↗, Davis essentially argues that it (i) introduces a *decision problem* for the hearer (or equivalently a set of *alternative actions* from which the hearer has to choose) to the discourse, or makes reference to an existing one, and (ii) indicates that there is some alternative action *a* such that *a* cannot be determined to be optimal according to the hearer’s beliefs before the update (i.e., before the propositional content is added to the hearer’s beliefs), but can be determined to be optimal after the update. In the case of (9B), for example, the suggested optimal action would be to eat soba.

Davis’ analysis of *yo*↗ is too restrictive in excluding its use in scenarios like (13), where the propositional content may or may not affect what the optimal action for the hearer is, and (14), where the contextual decision problem remains unsolved in the post-update context.

- (13) (**Situation:** A and B are eating together. B is going to have a Buffalo wing. A knows that it is very spicy, but does not know if B likes spicy food or not.)

- A: Sore, karai-**yo**↗
that spicy.Prs-*yo*
‘That’s spicy.’
- (14) (**Situation:** A and B are at a mobile phone shop. B is considering buying a model released a while ago.)
- A: Raigetsu-ni nattara atarashii moderu-ga
next.month-Dat become.Cond new.Prs model-Nom
deru-**yo**↗ Matsu kachi-ga aru-kadooka-wa
come.out.Prs-*yo* wait.Prs value-Nom exist.Prs-whether-Top
wakaranai-kedo.
know.Neg.Prs-though
‘A new model will be released next month. I don’t know if it is worth waiting for, though.’

In the scenario of (13), the relevant action set is presumably: {eating the Buffalo wing, not eating the Buffalo wing}. The premise that B was going to eat the Buffalo wing implies that in the pre-update context it was optimal for him to eat it. A’s utterance, thus, is to be understood to make the other action (not eating the Buffalo wing) optimal. This, however, is not the intention of A here; what he means to convey is something like: “You should not eat it if you don’t like spicy food” or “You should consider the fact that it is spicy before deciding whether you eat it or not”. Likewise, in (14), it would be too strong to say that A tries to convince B to wait until the next month and buy the yet-to-be-released product. Rather, A merely presents a piece of information that he thinks might or might not affect B’s choice.

One may argue that in cases like (13) and (14), the decision problem is whether to consider the propositional content, and the suggested optimal action is to consider it. However, if the concepts of the decision problem and the optimal action have to be interpreted in such an extended way, then it seems more reasonable to dispense with them entirely from the formulation, and suppose more simply that $[\phi \text{ } yo \text{ } \nearrow]$ indicates that the speaker believes that the hearer is better off considering ϕ than not. In Section 4 I will present an analysis along this idea.

The “correction” use Regarding *yo* accompanied by the non-rising contour, developing McCready’s (2009) idea, Davis claims that it explicitly indicates that the utterance requires a non-monotonic update, i.e., an update requiring elimination of previously accepted information, on the hearer’s beliefs (see also Inoue 1997:63; Koyama 1997:105–106; Izuhara 2003:5–6). In the case of (12), the information to be eliminated is that the movie starts at 9, which contradicts the propositional content that the movie starts at 8.

It can be shown, however, that non-monotonicity (backed up by the speaker’s willingness to explicitly correct the hearer) is not a sufficient condition for occurrence of *yo*↘. Observe the following examples:

