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The Semantics of Clausal Coordination in Japanese: Concepts or Procedures

Miyuki Nagatsuji

1. Introduction
Japanese has multiple clausal coordination structures that correspond to English *and*-conjunctions: typical examples include the *-te, -tari*, and *-shi* structures. However, the use of each structure is more limited than that of the *and* structure. When we translate the English *and*-conjunctions in (1) into Japanese, the best translations are the counterparts in (2):¹

(1) a. [Bob has broken his leg.]
   Ann: Are you entitled to accident compensation?
   Bob: Well, a manhole was left uncovered and I fell in.
   (Carston 2002: 228)

b. [After an Afghan ex-general and his daughter, Soraya, arrive in America as refugees, their relationship gradually changes.]
   The general’s frailty—and time—had softened things between him and Soraya too. They took walks together, went to lunch on Saturdays, and the general sat in on some of her classes.
   (The Kite Runner, p. 178)

c. [Colleagues have been waiting for Jane’s arrival in a meeting room.]
   A: Shall we start without Jane?
   B: Well, she did say to start if she was late, and, after all, we do want to finish by 6:00 p.m. (Blakemore and Carston 2005: 585)

¹ The abbreviations used for word-by-word glosses in this paper are as follows: ACC (accusative), COMP (complementizer), COP (copula), GEN (genitive), NOM (nominative), PAST (past), POL (polite), SFP (sentence-final particle), and TOP (topic).
(2) a. Bob: Ūn, manhōru no huta ga hazurete-i-te, ochi-ta-nda.2
well manhole GEN cover NOM be-uncovered-te fall.in-PAST-SFP
‘Well, a manhole was left uncovered and I fell in.’

b. Hutari wa isshoni sanposhi-tari, doyōbi ni wa chūshoku
two.people TOP together take.a.walk-tari Saturday on TOP lunch
o tabe ni it-tari, shōgun ga Soraya no oshieru jugyō
ACC eat to go-tari general NOM Soraya NOM teach class
ni de-tari shi-ta.
ACC attend-tari do-PAST
‘They took walks together, went to lunch on Saturdays, and the general
sat in on some of her classes.’

(Kimi no tame nara Senkai demo, p. 303)

c. B: Ūn, Jane wa mosi okure-tara sakini hajimeru yōni
well Jane TOP if be.late-if ahead start to
itte-i-ta-shi, nanto.itte.mo, 6ji made.ni wa
has-said-PAST-shi after.all 6:00 by TOP
owari-tai-yo-ne.
finish.want-SFP-SFP
‘Well, she did say to start if she was late, and, after all, we do
want to finish by 6:00 p.m.’

Each of the Japanese versions in (2) cannot be replaced with the other
structures: in (2a), the -tari and -shi structures are unacceptable; in (2b), the
-te and -shi structures are unacceptable; and in (2c), the -te and -tari structures
are unacceptable. This indicates that the three structures have certain inherent
meanings.

Although researchers have suggested the meanings, or the “constraints”
on use, it does not seem to me that a rationale for them has been well

2 -Nda is a colloquial of the sentence-final particle -noda.
explained. This paper examines the semantic aspect of the Japanese clausal coordination structures, arguing that the conjunctive suffixes -te, -tari, and -shi encode a type of information that constrains the inferential phase of interpretation.

The organization of the paper is as follows: section 2 introduces the distinction between conceptual and procedural meaning, which is an important notion in relevance theory (Sperber and Wilson 1986/1995). Section 3 discusses the possibility that all of the suffixes encode procedures on the basis of properties associated with procedural expressions. Section 4 serves as the conclusion and presents the implications.

2. Conceptual and procedural encoding
Relevance theory assumes that the interpretation of utterances involves two types of processing: the construction and computation of conceptual representations. Information encoded by a linguistic expression can contribute to these processes, leading to the distinction between conceptual and procedural encoding. Conceptual meaning enters into the constituents of a conceptual representation, which undergoes computations. The meanings of content words such as nouns, verbs, and adjectives are generally conceptual. On the other hand, procedural meaning constrains the inferential phase of interpretation by indicating the pragmatic processes that the addressee is expected to go through. Procedural expressions can then be viewed as having a function to reduce the inferential work in the interpretation of an utterance.

