

# Semantic Shift from Conjunction/Causal to Conditional

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## Abstract

This paper analyzes the diachronic semantic shift from causal to conditional in Japanese and German. Japanese *V-e-ba* construction and German *wande/wann/wenn* connective both shifted from causal to conditional. Hara (2019) offers a pragmatic explanation for this diachronic trajectory of Japanese *V-e-ba*. More specifically, both constructions conventionally denote a sequential conjunction. The causal meaning in earlier times is obtained as an I-implicature, while the conditional meaning in later times is obtained from Q-implicatures. This paper argues that the same analysis can account for the semantic shift of German *wande/wann/wenn*.

## 1 Introduction

In Early Middle Japanese (EMidJ; 794–1185), *V-e-ba* appears to mark a causal adjunct clause, while in Present-day Japanese (PJ; 1945–present) *V-e-ba* appears to mark a conditional adjunct (antecedent). Incidentally, German conjunction *wande/wann/wenn* has a similar semantic shift. In Zeit I (1472–1525) of Gagel’s (2017) periodisation of Early New High German (ENHG; 1350–1650), *wande/wann/wenn* used to mark a causal clause but in New High German (NHG; 1650–present), it marks a conditional clause.

The goal of this paper is to explain how the interpretation of *V-e-ba* and *wande/wann/wenn* shifted from causality to conditionality. The core semantics of the *V-e-ba* or *wande/wann/wenn* is a sequential conjunction in the sense of update semantics, i.e.,  $c[\varphi\text{-}e\text{-}ba\ \psi] = c[\varphi][\psi]$  or  $c[wann\text{-}\varphi, \psi] = c[\varphi][\psi]$  as proposed by Hara (2019) for the Japanese *V-e-ba*. The causal meaning in EMidJ and ENHG is obtained as an I-implicature (conjunction buttressing; Levinson 2000), while the conditional meaning in PJ and NHG is obtained via Q-implicatures.

## 2 Periodization

The current paper adopts the following periodization for Japanese based on Frellesvig (2016) and Takada et al. (2018). The *Chuusee* period (EMidJ) is

further divided into early (794-1086) and late (1086-1185) when necessary.

Table 1: Periodization in History of Japanese language

Japanese	English translation	abbreviation	period
<i>Joodai</i>	Old Japanese	OJ	-794
<i>Chuuko</i>	Early Middle Japanese	EMidJ	794-1192
<i>Chuusee</i>	Late Middle Japanese	LMidJ	1192-1603
<i>Kinsee</i>	Early Modern Japanese	EModJ	1603-1868
<i>Kindai</i>	Modern Japanese	ModJ	1868-1945
<i>Gendai</i>	Present-day Japanese	PJ	1945-present

The German periodization is given in Table 2. The Early New High German, when the crucial change in the meaning of *wande/wann/wenn* had occurred, is further divided into Zeit I/II/III as in Table 3 by Gagel (2017).

Table 2: Periodization in History of German language

German	English translation	abbreviation	period
<i>Althochdeutsch</i>	Old High German	OHG	750-1050
<i>Mittelhochdeutsch</i>	Middle High German	MHG	1050-1350
<i>Frühneuhochdeutsch</i>	Early New High German	ENHG	1350-1650
<i>Neuhochdeutsch</i>	New High German	NHG	1650-present

Table 3: Gagel’s (2017) periodization of Early New High German

Zeit I	1472-1525
Zeit II	1526-1599
Zeit III	1600-1680

## 3 Data

### 3.1 Japanese

In early Early Middle Japanese, *e-ba* is used to mark a sequence of events in chronological order. In (1) from the Tale of the Bamboo Cutter (9th-10th C.), the event denoted by the *e-ba*-marked clause chronologically precedes the event denoted by the other clause and there seem to be no causal relation between the two events.

- (1) sore-o mir-e-ba, sansun bakari naru hito, ito utsukushiute  
 it-ACC see-E-BA 3.inches only COP person very lovely  
 witar-i.  
 exist-PERF

‘He (the old man) looked at it (the bamboo shoot) and then there was a person, who was only three inches tall, sitting very lovely.’ (early EMJ; Taketori)

In late Early Middle Japanese, *e-ba* appears to mark a causal clause as can be seen in (2) from the Tale of Genji (11th C.).

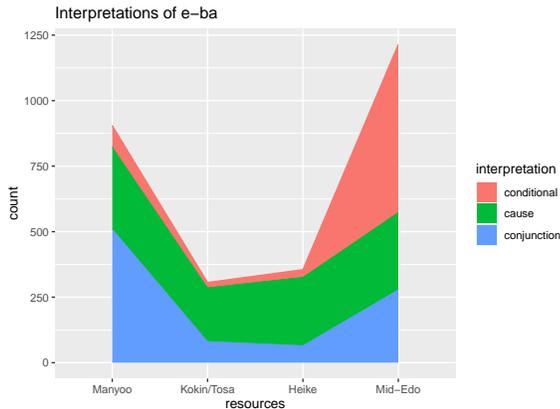
- (2) kurushiki koto nomi masar-e-ba, ito itau omohiwabitaru  
 harsh things only increase-E-BA, very much depressed  
 wo  
 ACC  
 ‘Because only harsh things increased, Ko’oi was very much depressed.’ (late EMJ; Genji; Fukuda 2006, 47)

In Present-day Japanese, *e-ba* marks a conditional clause as in (3) from the PJ translation of the Tale of Genji (translated by Abe et al. 1998).