- (15) (**Situation:** Araki runs a bookstore, and Morino runs a computer store next to it. They are close friends, and often stop by each other's place during business hours for small talks. Araki comes in the computer store and asks the employee called Nomoto, assuming that Morino is there.)
- A: Konchiwa. Morino-san, ima isogashii-ka-na.
 hello Morino-Suffix now busy.Prs-Q-DP
 'Hello. Is Morino busy now?'
- a. (Morino does not work on Sundays. Araki knows it, but has forgotten that today is Sunday.)
 N: Kyoo-wa nichiyoo-da-kara
 today-Top sunday-Cop.Prs-because
 oyasumi-desu- $\{\mathbf{yo} \searrow / \emptyset\}$
 day.off-Cop.Prs.Polite-*yo*/ \emptyset
 'He's not here because it is Sunday.'
- b. (It is Monday and Morino is supposed to be there.)
 N: Kyoo-wa kaze-de oyasumi-desu- $\{\#\mathbf{yo} \searrow / \emptyset\}$
 today-Top cold-by day.off-Cop.Prs.Polite-*yo*/ \emptyset
 'He is taking a day off because he has a cold.'
- (16) (**Situation:** Yoshio and Kazuki are friends. Yoshio is a year older than Kazuki. At Kazuki's apartment, Yoshio recalls that he had to make a phone call, but realizes that he didn't have his mobile phone with him. Yoshio sees a mobile phone on the table, and assumes that it is Kazuki's and is in a working condition.)
- Y: Kore chotto tsukatte-mo ii-ka-na.
 this a.little use-if good.Prs-Q-DP
 'Can I use this for a while?'
- a. (The phone actually is a kid's toy.)
 K: A, sore, omocha-desu- $\{\mathbf{yo} \searrow / \emptyset\}$
 oh that toy-Cop.Prs.Polite-*yo*/ \emptyset
 'Oh, that's a toy.'
- b. (The phone is Yoshio's.)
 K: A, sore, Yoshio-san-ga kinoo wasurete-itta
 oh that Y.-Suffix-Nom yesterday forget-go.Pst
 yatsu-desu- $\{\mathbf{yo} \searrow / \emptyset\}$
 one-Cop.Prs.Polite-*yo*/ \emptyset
 'Oh, that's yours, Yoshio. You left it here yesterday.'
- c. (The phone is Kazuki's, but it is out of battery.)
 K: A, sore, batterii-ga kiretemasu- $\{\#\mathbf{yo} \searrow / \emptyset\}$
 oh that battery-Nom run.out.Ipfv.Prs.Polite-*yo*/ \emptyset
 'Oh, it's out of battery.'
- d. (The phone belongs to Yoshio's girlfriend.)
 K: A, sore, kanojo-ga kinoo wasurete-itta
 oh that girlfriend-Nom yesterday forget-go.Pst
 yatsu-desu- $\{\#\mathbf{yo} \searrow / \emptyset\}$
 one-Cop.Prs.Polite-*yo*/ \emptyset

‘Oh, that’s my girlfriend’s. She left it here yesterday.’

The use of *yo*↘ is fine in (15a) and (16a,b), but sounds odd (unfairly accusing, unreasonably hostile) in (15b) and (16c,d). The difference here is that in the former set of discourses the speaker is pointing out a misconception that the hearer *could have avoided* utilizing his previous knowledge, reasoning ability, and/or powers of observation, while in the latter the speaker is pointing out a misconception that the hearer could not reasonably be expected to avoid.

One may argue that (15b) and (16c,d) sound strange because they are too abrupt or rude. It is, however, natural to assume that pointing out an avoidable misconception incurs a more serious risk of threatening the hearer’s face (in Brown and Levinson’s 1987 sense) than pointing out an unavoidable misconception. Indeed, the situations in (15a) and (16a,b) intuitively appear to be more embarrassing for the hearer than those of (15b) and (16c,d). Thus, one would expect that a higher level of politeness is called for in (15a) and (16a,b) than in (15b) and (16c,d), rather than the other way round.

Note that McCready’s (2009) analysis discussed above fails to account for the described contrast too. There is no intuitive reason to believe, for example, that the propositional content of (15a) (the proposition that Morino is taking a day off today as he does on other Sundays) is more informative than that of (15b) (the proposition that Morino is taking a day off because he has a cold).

3.4 A note on inseparability of particle meaning and intonation meaning

From the next section onward, I will propose alternative analyses of what Davis calls the “guide to action” and “correction” uses of *yo* and further discuss four additional uses of it. Before proceeding, I would like to make clear my position on how intonation interacts with the interpretation of *yo* (and discourse particles in general). Contra Davis (2011), I consider it impossible to neatly separate the meaning of a discourse particle itself from the meaning of an intonational contour.

