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The Inferential Use of the Japanese NP-*no koto-da(-kara)* —Its Relation to Modality and Discourse—

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1. Introduction

It is well known in the literature that the Japanese NP-*no koto* 'lit. NP-GEN thing/fact' can trigger the properties of the referent NP and add the meaning of "aboutness", as shown in example (1) below:

(1) Jiro-wa Hanako-ni Taro-no koto-o soodan-shi-ta.
Jiro-TOP Hanako-to Taro-GEN thing-ACC consult-do-PST
'Jiro consulted with Hanako about Taro.' (Takubo 2007:135)

Takubo (2007) claims that if an NP is referential, then *NP-no koto* can be equated with the set of properties of the referent of the NP.

However, *NP-no koto* can also give rise to a distinct inferential meaning when it is combined with the predicate *da* and the conjunctive particle *kara* 'because', as illustrated in the following example:

(2) (Inferential NP-*no koto-da* with *kara* 'because')
(Q: Do you think Taro will come to the party?)
Taro-no koto-da-kara isogashii-daroo.
Taro-GEN thing-PRED-because busy-will
'lit. Because it's Taro, he will be busy.'
(Considering the property of Taro, he will be busy.)

Masuoka (2013) observes that this type of *NP-no koto-da(-kara)* indicates that the property of the associated NP serves as evidence for inferring the result expressed in the main clause. A crucial characteristic of this construction is that the main clause must be modal. If the modal *daroo* 'will' is absent, example (2) sounds odd.

(3) *Taro-no koto-da-kara isogashii.
Taro-GEN thing-PRED-because busy
'lit. Because it's Taro, he will be busy.'
(Considering the property of Taro, he will be busy.)

Since this type of *no koto-da-kara* co-occurs with modality, this paper will refer to it as the inferential type.

An important property of inferential *no koto-da(-kara)* is that the same causal and inferential meaning arises even in the absence of *kara*:

(4) (Inferential NP-*no koto-da* without *kara* 'because')
(Q: Do you think Taro will come to the party?)
Taro-no koto-da(-yo). Isogashii-daroo.
Taro-GEN thing-PRED(-PRT) busy-will
'lit. It's Taro. He will be busy.' (= It's Taro, so he will be busy.)

In (4), there is no clause linker *kara*, yet it conveys the same causal meaning as (2). *NP-no koto-da* in (4) is a fully independent sentence rather than a subordinate clause, but it requires a modal in the subsequent sentence. If the subsequent sentence lacks modal meaning, the resulting sentence sequence is ill-formed.[1]

(5) * Taro-no koto-da. Isogashii.
Taro-GEN thing-PRED busy
'lit. It's Taro. He is busy.'

How can we account for their dependence on a modal sentence? What kinds of modality can *NP-no koto-da(-kara)* co-occur with? Why can *NP-no koto-da* (without *kara*) express a causal inferential relation with a subsequent sentence, despite being an independent sentence? What does the behavior of *NP-no koto-da(-kara)* suggest for theories of causality and discourse structure?

After reviewing previous studies on *NP-no koto-da(-kara)* and related phenomena in Section 2, Section 3 examines its relation to modality in the subsequent clause or sentence. We argue that *NP-no koto-da(-kara)* can naturally co-occur with result-inferential modals, such as *daroo* 'will', but not with cause-inferential (explanatory) modals, such as *rashii* 'seem'.

In Section 4, we discuss the dependent (concord-like) relationship between *NP-no koto-da(-kara)* and modality in terms of conventional implicature (CI)(Grice 1975; Potts 2005) and use conditions. We argue, at the semantics–pragmatics interface, that both inferential *NP-no koto-da-kara* and inferential *NP-no koto-da* without *kara* signal—at the level of CI—that the contextually salient property of the referent of the NP serves as evidence (or a cause) for the subsequent modal proposition *p*.

In Section 5, we provide a formal analysis of the CI meanings of *NP-no koto-da* with and without *kara*. We show that in the case of *NP-no koto-da-kara*, the causal meaning is triggered by *kara*, whereas in the case of *NP-no koto-da* without *kara*, it is triggered by *no koto-da* itself. This indicates that *NP-no koto-da* has been conventionalized as an evidence-indicating marker and functions as an independent CI-triggering expression.

One question is whether *NP-no koto-da* (without *kara*) is equivalent to so-called "implicit" rhetorical relations (e.g., Lascarides and Asher 1991; Asher and Lascarides 2003; Jasinskaja and Karagjosova 2021), as illustrated in (6):

(6) (Q: Do you think Taro can come to the party?)
Taro-wa ima ronbun-o kai-tei-ru. Isogashii-daroo.
Taro-TOP now paper-ACC write-PROG-NON.PST busy-will
'Taro is writing a paper now. He must be busy.'

Superficially, *NP-no koto-da* without *kara* resembles implicit rhetorical relations in that no explicit causal marker is present. However, we argue that, unlike standard implicit rhetorical relations, the causal meaning in this construction is conventionalized. On this basis, we propose a new typology of causal indication.