The notion of procedural meaning has been developed since Blakemore’s (1987) work on discourse markers. Such markers guide the hearer to arrive at the intended interpretation by indicating how the segment they introduce is related to the preceding segment or contextual assumptions manifest to the hearer. Consider (3), an utterance consisting of two sentences:

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(3) a. Tom can open Ben’s safe.     b. He knows the combination.

(Blakemore 2002: 78)

This utterance has two possible interpretations: (3a) provides evidence for
(3b), and (3a) is confirmed by the justification provided in (3b). The discourse
markers *so* and *after all* help the addressee determine which interpretation is
intended:

(4) a. Tom can open Ben’s safe. So he knows the combination.
    b. Tom can open Ben’s safe. After all, he knows the combination.

( *ibid.*: 79)

In (4a), the first segment functions as a premise that leads to a conclusion
drawn in the second segment. In (4b), the first segment plays the role of a
conclusion that follows from a premise provided in the second segment.
According to Blakemore (1987, 2002), *so* instructs the hearer to go through
an inference in which the segment introduced by it is interpreted as a
contextual implication; and *after all* guides the hearer to make an inference
in which the segment introduced by it strengthens an assumption manifest
to the hearer, mostly an assumption available from the preceding segment.
These discourse markers constrain the derivation of implicatures, or of the
cognitive effects to be achieved.

Given that the essential function of procedural meaning lies in a constraint
on inferential processes, linguistic expressions can play a guiding role, not
only in the derivation of implicatures, but also in other pragmatic tasks.
Indeed, as Blakemore (2000, 2002) argues, some discourse markers such as
*nevertheless* and *however* constrain the contexts where the utterance is
interpreted.

Furthermore, Wilson and Sperber (1993) point out that there are procedural
expressions that contribute to the explicit content of an utterance. For
example, pronouns and demonstratives encode procedural information that reduces the search space for the process of reference assignment.

(5) a. John went into town for his lunch. He was late back to the office.
   b. John went into town for his lunch. She was late back to the office.

   (Scott 2011: 197; (b) is mine)

In (5a), the pronoun he in the second sentence is interpreted as referring to the man named John in the first sentence; he is used to refer to a third male person salient in the context. In (5b), given the same context as in (5a), the referent of the pronoun she might be a woman mutually identifiable between the speaker and the hearer; she is used to refer to a third female person salient in the context. These pronouns do not encode the conceptual representation of a referent that appears in the proposition expressed and contributes to the truth condition. Rather, they limit possible referents and make it easier for the hearer to find the intended one. Thus, some linguistic expressions encode constraints on the proposition expressed by an utterance, or on explicatures.4

This section has described the notion of procedural meaning. The key point to stress here is that procedural expressions can contribute to both explicit and implicit aspects of interpretation. Section 3 considers whether the Japanese conjunctive suffixes -te, -tari, and -shi are conceptual or procedural.

4 Wilson and Sperber (1993) also suggest that there are linguistic indicators that constrain the processes of the recovery of higher-level explicatures that express the speaker’s propositional attitude and speech act. For example, as Clark (2013) discusses, the interjection wow in utterance (i) may lead the hearer to recover a certain type of higher-level explicature, as in (ii):

(i)  Wow, it’s raining.
(ii) The speaker is surprised that it’s raining.

   (Clark 2013: 321)

The same higher-level explicature could be inferred from the utterance without wow, given particular contextual assumptions. However, (i) is more likely to communicate the speaker’s surprised attitude toward the proposition expressed. This indicates that the interjection wow constrains the processes of inferring the speaker’s propositional attitude.
3. The type of meaning encoded by the Japanese conjunctive suffixes
As seen in section 1, while the Japanese -te, -tari, and -shi structures correspond to English and-conjunctions, each of these three structures is more limited in use than the and structure. Given the notion of procedural meaning, the conjunctive suffixes -te, -tari, and -shi could be procedural. In fact, the procedural view has shed light on some functionally similar clause-linking structures in Japanese. For example, Takeuchi (1998) examines the causal suffixes -kara and -node (‘because’ or ‘since’), both of which contribute to the truth condition of the utterance although they differ subtly in use. Her proposal is that these suffixes encode different procedural meanings that constrain the contexts where the utterance is interpreted. This section argues that the suffixes -te, -tari, and -shi encode procedures, on the basis of properties that Blakemore (2002) points out are associated with procedural expressions. The following subsections discuss the suffixes with a focus on two of the properties: difficulty in paraphrasing and non-compositionality.