It is tempting to hypothesize that the meaning of *yo*↗ is a composition of those of *yo* itself and the question-rise contour, and the meaning of *yo*↘ is a composition of those of *yo* itself and the non-rising (flat) contour. It seems not feasible, however, to fully implement this idea to deal with the various uses of *yo*↗, *yo*↘, and *yo*↑↓ to be discussed below, let alone the contrasting functions of (i) bare (particle-less) clauses with different contours and (ii) clauses with many other particle/contour combinations (Japanese has quite a few discourse particles besides *yo*, which are compatible with different sets of contour types; see Oshima 2013 for an overview). Maintaining the compositional view of particle/intonation combination would require making stretched and ad hoc moves, including assigning to each contour multiple and specific meanings that manifest themselves only in combination with certain discourse particles.

I will thus assume that the combination of a clause type and a contour is the basic unit that carries a conventionalized function, where clause types include bare clauses, *yo*-marked clauses, *ne*-marked clauses, etc. This is of course not

to say that there cannot be any semantic commonality or resemblance between clauses that share the same clause type but differ in intonation, or between clauses that share the same contour but belong to different clause types. My view is that there is a great deal of randomness and arbitrariness, as well as a good deal of systematicity, in the discourse functions of clause type/contour combinations.

4 *Yo* with the rising intonation: Required and permitted actions

Yo in its “guide to action” use indicates that the utterance conveys information that is relevant to and might affect what the hearer should do or be. This information, however, does not need to determine, or imply that it is determined, what it is.⁴ To capture this property of *yo*↗, I propose that it instructs to add the propositional content to the modal base for priority modality relativized to the hearer.

Priority modality is a term covering deontic modality (in the narrow sense, concerning rules, laws, morality, and the like), bouletic modality (concerning desires), and teleological modality (concerning goals), and is synonymous to deontic modality in the broad sense (Portner 2007). Following Kratzer (1991 *inter alia*), I assume that modal expressions in natural language are interpreted with respect to two contextually provided conversational grounds (sets of propositions): the modal base and the ordering source. For priority modality, it is generally understood that the modal base is circumstantial, i.e., consists of *relevant facts*, and the ordering source is *what the laws, rules, moral codes, etc., provide*. Note that the modal base for priority modality generally cannot be identified with the set of all known facts (i.e., the common ground). To illustrate why, take the modal statement “John should be in New York now”, which can be true when in actuality John is in San Francisco. If the modal base contains the proposition that John is in San Francisco, then the proposition that John is in New York holds in none of the worlds best-ranked according to the ordering source, so that it is wrongly predicted that the modal statement has to be false.

Priority modality, in general terms, has to do with what should and may hold true in view of certain rules, desires, goals, etc. I introduce the term (agent-)relativized priority modality to refer to a variety of priority modality that has to do with what a particular agent should and may *make* true (roughly, required and permitted actions for the agent; cf. Portner 2007:370–373). The proposition that there is peace in the nation of X is likely to be a deontic necessity, but not a deontic necessity relativized to an average citizen of X (or of any other nation). It could be, on the other hand, a deontic necessity relativized to the head of state of X; that is, it could be a duty for him to keep peace in or

⁴ A similar characterization of *yo*↗ is presented by Inoue (1997:64), who suggests that [*ϕ yo*↗] indicates that *ϕ* holds true in the circumstances surrounding the speaker and hearer, and further poses to the hearer the question: “What are you going to do in these circumstances?”; see also Izuhara (2003:5).

bring peace to X. The set of relevant facts differs for what should be the case in a given context and for what a certain agent should make the case in the same context. To exemplify, suppose that John witnessed a robbery. Whether John should make it the case that the robber is arrested (e.g., by arresting him) depends on factors such as whether John is a police officer, whether he is properly armed, and whether he is running after another criminal. The truth of the (non-relative) deontic statement that the robber should be arrested, on the other hand, is not contingent on such factors.