Section 7 examines the rhetorical status of *NP-no koto-da(-kara)* from a broader discourse-theoretic perspective. Particular attention is paid to the fact that *no-daroo*, despite being a "cause-inferential (explanatory) modal," can co-occur with NP-*no koto-da(-kara)*:

(7) a. Taro-ga denwa-ni de-nai. Taro-no koto-da-kara isogashii-no-daroo.
Taro-NOM telephone-to answer-NEG Taro-GEN thing-PRED-because busy-NODA-will
'lit. Taro does not answer the phone. Because it's Taro, he must be busy.'

b. Taro-ga denwa-ni de-nai. Taro-no koto-da. Isogashii-no-daroo.
Taro-NOM telephone-to answer-NEG Taro-GEN thing-PRED busy-NODA-will
'lit. Taro does not answer the phone. It's Taro. (So) he must be busy.'

We claim that when *no-daroo* is used, two distinct kinds of causal relationships are involved: a local causal relationship (i.e., the relation between NP-*no koto-da(-kara)* and a modal sentence) and a global causal relationship (i.e., the relation between the sentence preceding NP-*no koto-da(-kara)* and the modal sentence).

This paper shows that the fact that *NP-no koto-da* (without *kara*) can enter into a dependent relationship with a subsequent modal sentence, despite constituting an independent sentence, has important theoretical implications for the notion of dependency in natural language. Specifically, this paper identifies a new type of dependency in natural language: use-conditional dependency.

2. Previous studies of NP-*no koto-da(-kara)*

This section provides an overview of prior research on *NP-no koto-da(-kara)*. Masuoka (2013) observes that when *NP-no koto-da* occurs in a *kara* 'because' clause, *NP-no koto-da-kara* (as a whole) constitutes a formal idiom in the sense of Fillmore et al. (1988). This construction indicates that the property of the associated NP can serve as evidence for inferring the result expressed in the main clause, even when *kara* is omitted. The remaining question, however, is where and at what level this inferential causal meaning is encoded. Simply labeling the construction as an idiom does not provide an explanation.

Another question concerns the relation between NP-*no koto-da-kara* and NP-*no koto-da*. Masuoka (2013) and Yumoto (2015) assume that inferential NP-*no koto-da* (without *kara*) results from the omission of *kara*. However, it is unclear what is meant by "omission" in this context. In this paper, we investigate the correspondence between *NP-no koto-da(-kara)* and modality from the perspective of the semantics–pragmatics interface and provide a formal analysis of the sources of causal meaning.

One important observation made by Yumoto (2015) that is relevant to our discussion is that the knowledge associated with the NP in NP-*no koto-da(-kara)* is personal knowledge, which the speaker uses to draw a subjective inference. Yumoto (2015) illustrates this idea with the following contrast:

(8) a. *Gakusei-no Taro-no koto-da-kara, gakuwari-ga
student-GEN Taro-GEN thing-PRED-because student.rate-NOM
tsuka-eru-daroo.
use-can-will
'Because Taro is a student, he will be able to use a student rate.'

b. Gakusei-no Taro-no koto-da-kara, sonnani okane-o
student-GEN Taro-GEN thing-PRED-because so.much money-ACC
mot-tei-nai-daroo.
have-STATE-NEG-will
'Because Taro is a student, he won't have a lot of money.'

(Yumoto 2015: 98)

According to Yumoto (2015), unlike (8b), (8a) sounds odd because the inference in the main clause is not a subjective inference that is based on the speaker's personal knowledge. The idea that *NP-no koto-da(-kara)* represents a speaker's knowledge about the NP will become relevant when we discuss the CI status of *no koto-da(-kara)*.

3. The relationship between NP-*no koto-da*(-*kara*) and a modal

We now turn to the relationship between inferential NP-*no koto-da(-kara)* and modality. Building on the discussion in Sawada and Sawada (2017, 2020), we show that inferential NP-*no koto-da(-kara)* does not co-occur with all types of modal expressions; rather, it co-occurs only with result-inferential modals. In this section, we argue that the proposed analysis naturally accounts for the relationship between NP-*no koto-da(-kara)* and modal sentences. According to H. Sawada (2006), inferential modals can be divided into two types from the perspective of cause and result: result inference and cause inference (Sawada 2006: 243ff; see also Rivière 1981; H. Sawada 2001, 2014; Takubo 2001, 2009). Result inference involves inferring a result on the basis of some evidence (corresponding to a cause), whereas cause inference involves inferring a cause on the basis of some evidence (corresponding to a result). The former type of inference is predictive, while the latter is explanatory. Typical Japanese modals that license the result-inference pattern include *nichigainai* 'must', *kamoshirenai* 'may', *hazuda* 'should', and *daroo* 'will':

(9) (The pattern of result inference (prediction))
Sakuban ooame-ga fut-ta. Kawa-wa hanran-shi-tei-ru-
last.night heavy.rain-NOM fall-PST river-TOP flooded-do-PROG-NON.PST

{nichigainai /kamoshirenai / hazuda / daroo /*rashii /*yooda /*no-daroo}.
must /may /should /will / seem / seem /NODA-will
'It rained heavily last night. The river {must/may/should/will/*seems to} be flooded.'
(Based on H.Sawada (2014: 407))