3.1. Difficulty in paraphrasing
According to Blakemore, procedural meanings are difficult to paraphrase. If a native speaker of English is asked what the discourse makers so and after all mean, s/he may be able to show how they are used but may not exactly answer what they encode. As Wilson and Sperber (1993) put it, unlike concepts, procedures cannot be brought to consciousness; “[w]e have direct access neither to grammatical computations nor to the inferential computations used in comprehension” (ibid.: 16).

The same holds true for the conjunctive suffixes -te, -tari, and -shi. Indeed, many native speakers of Japanese cannot explain what these suffixes encode. Let us first consider the suffix -te. The -te structure can convey a range of relations between states of affairs described in the conjuncts, such as a temporal sequence (6a), a cause-consequence relation (6b), and a sort of contrast (6c). However, it is difficult to identify a common feature of the
usages of the suffix.

(6) a. *Totsuzen ōkina bakuhatsu.on* ga *shi-te*, *shima zentai ga* suddenly loud sound.of.explosion NOM do-te island whole NOM *hageshiku yure-ta.* violently shake-PAST

‘The loud sound of an explosion was suddenly heard, and the whole island shook violently.’ (BCCWJ)

b. *Tokyo-to de wa Ishihara to-chiji ga muhōna karasu ni* Tokyo in TOP Ishihara governor NOM disorderly crow about *atama.ni.ki-te, karasu o gekitaisuru tame-no purojekuto chīmu* get.mad-te crow ACC drive.away to project team *o hossokusase-mashi-ta.*

ACC set.up-POL-PAST

‘Mr. Ishihara, the governor of Tokyo, got mad at crows that did people harm and set up a task force to drive them away.’ (BCCWJ)

c. *Kanojo wa korekade idaina koto o shite-i-te, jibun no* she TOP such great thing ACC has-done-te oneself GEN *koto o chittomo idaida to wa omottei-nai.* thing ACC at.all great COMP TOP consider-not

‘She (Mother Teresa) has done such great things, and she does not consider herself a great person at all.’ (BCCWJ)

One might argue that the suffix *-te* is paraphrasable; in the examples in (6), *-te* can be replaced with another suffix or expression that explicitly communicates the relation between the clauses:

(6’a) *Totsuzen ōkina bakuhatsu.on* ga *shi-ta-ato, shima zentai ga* do-PAST-*after*

*hageshiku yure-ta.*
‘After the loud sound of an explosion was suddenly heard, the whole island shook violently.’

b. *Tokyo-to de wa Ishihara to-chiji ga muhōna karasu ni atama.ni.ki-ta-node, karasu o gekitaisuru tame-no purojekuto* get.mad-PAST-because chīmu o hossokusase-mashi-ta.

‘Since Mr. Ishihara, the governor of Tokyo, got mad at crows that did people harm, he set up a task force to drive them away.’

c. *Kanojo wa koredake idaina koto o shite-iru-noni, jibun no has-done-although koto o chittomo idaida to wa omottei-nai.*

‘Although she (Mother Teresa) has done such great things, she does not consider herself a great person at all.’