Let us suppose that bare declaratives (declaratives without *yo*) canonically have a discourse function (context change potential) to add their propositional content to the common ground (Heim 1983), and further that the context consists of the common ground (CG), the modal base (f), and the ordering source (g):

- (17) *The discourse function of a bare declarative*
 Where C is a context of the form $\langle CG, f, g \rangle$,
 $C + \phi_{decl} = \langle CG', f, g \rangle$, where $CG' = CG \cup \{\llbracket \phi_{decl} \rrbracket\}$.

The discourse function of a declarative with *yo* in its “guide to action” use differs from that of a bare declarative in two respects: (i) it requires that the common ground and the modal base be ones appropriate for hearer-relativized priority modality (in particular, the former is required to be circumstantial), and (ii) it adds the propositional content to the modal base, as well as to the common ground.

- (18) *The discourse function of a declarative with $yo \nearrow$*
 Where C is a context of the form $\langle CG, f, g \rangle$,
 (i) $C + [\phi_{decl} yo \nearrow]$ is defined only if f and g are concerned with priority modality relativized to the hearer;
 (ii) If defined, $C + [\phi_{decl} yo \nearrow] = \langle CG', f', g \rangle$, where $CG' = CG \cup \{\llbracket \phi_{decl} \rrbracket\}$ and $f' = f \cup \{\llbracket \phi_{decl} \rrbracket\}$.

In typical cases, a declarative with $yo \nearrow$ has a double function: it informs the hearer of the propositional content, and further points out that it is relevant to what the hearer should and may do. Uyeno’s (1992:72–73) remark that *yo* serves to draw the hearer’s attention to the propositional content, and Miyazaki et al.’s (2002:266) remark that an utterance with *yo* presents the propositional content as something the hearer should be aware of, appear to point to the same idea.

A declarative with $yo \nearrow$ may also be uttered in a context where its propositional content is already in the common ground (e.g., *Kimi-wa mada miseinen-da-yo \nearrow* ‘You are still under age.’; Kinsui 1993; Takubo and Kinsui 1997). In such a case, it still carries out the second function, and thus, unlike the corresponding bare declarative, is not necessarily redundant.

A proposition added to the priority modal base affects what should and may be (made) the case, either by itself or in conjunction with other propositions; otherwise, it would be irrelevant and cannot be felicitously added to the modal base. Expansion of the modal base, however, does not guarantee that a contextual decision problem, if there is one, is solved in the post-update context. In

(14), for example, the speaker will not know the answer to the contextual decision problem: “Should the hearer buy a phone now?” until further information is added to the common ground, such as how the yet-to-be-released model of phone differs from the one currently available.

Note that it is not a new idea that some types of utterances explicitly update conversational backgrounds. Portner (2007) argues that imperatives update the ordering source for priority modality, and suggests that evidentials update the one for epistemic modality. The modal base for epistemic modality is standardly considered to be the same as the common ground (i.e., the set of all known facts), so regular declaratives suffice to update it. Declaratives with $yo \nearrow$ fit in the remaining quadrant (Table 1).

Table 1. Means to update conversational grounds

	modal base	ordering source
priority modality	declaratives with $yo \nearrow$	imperatives
epistemic modality	regular declaratives	evidentials

5 *Yo* with the non-rising intonation: Blame on ignorance

It was observed above, with the data in (15) and (16), that an utterance with $yo \searrow$ is infelicitous in a context where the hearer cannot be reasonably expected to know the propositional content beforehand,⁵ and also that corrective statements need not to be accompanied by *yo* (with the rising or non-rising intonation).

I propose that the function of $yo \searrow$ is essentially to blame the hearer for his failure to recognize the propositional content. McCready’s (2005) analysis, mentioned but not adopted in McCready (2009), pursues this idea (see also Nihongo Kijutsu Bunpo Kenkyukai 2003:204); *must_d* in (19a) is a deontic (priority) necessity operator.