The typical modals that permit a cause inference are *nichigainai* 'must', *rashii* 'seem', *yooda* 'seem', and *no-daroo* 'NODA-will' (Sawada 2001, 2006, 2014; Takubo 2001, 2009). Note that *nichigainai* allows both inferential patterns:

(10) (The pattern of cause inference (explanatory))
Kodomo-ga hitoride naite-i-ru. Maigo-ni nat-ta-{nichigainai /
child-NOM alone cry-PROG-PRES lost-to become-PST-must/
rashii /yooda/no-daroo /??kamoshirenai /*hazuda /*daroo}.
seem /seem /NODA-will / may /should /will.
'A child is crying. He {must/seems to/??may/*should/*would} be lost.'
(Based on H.Sawada (2014: 407))

Importantly, NP-*no koto-da*(-*kara*) can only co-occur with modals that have the property of result inference (See also Sawada and Sawada 2017, 2020):

(11) (Inferential NP-*no koto-da*(-*kara*))
a. Taro-no koto-da-kara isogashii-{nichigainai/kamoshirenai
Taro-GEN thing-PRED-because busy -must /may
/daroo /hazuda /*rashii /*yooda}.
/will /should /seem /seem
'lit. Because it's Taro, he {must/may/will/should/*seems to} be busy.'
b. Taro-no koto-da. Isogashii-{nichigainai/kamoshirenai/daroo
Taro-GEN thing-PRED busy -must /may /will
/hazuda /*rashii /*yooda}.
/should /seem /seem
'lit. It's Taro. (So,) he {must/may/will/should/*seems to} be busy.'

Why is it that *NP-no koto-da(-kara)* can only co-occur with modals that have the property of result inference?

We argue that this restriction follows from a semantic property of NP-*no koto-da(-kara)*. A property of the referent of an NP can serve as a cause for the subsequent

proposition *q*. However, *q* itself cannot be a cause for the property of the NP's referent. The relevant property of the NP is already assumed to exist in the speaker's mind (see Sawada and Sawada 2017; Sawada and Sawada 2020).

As we will discuss later, the interaction between NP-*no koto-da(-kara)* and *no-daroo* is more complex. We argue that accounting for their co-occurrence requires positing a wider discourse structure.

4. The inferential NP-*no koto-da(-kara)* triggers a CI

Let us now consider the semantic status of inferential *NP-no koto-da(-kara)*. In this section, building on the idea of Sawada and Sawada (2017), we argue that both inferential *NP-no koto-da-kara* and *NP-no koto-da* (without *kara*) conventionally imply that a contextually salient property of the referent of the NP serves as evidence for (or a cause of) the subsequent modal proposition *p*. In Gricean pragmatic theory, conventional implicatures (CIs) are taken to be part of the meaning of lexical items, yet independent of "what is said" (i.e., at-issue entailment) (e.g., Grice 1975; Potts 2005; McCready 2010; Sawada 2010, 2017; Gutzmann 2012). It is often maintained that CIs are speaker-oriented by default. There is several pieces of evidence for the claim that the evidence-based causal meaning of *NP-no koto-da-kara* and *NP-no koto-da* is a CI. First, this meaning is based on the speaker's knowledge. Second, it cannot be directly challenged by denial, as shown in (12):

(12) A: Taro-no {koto-da. /koto-da-kara} jikandoorini ku-ru-daroo.
Taro-GEN thing-PRED/thing-PRED-because on.time come-NON.PST-will
'{It's Taro./Because it's Taro,} he will come on time.'
CI: The contextually salient property concerning Taro is evidence for the following modal statement.

B: Iya, boku-wa soo-wa omowa-nai. Sasugani kono taifuu-de-wa
no I-TOP so-CONT.TOP think-NEG *sasugani* this typhoon-with-TOP
okure-ru-yo.
late-NON.PST-PRT
'No, I don't think so. He will be late in this typhoon.'

B': Iya, boku-wa soo-wa omowa-nai. #Taro-no seikaku-ga
no I-TOP so-CONT.TOP think-NEG Taro-GEN character-NOM
jikandoorini ku-ru-koto-no shooko-de.wa nai-yo.
on.time come-NON.PST-NMLZ-GEN evidence-PRED.TOP NEG-PRT

'No, I don't think so. Taro's personality is not evidence that he'll come on time.'

In (12), Speaker B's denial can target only Speaker A's main assertion (i.e., that Taro will come on time). Note that, in the case of regular (i.e., non-inferential) *kara*, which expresses logical causality, the causal meaning itself can be targeted by denial:

(13) A: Yamada-shachoo-wa okanemochi-da-kara, hon-o takusan
Yamada-president-TOP rich-PRED-because book-ACC many
mot-tei-ru.
have-STATE-NON.PST
'Because the company president Yamada is rich, he has many book.'
B: Iya, boku-wa soo-wa omowa-nai.
no I-TOP so-CONT.TOP think-NEG
'No, I don't think so.' (It's not because he is rich that he has many books.)