Note, however, that in each case of (6’), what is paraphrased is not the encoded meaning of the suffix -te but the relation pragmatically inferred between the clauses of the -te structure.⁵ Worse still, some of the paraphrases depend on the expressions assumed to be procedural, as in (6’b, c) (cf. Takeuchi (1998) for the causal suffix -node; Kinuhata (2005) for the

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⁵ As Hasegawa (1996b: 771) points out, relations communicated by the -te structure are cancellable, with the issue of whether they contribute to the explicit or implicit aspect of interpretation (cf. Carston’s (2002) discussion of the Gricean and relevance-theoretic accounts of English and-conjunctions). For example, taking (6a), the relation is cancelled when a sentence incompatible with the “forward” temporal sequence is added:

(i) *Totsuzen ōkina bakuhatsu.on ga shi-te, shima zentai ga hageshiku yure-ta.*

Seikakuni wa, hageshii yure no ato bakuhatsu ga at-ta
correctly TOP violent shake GEN after explosion NOM be-PAST

noda ga.

SFP though

‘The loud sound of an explosion was suddenly heard, and the whole island shook violently; the shake was followed by the explosion, though.’

The cancellability would guarantee the view that the relation available from a -te utterance is the result of pragmatic inferences rather than part of the encoded meaning; thus, the paraphrases in (6’) are based only on the pragmatic derivation of the individual relations in (6).
adversative suffix -noni). That is, we can hardly find a conceptual expression to paraphrase the meaning that the suffix -te encodes.

As for the suffixes -tari and -shi, the clauses conjoined with them are in a paratactic relation. In fact, both -tari and -shi structures are acceptable in some cases, with a different nuance of meaning.

can.do-not-PAST
‘Yesterday, a friend came and the computer broke down, so I couldn’t accomplish anything.’ (Hasegawa 1996a; (b) is mine)

The clauses of the -tari and -shi structures, “a friend came” and “the computer broke down,” are interpreted as providing a list of things that caused the speaker to accomplish nothing; the reverse of these clauses makes little difference to the interpretation. One might assume that the encoded meanings of the suffixes -tari and -shi are likely to be given using a concept such as “parallel” or “additive,” due to the paratactic relation between the clauses. However, there are contexts where the -tari structure is acceptable but the -shi structure is not and vice versa:

(8) [In the beginning part of a newspaper article reporting on an event for would-be fathers:]
On the 14th, Honjo Public Health Center in Sumida City, Tokyo, held an event called “A Class on Child Care for Fathers,” in which men were taught some basic information about pregnancy and practical hints for taking care of infants.
Shussan o hikae-ta 20, 30dai-no hūhu 15kumi childbirth ACC be.due-PAST in.(their.)twenties.and.thirties couple 15.pairs
ga sankashi, akachan no mokuyoku no hōhō o NOM participate baby GEN bathing GEN way ACC
{a. manan-dari / b. ??manan-da-shi}, hara ni omori o tsuke-te
learn-tari learn-PAST-shi stomach on weight ACC put-and
ninpu no kurō o {a. taikenshi-tari shi-ta / b. ??taikenshi-ta}. expectant-mother GEN trouble ACC experience-tari do-PAST experience-PAST
‘Fifteen couples in their twenties and thirties who would welcome their new babies in a few months participated in this event; the men learned how to bathe a baby and experienced the troubles that an expectant mother would have in her daily life by putting a weight on their bodies.’
(BCCWJ; (b) is mine)

(9) [A researcher gives his opinion that a Chinese character at issue in an old manuscript was incorrectly transcribed.]
I assume that the word bikō (‘a wide tail’) in the description of sea bass must have been mistaken for biyoku (‘a tail’).

Jitai kara mi-te goji setsu ga shape.of.character from consider-and wrong.character view NOM
jūbun {a. naritatsu-shi / b. ??naritat-tari}, kore nara ue-no kōdai well is.plausible-shi is.plausible-tari this if above kōdai
to-mo sukoburu {a. tekigōsuru / b. ??tekigōshi-tari suru}. with-also well is.compatiable is.compatiable-tari do

‘The idea that the (Chinese/kanji) character is wrong is plausible in terms of its shape, and this view is compatible with the word kōdai (‘a big mouth’) in the preceding passage.’
(BCCWJ; (b) is mine)

Examples (8) and (9) indicate that the distinction in meaning between the suffixes -tari and -shi cannot be attributed to anything conceptual. The

6 -Dari is an allomorph of the suffix -tari.
encoded meanings of these suffixes then are not paraphrased.