- (19) *McCready’s (2005) analysis*
 $\llbracket yo(\phi) \rrbracket =$

⁵ This property of $yo \searrow$ is addressed by Hasunuma (1996), who proposes that $yo \searrow$ directs the discourse participants to fill gaps or fix flaws in their understanding *using their existing knowledge and/or commonsensical reasoning*. My analysis (to be presented below) departs from hers in claiming that the information update (“filling gaps and fixing flaws”) is carried out by the utterance itself (rather than the hearer’s inference/reasoning) and that $yo \searrow$ merely conveys that the update *could have been done* with the hearer’s previous knowledge, commonsensical reasoning, etc.

- a. Presupposition: $\mathcal{B}_S \neg \mathcal{B}_H \phi; \mathcal{B}_S \text{must}_d \mathcal{B}_H \phi$
(i.e.: The speaker believes that the hearer does not believe ϕ and the speaker believes that the hearer must come to believe ϕ .)
- b. Semantics: $\sigma || \text{sassert}(\phi) || \sigma'$
(i.e.: Update the information state with ϕ ; in case of incompatibility, first downdate the information state and then update.)

It seems to me that the “presupposition” here can be simplified to “ $\neg \mathcal{B}_H(\phi); \text{must}_d \mathcal{B}_H \phi$ ” without changing its effect.

The 2005 version of McCready’s analysis fares better with the data in (15) and (16) than the 2009 version. The utterances (15a) and (16a,b) can, if the speaker dares, be naturally followed by a remark like: “Silly you! You should have realized that”, while the same does not hold for (15b) or (16c,d). It is counterintuitive, however, to suppose that the utterer of $[\phi \text{ } yo \searrow]$ *presupposes* (i.e., takes it for granted that both interlocutors believe) that (the speaker believes that) the hearer should come to believe ϕ at the time of utterance. In the context of (12), for example, obviously the speaker does not expect the hearer to believe that (the speaker believes that) he (= the hearer) should come to believe that the movie starts at 8.

The semantic contribution of $yo \searrow$, on the other hand, is not part of regular assertion, either. This can be shown by observing that the message conveyed by $yo \searrow$ cannot be a target of negation. (20B), for example, can only be taken as an attempt to refute the factual claim that the movie starts at 7, and not the message that B should have known that the movie starts at 7.

- (20) A: Eiga-wa shichi-ji-kara-da-**yo** \searrow
movie-Top 7-o’clock-from-Cop-*yo*
‘The movie starts at 7.’
B: Iya, sore-wa chigau.
no that-Top wrong.Prs
‘No, that’s not so.’

I propose that the semantic contribution of $yo \searrow$ belongs to the level of conventional implicature (Potts 2005, 2007; McCready 2010). Declaratives with $yo \searrow$, like bare declaratives and declaratives with $yo \nearrow$, instruct to update the common ground with the propositional content. In addition, they conventionally implicate that the hearer should have realized the propositional content beforehand. Conveying such a message can be sensible only when the hearer had a chance to know the propositional content (but failed to take advantage of it). In the cases of (15a) and (16c,d), the hearer did not have such a chance, and thus it is odd to use $yo \searrow$.

It is worth noting that the proposed functions of $yo \nearrow$ and $yo \searrow$ are both concerned with the hearer’s duties (the “guide to action” use indicates that the statement is relevant to what the hearer should do, and the “blame on ignorance” use indicates that the hearer failed to do something he should have done). This commonality can be taken as a conceptual link between the two distinct uses of *yo*.

6 Some other uses of *yo*

It is possible to find occurrences of *yo*↗ and *yo*↘ that do not conform to the analysis provided above. *Yo*↘, in particular, has quite a wide range of meanings. To obtain a full understanding of *yo*, it is essential to acknowledge its multifunctionality. It is worth stressing on this point, because in the existing literature on *yo*, it is often implicitly assumed that *yo* is mono-functional or has only a small number of functions. While a uniform analysis is to be preferred provided it can consistently account for the full range of data, close examination of facts reveals that one needs to acknowledge that *yo* (especially *yo*↘) is heavily polysemous.