One might think that the inferential meaning triggered by *NP-no koto-da-kara* is a presupposition. However, we argue that inferential *NP-no koto-da(-kara)* does not give rise to a presupposition. The reason is that the property of the referent of the NP in *NP-no koto-da(-kara)* constitutes part of the speaker's knowledge and is not something that is taken for granted in the discourse (i.e., it need not be shared with the addressee). It is therefore perfectly natural to use NP-*no koto-da(-kara)* in contexts where the speaker does not assume that the hearer has the same knowledge as the speaker, as shown in (14):

(14) (Context: Speaker A is a tour conductor. Speaker B is a tourist. The tour conductor knows that B is going to participate in the tour with Mr. Yamada, but she/he has not met with Mr. Yamada yet.)
A: Okyakusama, Yamada-sama-wa mada ko-rare-te i-nai-yoo
customer Yamada-Mr.HON-TOP yet come-HON-TE be-NEG-seem
-desu-ga...
-PRED.POL-but
'Customer, it looks like Mr. Yamada has not come here yet.'
B: Soodesuka. Maa, demo, Yamada-no koto-da-kara jikandoori
OK well but Yamada-GEN thing-because on.time
ku-ru-to omoi-masu-yo.
come-NON.PST-that think-PRED.HON-PRT
'lit. OK. Well, considering the property of Yamada, he will be on time.'

In this context, B treats the knowledge about Yamada as personal and not taken for granted in the discourse. This view is consistent with Yumoto's (2015) claim that the inference is based on personal knowledge.

5. Analysis of the inferential NP-*no koto-da*(-*kara*)

Based on the foregoing discussion, this section provides a formal analysis of the meaning of NP-*no koto-da(-kara)* within the framework of multidimensional semantics.

5.1. The case of the inferential NP-no koto-da with kara

In the case of NP-*no koto-da* with *kara*, *kara* plays a crucial role in triggering a CI causal meaning. Let us consider the meaning of NP-*no koto-da-kara* based on (15):

(15) Taro-no koto-da-kara jikandoorini ku-ru-daroo.
Taro-GEN thing-PRED-because on.time come-NON.PST-will
At-issue: Taro will come on time.
CI: The contextually salient property concerning Taro is evidence for inferring that he will come on time.

As for the meaning of an NP like *Taro*, we assume that it denotes a set of properties concerning NP. It is of type $\langle\langle e^a, t^a\rangle, t^a\rangle$ rather than an individual or a property/predicate (cf. Izumi 2012))(The superscript *a* stands for an at-issue type):

(16) $[\![\text{Taro}]\!]$: $\langle\langle e^a, t^a\rangle, t^a\rangle = \lambda P.\ P(\text{Taro})$

As for *no koto-da*, we consider that it takes a referring expression such as a proper name and denotes that there exists a contextually salient property Q such that $R(Q)$ is true (where $R(Q)$ is in judge j's knowledge (j is typically the speaker):

(17) $[\![\text{no koto-da}_{\text{at-issue}}]\!]$: $\langle\langle\langle e^a, t^a\rangle, t^a\rangle, t^a\rangle =$
$\lambda R_{\langle\langle e,\ t\rangle,\ t\rangle} \exists Q[Q$ is a contextually salient property $\wedge\ R(Q) = 1]$
(where $R(Q)$ is in j's knowledge)

At this point, NP-*no koto-da* is at issue. The discourse connective *kara* then combines with NP-*no koto-da* clause (subordinate clause) and a modal sentence (main clause) and triggers a causal meaning. We propose that *kara* has a following multifaceted meaning:

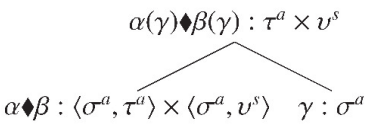
(18) $[\![\text{kara}_{EPI}]\!]$: $\langle t^a, \langle t^a, t^a \rangle\rangle \times \langle t^a, \langle t^a, t^s\rangle\rangle$ =
$\lambda p \lambda q$. because(p, q)♦$\lambda p \lambda q$. p is evidence for inferring q
(where q is an epistemic modal statement)

Note that there is also a presupposition that the proposition in the *because* clause is true (see also McCready and Sudo 2012):

(19) because(p, q) presupposes p and asserts q

Because the *kara* clause is presupposed, a denial can usually target only the content of the consequent clause. This *kara* is different from the real-world causal use of *kara* in that it is epistemic in nature (Nagano 1952; Maeda 2009; Masuoka 2013; etc.). We assume that epistemic *kara* conventionally implies that p is evidence for inferring q. This requires the main clause to be a modal statement. In terms of compositionality, the connective *kara* combines with a causal clause and a resultant clause via McCready's 2010 mixed application.