Related to paraphrasing, procedural expressions are difficult to translate into another language. According to Teramura (1981), learners of Japanese often seem to have difficulty understanding the differences between conjunctive suffixes, including -te, -tari, and -shi, and acquiring the appropriate use of each. This might be explained from a procedural perspective: if these suffixes encode procedural meanings, the difficulty of translating them will make it harder to capture the subtle differences, especially for learners whose native languages have fewer conjunctive devices. The matter of second language learning is indirect but important evidence for the view that the three suffixes at issue, -te, -tari, and -shi, are procedural.

Thus, the encoded meanings of the conjunctive suffixes -te, -tari, and -shi are difficult to paraphrase, even though individual relations between the clauses are paraphrasable. Section 3.2 considers the other property: procedural meanings are non-compositional.

3.2. Non-compositionality

Blakemore (2002) points out that procedural expressions do not combine with other expressions to form semantically complex ones in the same way that conceptual expressions do. Compare (10a) and (10b):

(10)  a. In total, absolute confidence, she has been promoted.
     b. ? Tom likes pop art. Totally however, Anna prefers Renaissance art.

(Blakemore 2002: 84)

In (10a), the complex sentence adverbial is understood as the combination of the constituents, the adverbial in confidence and the adjectives total and absolute. In contrast, in (10b), the discourse marker however, which is viewed as procedural, cannot be modified by the adverb totally to produce a
complex expression.\footnote{Blakemore mentions that there are cases where procedural expressions can combine with each other in some way.}

The Japanese suffixes -te, -tari, and -shi do not combine with other expressions to produce complex clause-linking devices in line with semantic compositionality. A search of small data (595,402 words in total) from the Balanced Corpus of Contemporary Written Japanese (BCCWJ) found that -tari and -shi made no contributions to compositional expressions. Among 151 -tari and 149 -shi structures, there were no cases where either suffix was modified by other words, including adverbs.

On the other hand, -te initially seems as though it can constitute more complex clause-linking expressions. One possible example is -tesugu(ni) (‘soon after’), which consists of the suffix -te and the adverb sugu(ni) (‘soon’), as in (11):

(11) Kyoto Eki ni tsuisu-tesugu, hoteru no yoyaku o shi-ta.  
Kyoto Station at arrive-tesugu hotel GEN reservation ACC do-PAST  
‘Soon after I arrived at Kyoto Station, I booked a hotel.’ (BCCWJ)

However, the adverb sugu(ni) might not modify the encoded meaning of the suffix -te, but rather modify a temporal sequence pragmatically inferable from the -te structure. Compare (11’):

(11’) Kyoto Eki ni tsui-te, hoteru no yoyaku o shi-ta.  
arrive-te  
‘I arrived at Kyoto Station and booked a hotel.’

(i) The cat left footprints all over the manuscript of my book. But after all, he can’t read.  
(\textit{ibid.}: 85)

The discourse markers \textit{but} and \textit{after all} have been analyzed as procedural in relevance theory (cf. Blakemore 1987, 2000, 2002; Iten 2005). The point here is that they do not combine to produce a complex procedure but rather indicate the individual procedures. Thus, such cases are still different from the combination of conceptual expressions, as in (10a).
The temporal sequence communicated in (11’), in which the speaker’s arriving at Kyoto Station preceded his booking a hotel, is indeed the same as that in (11). The adverb sugu in (11) then specifies a point in the time span assumed by the sequence. Indeed, in (11’), the adverb is taken to modify the expression *sono.ato* (‘after that’), which explicitly communicates a sequential relation.

(11’)*Kyoto Eki ni tsui-te, sono.ato sugu(ni), hoteru no yoyaku o* arrive-te after.that soon

*shi-ta.*

‘I arrived at Kyoto Station, and soon after that I booked a hotel.’

If my view is on the right track, it cannot be said that *-te* contributes to complex expressions in line with semantic compositionality.