Below, I describe and discuss some additional uses of *yo*. The task to develop formal analyses of them is beyond the scope of the current work and will be left to future research; it is worth noting, however, that some if not all of the uses discussed in this section seem to be amenable to the theory of conventional implicature/expressive meaning in line with Potts (2005, 2007).

6.1 The “affection” use of *yo* with the rising contour

Some utterances with *yo*↗ cannot be straightforwardly taken to provide information relevant to what the hearer should and may do (a similar remark is made by Miyazaki et al. 2002:266–267). Examples (21)–(23) illustrate such cases.

- (21) (**Situation:** A comes into his office on the sixth floor. He sees his colleague B, says hello, and then reports what he saw on the way.)
A: Nanka, ikkai-ni keisatsu-ga kiteta(-**yo**↗)
somehow ground.floor-Dat police-Nom come.Ipfv.Pst-*yo*
‘I don’t know why, but there were some cops on the street floor.’
- (22) (**Situation:** A is talking on the phone with his friend B, who moved to Osaka two months ago.)
A: Osaka-no kurashi-wa doo?
Osaka-Gen life-Top how
‘How do you like the life in Osaka?’
B: Un, kekkoo tanoshii(-**yo**↗)
yeah fairly fun.Prs-*yo*
‘Yeah, it’s pretty fun.’
- (23) (**Situation:** A is B’s mother. B is leaving home.)
A: Obentoo motta?
box.lunch take.Pst
‘Do you have your box lunch with you?’
B: Motta(-**yo**↗) Ja, ittekimasu.
take.Pst-*yo* then bye
‘I’ve got it. See you later.’

I suggest that this kind of *yo* merely serves as a marker of affection, and indicates that the speaker is enjoying having verbal interaction with the hearer. I further

hypothesize that this second use – the “affection” use, to name it – was derived from the “guide to action” use. *Yo* in its guide to action use is typically used to suggest the hearer to take a certain action, and this action can be “having (further) conversation with the speaker”. Expressing a wish to have verbal interaction with the hearer is a natural and common way to express affection to him. It seems natural to consider that this effect of *yo* became conventionalized and gave rise to the “affection” use.⁶

Indeed, one may argue that the occurrences of *yo* in cases like (21) and (22) serve the “guide to action” function, urging the hearer to (continue to) have verbal interaction with the speaker (note, however, that this account cannot be applied to the case of (23), where speaker B closes up the conversation right after his using *yo*). The facts that they are omissible in the given contexts, and that *yo* in its guide to action generally cannot be left out (see (9) and (10)), suggest that they are serving the derived interpersonal function as an affection marker.

6.2 Varied functions of *yo* with the non-rising contour

Besides the “blame on ignorance” use, *yo*↘ has at least three distinct uses.

Emotion toward the propositional content *Yo* can be used to convey that the speaker feels a heightened emotion toward the propositional content (Tanaka and Kubozono 1999:122–123). The emotion involved can be either positive, as in (24), or negative, as in (25).

- (24) Kimi-ga tetsudatte-kureta okage-de hayaku owatta-**yo**↘
 you-Nom help-Ben.Pst thanks.to early finish.Pst-*yo*
 ‘I was able to finish the work early thanks to your help.’
- (25) (**Situation:** The hearer knows that the speaker lost his wallet at the ballpark two weeks ago.)
 Saifu, yappari mitsukarakatta-**yo**↘
 wallet as.expected be.found.Neg.Pst-*yo*
 ‘I couldn’t find my wallet, as I thought.’

In a case like (26), the emotion involved could be a mere surprise that does not involve positive or negative evaluation.

- (26) (**Situation:** The speaker looks out of the window and sees it snowing.)
 Wa, yuki-ga futteru-**yo**↘
 wow snow-Nom fall.Ipfv.Prs-*yo*
 ‘Wow, it’s snowing.’