(20) Mixed application



(Based on McCready 2010)

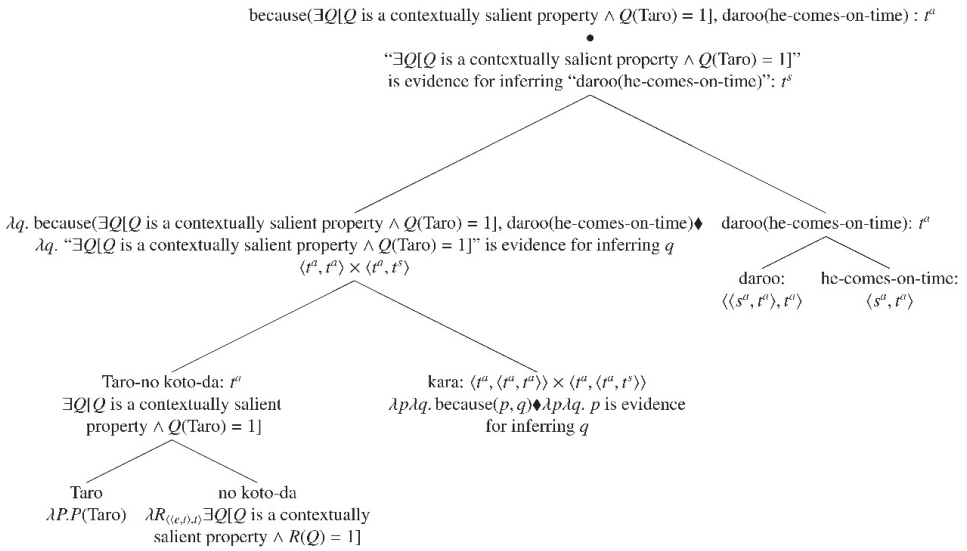
The at-issue component is to the left of ♦, and the non-at-issue component/CI is to the right. Superscript a stands for an at-issue type, and superscript s stands for a shunting type, which is used for the semantic interpretation of a CI involving an operation of shunting.[2] When the derivation of the CI component of mixed content completes, the following rule applies for the final interpretation of the CI part:

(21) Final interpretation rule: Interpret α♦β:
$\sigma^a \times t^s$ as follows: α: σ^a •β: t^s

(Based on McCready 2010)

The following figure shows the logical structure of (15):

(22)



5.2. The case of the inferential NP-no koto-da without kara

Let us now analyze the meaning of the inferential NP-*no koto-da* without *kara* based on the following example:

(23) Taro-no koto-da. Jikandoorini ku-ru-daroo.
Taro-GEN thing-PRED on.time come-NON.PST-will
At-issue: Taro will come on time.
CI: The contextually salient property concerning Taro is evidence for inferring that he will come on time.

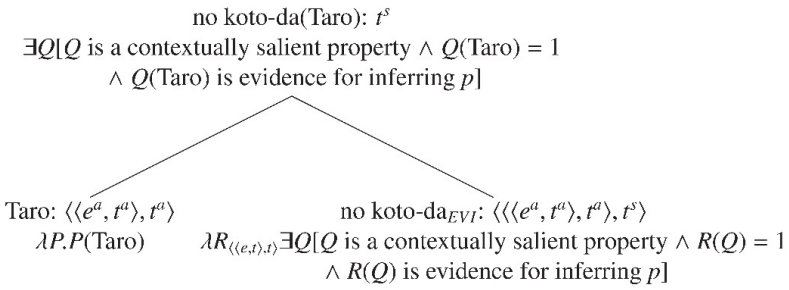
We assume that the epistemic causal meaning of *kara* is incorporated into *no koto-da* in the course of conventionalization (language change) and propose the following meaning for the incorporated *no koto-da*:

(24) $[\![\text{no koto-da}_{\text{EVI}}]\!]$: $\langle\langle\langle e^a, t^a\rangle, t^a\rangle, t^s\rangle$ =
$\lambda R_{\langle\langle e,t\rangle, t\rangle}\exists Q[Q$ is a contextually salient property$\wedge$ $R(Q) = 1 \wedge R(Q)$ is evidence for inferring $p]$
(where $R(Q)$ is in j's knowledge, p = an epistemic modal statement)

Notice that *no koto-da*$_{\text{EVI}}$ has a CI meaning of type t^s (rather than t^c). Superscript s stands for a shunting type, which is used for CI expressions that involve a resource-sensitive

application called the shunting application (McCready 2010). The following figure shows the logical structure of *Taro-no koto-da*:

(25)



6. Comparison with context-dependent rhetorical relation (deafeasible inference)

In this section we will consider the phenomenon of NP-*no koto-da(-kara)* in terms of rhetorical relation. Rhetorical relations indicate the semantic connections between multiple sentences within a discourse. Rhetorical relations demonstrate the flow of information within sentences or discourse, either explicitly through discourse connectives or implicitly without specific discourse connectives.