A search of the same data as used in the examination of *-tari* and *-shi* found that the types of such “compositional” combinations were limited to *-tesugu(ni)* and *-tehajime-te* (‘not until’). There were 10 examples of the combinations among 81 instances of *-te* followed by an adverb (12.3%; 6 tokens of *-tesugu(ni) (7.4%); and 4 tokens of *-tehajime-te* (4.9%)).8,9 The results show that *-te* cannot be freely used to produce complex clause-linking expressions.

Lastly, we have to examine whether the other expression, *-tehajime-te* (‘not until’), is semantically compositional in a genuine sense. This expression consists of the suffix *-te* and the adverb *hajime-te* (‘for the first time’). Consider (12):

(12) [The writer of a book explains that in a legal case, particular processes leading to a conclusion are important even though the same conclusion

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8 In the other 71 instances, the adverbs modified the predicate or other elements in the clause following a *-te* clause.
9 I did not do a statistical analysis of the results here for the purpose of grasping the broad picture of the combinations.
follows. He points out that people engaged in the law obey these processes in the legal system, but ordinary people might not be able to understand why the processes are so important.]

Gyakuni iu to, konoyōna hōteki shikō o conversely say when such legal thought ACC
mi.ni.tsuke-rare-tehajimete hōritsu.ka to i-eru, to.iu acquire-can-tehajimete the.legal.profession COMP say-can COMP koto ni nari-masu.

‘Conversely, we cannot say that a person is in the legal profession until s/he has acquired such a legal view.’ (BCCWJ)

The adverb hajimete does not seem to modify the encoded meaning of -te. Rather, it is taken to modify a consequential relation pragmatically inferable from the -te structure (12’).

(12’) Gyakuni iu to, konoyōna hōteki shikō o mi.ni.tsuke-rare-te acquire-can-te
hōritsu.ka to i-eru, to.iu koto ni nari-masu.

‘Conversely, a person has acquired such a legal view, and we can say that s/he is in the legal profession.’

The relation between the clauses conjoined with -tehajimete in (12) is the same as that found in (12’): one’s having acquired a legal view at issue makes it possible for us to say that s/he is in the legal profession. The adverb hajimete in (12) might specify when the relation is established. In fact, just as in (11’), the adverb hajimete in (12”) modifies the expression sono.kekka (‘as a result’), which explicitly communicates a consequential relation.
(12”) Gyakuni iu to, konoyōna hōteki shikō o mi.ni.tsuke-rare-te,
acquire-can-te

sono.kekka hajimete, hōritsu.ka to i- eru, to.iu koto ni
as.a.result for.the.first.time nari-masu.

‘Conversely, a person has acquired such a legal view, with the very result that we can say that s/he is in the legal profession.’

Thus, the encoded meaning of -te does not make a direct contribution to complex expressions.

In sum, the suffixes -te, -tari, and -shi are semantically non-compositional. The quantitative and qualitative analyses demonstrate that these suffixes do not combine with other words in the same way that conceptual expressions do.

4. Concluding remarks
The present paper has argued that the Japanese conjunctive suffixes -te, -tari, and -shi encode procedures based on two properties: (i) procedural expressions are difficult to paraphrase, and (ii) they are non-compositional. The clausal coordination structures function as an indication of the inferential processes to guide the hearer to the intended interpretation.

This may lead to an important implication. The traditional pragmatic view (Grice 1989), which appears to rely heavily on English data, is that the semantics of certain natural-language expressions such as and, or, and if corresponds to that of their logical counterparts with the treatment of various meanings communicated in the ordinary use as conversational implicatures; so the semantics of the natural-language word and is equivalent to the truth-functional conjunction operator &. The suggestion here cast doubt on this view from a cross-linguistic perspective; Japanese clausal coordination, at least, is beyond the truth-based logical counterpart to the extent that it directs
the comprehension processes at the semantic level (cf. Hasegawa 1996b). If this line of argument is correct, though we need further research, it would be worth noting at this point that the Gricean paradigm should be reassessed.

References

10 Ohori (2004) also argues that the transparent relation between logical connectives and corresponding natural-language expressions cannot hold any longer, based on evidence from a variety of languages including Japanese.


**Source of examples**


**Corpus**