⁶ I hasten to note, however, that this putative process is a mere stipulation, which is yet to be empirically tested based on diachronic data.

Exclamatory expression of the speaker’s mental state/impression *Yo* can also be used to add an exclamatory tone to an utterance where the speaker reports his own emotion, feeling, or impression.

- (27) a. Arigatoo, ureshii-**yo**↘
 thank.you happy.Prs-*yo*
 ‘Thank you, oh am I happy!’
 b. Ano toki-wa ureshikatta-**yo**↘
 that time-Top happy.Pst-*yo*
 ‘Was I happy then!’
- (28) a. Aitsu-ni-wa hontoo-ni hara-ga tatsu-**yo**↘
 that.person-Dat-Top really stomach-Nom stand.Prs-*yo*
 ‘I am really angry at him!’
 b. Ano toki-wa hara-ga tatta-**yo**↘
 that time-Top stomach-Nom stand.Pst-*yo*
 ‘Was I angry then!’
- (29) a. Ano mizuumi-wa hontoo-ni kirei-datta-**yo**↘
 that lake-Top really beautiful-Cop.Pst-*yo*
 ‘Was that lake beautiful!’
 b. Anna kirei-na mizuumi-wa hoka-ni nai-**yo**↘
 that.much beautiful-Cop.Attr lake-Top else absent.Prs-*yo*
 ‘No other lake is as beautiful as that one.’
 c. Anna kirei-na mizuumi-wa hajimete
 that.much beautiful-Cop.Attr lake-Top for.the.first.time
 mita-**yo**↘
 see.Pst-*yo*
 ‘I had never seen such a beautiful lake.’

Note that this use is to be distinguished from the “emotion toward the propositional content” use mentioned above, in that the emphasized emotion is not one toward the propositional content. In (27), for example, *yo* does not convey that the speaker has a strong emotion toward the fact that he feels/felt happy.⁷

Intention/plan *Yo*↘ is used in utterances where the speaker explains his intention or plan.

⁷ It is possible, as in (i), to use *yo* in its “emotion toward the propositional content” use in an utterance that describes the speaker’s emotion, thereby conveying that the speaker has a strong emotion (second-order emotion, so to speak) towards the fact that he feels that emotion.

- (i) (**Situation:** The speaker has just heard that an annoying neighbor of his is leaving town.)
 Are, ore gakkari-shiteru-**yo**↘ (Nande-daroo.)
 oh I disappointed-do.Ipfv.Prs-*yo* why-Cop.Presumptive
 ‘Oh, I am feeling disappointed. (I wonder why.)’

- (30) (**Situation:** The speaker and the hearer are at a restaurant.)
 Rinji shuunyuu-ga atta-kara kyoo-wa boku-ga
 one.time income-Nom exist.Pst-because today-Top I-Nom
 ogoru-**yo**↘
 treat.Prs-*yo*
 ‘I will buy your dinner, because I had a little windfall.’
- (31) (**Situation:** After work, the speaker is invited by his colleagues to join them to go to a bar.)
 Kyoo-wa tsukareteru-kara moo kaeru-**yo**↘
 today-Top tired.Ipfv.Prs-because already return.Prs-*yo*
 ‘I am tired today, so I would rather go straight home.’
- (32) (**Situation:** The speaker lost a game of tennis to the hearer.)
 Kuyashii-naa. Tsugi-wa zettai-ni kachimasu-**yo**↘
 vexing.Prs-DP next-Top definitely win.Prs.Polite-*yo*
 ‘How vexing! I will win next time, no matter what.’

This kind of *yo*↘ can be understood as a marker of a commissive illocutionary act.⁸ It is worth noting that this use, like the “guide to action” and “correction” uses, has to do with the notion of duty (although it is concerned with the speaker’s duties rather than the hearer’s).⁹

7 Yo with the rise-fall contour

The functions of *yo* accompanied by the rise-fall contour (*yo*↑↓) can be understood as variants of those of *yo*↘. With the rise-fall contour instead of the non-rising (flat) contour, the utterance carries an added childish tone and conveys the speaker’s want for the hearer’s sympathy and/or understanding.¹⁰

(33b), (34b), (35b), and (36) respectively illustrate variants of the “blame on ignorance” use, the “emotion toward the propositional content” use, the “ex-

⁸ Commissive acts are those illocutionary acts that commit the speaker to some future course of action (Searle 1979); promises and offers are paradigmatic examples.