In implicit rhetorical relation where there is no discourse markers, there can be various relations between the two sentences (where α appears in the text before β):

(26) *Narration*(α, β): The event described in β is a consequence of (but not necessarily caused by) the event described in α.
Example: Max stood up. John greeted him. (Lascarides and Asher 1991: 55)

(27) *Elaboration*(α, β): The event described in β contributes to the occurrence of the culmination of the event described in α, i.e. β's event is part of the preparatory phase of α's.
Example: The council built the bridge. The architect drew up the plans.
(Lascarides and Asher 1991: 55)

(28) *Explanation*(α, β): The event described in clause β caused the event described in clause α.
Example: Max fell. John pushed him. (Lascarides and Asher 1991: 55)

(29) *Background*(α, β): The state described in β is the 'backdrop' or circumstances under which the event in α occurred (so the event and state temporally overlap).
Example: Max opened the door. The room was pitch dark.
(Lascarides and Asher 1991: 55)

(30) *Result*(α, β): The event described in α caused the event or state described in β.
Example: Max switched off the light. The room was pitch dark.
(Lascarides and Asher 1991: 55)

In implicit rhetorical relation, the kind of rhetorical relation is context dependent and there can be more than one discourse relation between two sentences. For example, Lascarides and Asher (1991) claim that sickness in (31) describes the circumstances when Max took the aspirin (hence the sentence are related by *Background*) and also explains why he took the aspirin (hence the sentences are related by *Explanation* as well):

(31) Max took an aspirin. He was sick. (Lascarides and Asher 1991: 55)

In Lascarides and Asher's framework (called Segmented Discourse Representation Theory (SDRT)), discourse relations are inferred by means of defeasible default rules that rely on commonsense causal knowledge and Gricean assumptions of discourse coherence (Lascarides & Asher 1991; Asher & Lascarides 2003). Note that it is possible to explicitly represent rhetorical relations using discourse markers such as *because* and *so*:[3]

(32) a. (Explanation)
John came back because he loved her. (Sweetser 1990: 77)
b. (Result)
The sun was shining. So the temperature rose.
(Sanders, Sanders and Sweetser 2009: 19)

When *kara* 'because' is attached, NP-*no koto-da-kara* explicitly indicates a rhetorical relation of result. Recall that here the specification of rhetorical relations is based on the linear order of the initial clause and the subsequent clause. The *kara*-clause comes first:

(33) (Result (evidence))

Taro-no	koto-da-kara	jikandoorini	ku-ru-daroo.
Taro-GEN	thing-PRED-because	on.time	come-NON.PST-will

At-issue: Taro will come on time.
CI: The contextually salient property concerning Taro is evidence for inferring that he will come on time.

Note that (33) is not a causal relationship between factual events, but rather an epistemic causal inference based on the speaker's knowledge. Therefore, it is also possible to assume a separate rhetorical relation called "evidence" distinct from 'result' (see Asher and Lascarides 2003; Jasinskaja and Karagjosova 2021). Here, we will represent the rhetorical relationship as "result (evidence)".

The question is whether NP-*no koto-da* without *kara* is similar to usual implicit rhetorical relation.

(34) Taro-no koto-da. Jikandoorini ku-ru-daroo.
Taro-GEN thing-PRED on.time come-NON.PST-will
At-issue: Taro will come on time.
CI: The contextually salient property concerning Taro is evidence for inferring that he will come on time.

Superficially, (35) looks similar to (34), in which NP-*no koto-da* is not used:

(35) Taro-wa atama-ga ii. I-kkai-de shiken-ni {uka-ru-daroo /uka-tta}.
Taro-TOP head-NOM good one-time-in exam-to pass-NON.PST-will/pass-PST
'Taro is smart. He will pass/passed the exam on his first attempt.'

However, we claim that there is a fundamental difference between NP-*no koto-da* without *kara* and the standard implicit rhetorical relation. One piece of evidence is that, in the usual implicit rhetorical relation, the causal meaning does not have to be inferential: the consequent sentence can be factual. By contrast, in the case of inferential NP-*no koto-da*, the subsequent sentence is necessarily modal.

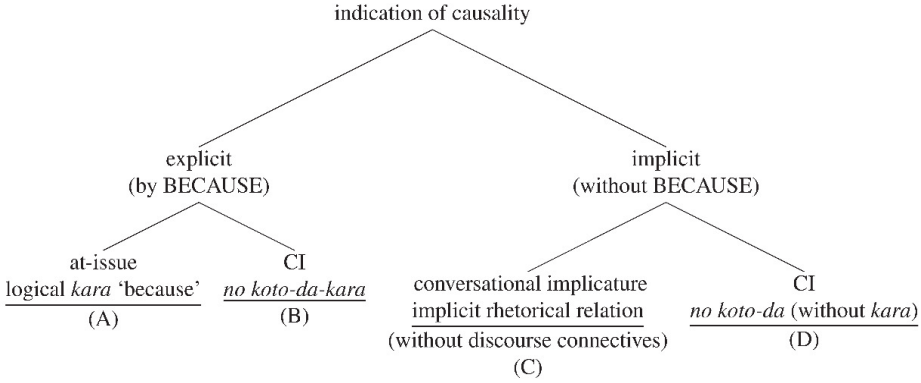
(36) is a paraphrase of (35) using NP-*no koto-da*, in which the property of Taro is turned into a modifier. In this paraphrase, if the subsequent sentence is factual, the sentence becomes odd:

(36) [Atama-no ii Taro]-no koto-da. I-kkai-de shiken-ni {uka-ru-
head-GEN good Taro-GEN thing-PRED one-time-in exam-to pass-NON.PST-
daroo/*uka-tta}.
will /pass-PST
'lit. It's smart Taro. He will pass the exam on his first attempt.'

This strongly shows that the evidence-based causal meaning arises due to the presence of the inferential NP-*no koto-da* and the causal meaning is not purely pragmatic (conversational implicature).

Based on the above discussion, we propose a new typology of causal indication as illustrated in (37):

(37)



Type A and Type B explicitly represent causality, but they differ in terms of the status of meaning. While the causal meaning in Type A is at-issue, the causal meaning in Type B is not at-issue, as discussed in Section 4. Type C and Type D implicitly represent causality, and in both cases the causal meaning is not at-issue; however, they differ in terms of the kind of implicature involved. While the causal meaning of Type C (a standard implicit rhetorical relation) is inferred by means of a defeasible default rule and thus constitutes a conversational implicature, the causal meaning of Type D is conventionalized and forms part of the meaning of *no koto-da*. This typology is novel in that it draws a distinction between at-issue and non-at-issue meaning (Type A vs. Types B, C, and D), as well as between conversational implicature (Type C) and conventional implicature (Types B and D). In the current literature on rhetorical relations, a distinction is typically made between implicit and explicit relations; our typology introduces a further fine-grained distinction.

7. Internal and external causal relations

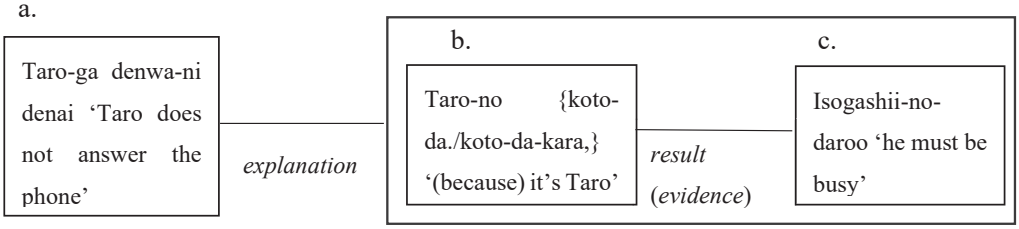
In this section, we discuss the discourse relation of NP-*no koto-da(-kara)* sentences from a broader perspective. We focus in particular on cases where NP-*no koto-da(-kara)* co-occurs with NP-*no daroo* 'NODA-will'.[4] The interesting point of this phenomenon is that although NP-*no koto-da*(-*kara*) requires a result inferential modal (see Section 3), it can co-occur with *no-daroo*, which is a cause inferential modal:

(38) a. Taro-ga denwa-ni de-nai. Taro-no koto-da-kara
Taro-NOM telephone-to answer-NEG. Taro-GEN thing-PRED-because
isogashii-no-daroo.
busy-NODA-will
'lit. Taro does not answer the phone. Because it's Taro, he must be busy.'

b. Taro-ga denwa-ni de-nai. Taro-no koto-da. Isogashii-no-daroo.
Taro-NOM telephone-to answer-NEG. Taro-GEN thing-PRED busy-NODA-will
'lit. Taro does not answer the phone. It's Taro. (So) he must be busy.'

We claim that this is not a problem for our analysis. In the case where *no-daroo* is used, there are actually two kinds of causal relationships: a "local causal relationship" (i.e., the relation between NP-*no koto-da*(-*kara*) and a modal sentence) and a "global causal relationship" (i.e., the relation between a sentence before NP-*no koto-da*(-*kara*) and a modal sentence). In terms of rhetorical relation, the former is result, while the latter is explanation.

(39) The dual rhetorical relationships in (38)

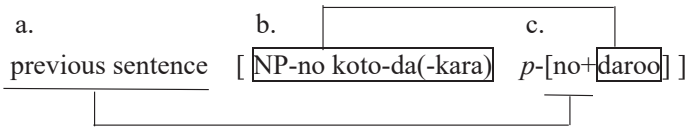


At a larger (global) level, the rhetorical relation of explanation is formed between (39a) and (39b)+(39c). While (39b) may not seem to directly correspond to an explanation for "Taro being unable to answer the phone," from the perspective of speech acts, (39b) can

be considered part of the act of explaining. At the local level, (39b) and (39c) are related based on result (evidence).

The discussion above considers the flow of sentences from the perspective of rhetorical relations. However, in order to capture the relationship between modality and discourse, we also need to examine discourse structure from a morphosyntactic perspective. At the local level, NP-*no koto-da(-kara)* interacts with the epistemic modal *daroo* in *no-daroo*. At the global level, by contrast, explanatory *no(da)* interacts with a preceding sentence, rather than with the sentence containing NP-*no koto-da(-kara)*.