⁹ Thanks to the anonymous reviewer for directing my attention to this point.

¹⁰ Note that the rise-fall contour does not always convey a childish tone. To illustrate, (ib), where the discourse particle *ne* is accompanied by the rise-fall contour, is fully felicitous in a conversation between two adults who are socially distant.

- (i) Kyoo-wa kaze-ga tsuyoi-desu-{a. *ne*↑/b. *ne*(*e*)↑↓}
 today-Top wind-Nom strong.Prs-Polite-DP
 ‘It is windy today, isn’t it.’

In comparison to the version with the insisting-rise contour (Kori’s “↑”; Venditti’s “H%”) presented as (ia), (ib) conveys additional emotiveness, but it does not sound childish or indicate the speaker’s want for sympathy/understanding (Oshima 2013).

clamatory expression of the speaker’s mental state/impression” use, and the “intention/plan” use.¹¹

- (33) (**Situation:** in reply to: “You should go out and get some exercise”)
 Soto-wa samui-{a. **yo**_↓/b. **yo(o)**↑↓}
 outside-Top cold.Prs-*yo*
 ‘It’s cold outside.’
- (34) Saifu-ga mitsukaranai-{a. **yo**_↓/b. **yo(o)**↑↓}
 wallet-Nom be.found.Neg.Prs-*yo*
 ‘I can’t find my wallet.’
- (35) (**Situation:** The speaker receives a phone call from his boss.)
 Mata yobidashi-da. Ki-ga omoi-{a. **yo**_↓/b. **yo(o)**↑↓}
 again summon-Cop.Prs mind-Nom heavy.Prs-*yo*
 ‘He wants me to come again. I feel dismal.’
- (36) (**Situation:** A child says to his mother, who is holding a balloon.)
 Boku-ga motsu-**yo(o)**↑↓
 I-Nom hold.Prs-*yo*
 ‘I’ll hold it.’

The use of *yo*↑↓ is not appropriate in contexts where it is clear that the speaker is not asking for sympathy; this point is illustrated in (37) (cf. (24)).

- (37) #Kimi-ga tetsudatte-kureta okage-de hayaku owatta-**yo(o)**↑↓
 you-Nom help-Ben.Pst thanks.to early finish.Pst-*yo*
 (I was able to finish the work early thanks to your help.)

8 Summary

This paper presented an analysis of two central functions *yo* occurring in declarative clauses. *Yo* with the rising contour has a function to add the propositional content to the modal base of priority modality relativized to the hearer, thereby indicating that it is relevant to what the hearer should and may do. *Yo* with the non-rising contour has a function to indicate that the hearer should have recognized the propositional content beforehand.

It was also pointed out (i) that *yo* with the rising contour has a distinct use as an affection marker, (ii) that *yo* with the non-rising contour has at least three distinct uses (the “emotion toward the propositional content” use, the “exclamatory expression of the speaker’s mental state/impression” use, and the “intention/plan” use), and (iii) that *yo* with the rise-fall contour has similar functions as *yo* with the non-rising contour but conveys an additional emotional tone.

¹¹ The rise-fall contour often involves lengthening of the final vowel (Tanaka and Kubozono 1999:119–120). In informal writing, this lengthening is often reflected by an added vowel letter or long vowel mark (*choo’onpu*).

The functions of *yo* are diverse (note that *yo* also occurs in non-declaratives, carrying out yet other functions; e.g., Shirakawa 1993, Davis 2011), and this work hardly addressed the links between them. The task to examine the conceptual and diachronic relations between the different uses of *yo* will be left to future research.

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