(40) a. previous sentence b. [NP-no koto-da(-kara) c. *p*-[no+daroo]]



At the local level, the property of Taro serves as the evidence for the inference that he is probably busy, and at the global level, this inference is construed as an explanation for the evidence that he does not answer the phone. We claim that the dual causal relationship is possible because *no-daroo* is a complex modal expression, consisting of explanatory *no(da)* and the epistemic modal *daroo*. It is possible for NP-*no koto-da*(-*kara*) to interact only with *daroo*.[5]

8. Conclusion

This paper investigated the dependent property of the inferential NP-*no koto-da*(-*kara*). We assumed that there are two types of inferential NP-*no koto-da*: NP-*no koto-da-kara* (with *kara*) and NP-*no koto-da* (without *kara*). The former is a subordinate clause, but the latter is a single independent clause; both require that the subsequent sentence is a modal statement. More specifically, we observed that NP-*no koto-da*(-*kara*) needs a modal statement after the expression, and the modal must be a result-inferential modal rather than a cause inferential modal. We argued that although both *no koto-da* with *kara* and *no koto-da* without *kara* conventionally implicates that "the contextually salient property of NP attached to *no koto-da* is a source for inferring the subsequent *p*", the way the conventional implicature (CI) is derived is different. In the former case, *kara* triggers the causal CI meaning. By contrast, in the latter case, *no koto-da* itself triggers the causal CI meaning, claiming that *no koto-da* itself has been conventionalized as an evidence-indicating marker.

In the latter part of this paper, we examined the meaning of NP-*no koto-da(-kara)* from the perspective of rhetorical relations. At first glance, the configuration of NP-*no koto-da* without *kara* and the following sentence resembles a general implicit rhetorical relation, but unlike general implicit rhetorical relations, it is not interpreted through reasoning. Through the phenomenon of *no koto-da* without *kara*, we proposed a new typology for indicating causality.

Finally, the paper examines two levels of causality (rhetorical relations) when NP-*no koto-da(-kara)* co-occurs with *no-daroo* in the subsequent clause. When co-occurring with *no-daroo*, NP-*no koto-da*(-*kara*) and the subsequent sentence/clause share a local result (evidence) relation. However, due to the explanatory meaning of *no* in *no-daroo*, the modal clause can also bear an explanatory relation with a sentence before NP-*no koto-da(-kara)*. This paper demonstrates that nested causal relations are possible by decomposing *no-daroo* into two components: an explanatory component (*no(da)*) and an inferential (epistemic) component (*daroo*).

It is theoretically important that there is a depend (concord-like) relationship between NP-*no koto-da* (without *kara*) and a modal sentence even if there is no discourse connective. The dependency here is neither syntactic dependency (which is discussed in the phenomenon like binding) nor logical dependency (which is often discussed in the phenomenon of polarity sensitivity). Rather it is pragmatic in the sense that the dependency is derived from the use condition/not-at-issue component. This paper shows that there is a new kind of dependency in natural language, use-conditional dependency. In the future studies, more detailed analysis will be necessary for the relationship between global and local causality.

NOTES

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[1] It should be noted that if a sentence final particle *yo* is added in the subsequent sentence, sentences become natural even if there is no *daroo*:

(i) Taro-no koto-da-kara isogashii-yo.
Taro-GEN thing-PRED-because busy-PRT
'lit. Because it's Taro, he will be busy.'

(ii) Taro-no koto-da. Isogashii-yo.
Taro-GEN thing-PRED busy-PRT
'lit. It's Taro. He will be busy.' (= It's Taro, so he will be busy.)

Note, however, that these sentences do have a modal-like flavor in that the speaker predicts that Taro is busy. The particle *yo* itself does not have a modal meaning, but it has a speaker-oriented meaning and this seems to pragmatically trigger a modal-like meaning. The sentence is interpreted as if it contains the modal adverb *kitto* 'surely'.

[2] The following figure shows the shunting application:

(i) The shunting application (Based on McCready 2010)

$$\alpha(\beta) : \tau^s$$
$$\alpha : \langle \sigma^a, \tau^s \rangle \quad \beta : \sigma^a$$

The shunting application is different from Potts' (2005) CI application, where it is resource sensitive. Potts's CI application is resource insensitive.

[3] There are various other types of rhetorical relations, such as parallel and contrast. Parallel holds between two or more discourse units in virtue of the similarity or uniformity of their content along some relevant dimension (Jasinskaja and Karagjosova 2021: 2649), and is typically marked by the connective *moreover*, *also*, and *too*. Contrast connects discourse units whose content is "opposite" or "contradictory" in some respect, and is typically marked by the connective *but* (Jasinskaja and Karagjosova 2021: 2650; see also Lakoff 1971).

(i) (Parallel)

He can play the piano. Moreover, he can also play the guitar.

(ii) (Contrast)

This ring is beautiful, but expensive. (Jasinskaja and Karagjosova 2021: 2650)

[4] The particle *no*(*da*) can convey various meanings, including "explanation", "order", "recollection", etc., but when it combines with a modal such as *daroo*, it has a function of explanation.

[5] It should be noted that the local and global causal relationships are also found in *no-kamoshirenai*:

(i) a. Taro-ga denwa-ni de-nai. Taro-no koto-da-kara isogashii-no-kamoshirenai.
Taro-NOM telephone answer-NEG Taro-GEN thing-PRED-because busy- NODA-may
'lit. Taro does not answer the phone. Because it's Taro, he may be busy.'

b. Taro-ga denwa-ni de-nai. Taro-no koto-da. Isogashii-no-kamoshirenai.
Taro-NOM telephone-to answer-NEG Taro-GEN thing-PRED busy- NODA-may
'lit. Taro does not answer the phone. It's Taro. (So), he may be busy.'

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