- (3) uramu no-ga mottomona ten-mo kawairashiku bokashite  
 hate NML-NOM reasonable point-ADD sweetly vaguely  
 i-e-ba, sorenitsukete otoko-no aijoo-mo masu koto deshoo  
 say-E-BA, as.it.goes men-GEN love-ADD increase NML will  
 ‘Even the things you definitely hate, if you just mention them sweetly, men will love you more.’ (PJ;Fukuda 2006, 47)

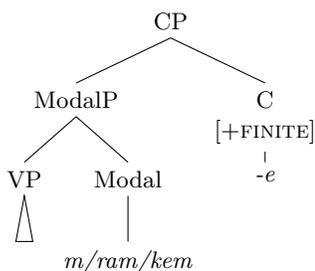
Figure 1 visualizes how the distribution of the frequencies of different usages of *e-ba* changed over time. As can be seen, in Manyoo (600-759, OJ), Kokin/Tosa (905/934, Early Middle Japanese) and Heike (1309, LMidJ), *e-ba* was used predominantly as conjunction or causal. Only after Mid-Edo Era (1700-1750, Early Modern Japanese), the conditional meaning has become the primary usage of *e-ba*.

Figure 1: Interpretations of *V-e-ba* (plotted based on Tables 1&2 on pages 64&66 in Yajima (2013))

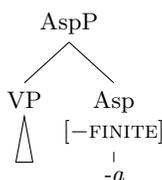


Before turning to German data, a note on the syntax of *e-ba* is in order. Traditional grammarians such as Sakakura (1958) maintain that the verbal suffixes such as *-a* and *-e* are irrealis and realis markers, respectively. The current paper adopts Fukuda’s (2006) analysis that argues against the traditional approach and claims that *-a* and *-e* are markers of syntactic positions. In generative terms, *-a* is a marker of infinite ([−FINITE]) Aspect Phrase (AspP) as depicted in (5), while *-e* is a marker of finite ([+FINITE]) CP as in (4).

(4)



(5)



Fukuda’s (2006) claim is motivated by the asymmetry between *-a* and *-e* regarding embedding of modals. Archaic modals of probability, *m*, *ram*, *kem* cannot be followed by *-a* (i.e., \**m-a*, \**ram-a*, \**kem-a*), while *m-e*, *ram-e*, *kem-e* forms are available. An example of *m-e* is given in (6).

- (6) monohakanaki mi-ni-ha suginitaru yosono oboe-ha  
 humble myself-DAT-TOP too.much others rumor-TOP  
 ara-m-e do  
 exist-might-E although  
 ‘Although there might be some rumors that it is too much for a  
 humble person like me.’  
 (EMidJ; Genji, Fukuda 2006, 50)

This observation is also attested in the Corpus of Historical Japanese (CHJ).<sup>1</sup> There are zero occurrences of *m-a*, *ram-a*, and *kem-a* while *m-e*, *ram-e*, *kem-e* forms frequently occur.

Therefore, semantically speaking, clauses headed by *-a* denote event predicates or unsaturated propositions, while clauses headed by *-e* denote

<sup>1</sup>National Institute for Japanese Language and Linguistics (2019) “Corpus of Historical Japanese” (Version 2019.3, Chunagon Version 2.4.4) <https://chunagon.ninjal.ac.jp/> (accessed August 1, 2019).

	-a	-e
<i>m-</i>	0	1327
<i>ram-</i>	0	187
<i>kem-</i>	0	107

Table 4: Co-occurrences of archaic modalities and verbal morphology in the Corpus of Historical Japanese (CHJ)

saturated propositions. Thus,  $\varphi$ -*e-ba*  $\psi$  is a conjunction of two saturated propositions.

In short, Japanese *e-ba* construction originally functioned as a conjunction that connects two consecutive events in early Early Middle Japanese, acquired its causal meaning in late Early Middle Japanese and now functions as a conditional after Early Modern Japanese. Furthermore, when *e-ba* marked conjunction or causality, its syntactic structure suggests that the clause headed by *e-ba* denoted a saturated proposition.

### 3.2 German

German *wande/wann/wenn* has a parallel semantic shift, i.e., a shift from temporal connective to conditional via causal. First, as stated by Wunder (1965, 167), the causal meaning of (*h*)*wanta* (a variant of *wande/wann/wenn*) arose from its temporal usage (see also Arndt 1959, 394, Eroms 1980, 104). For example in (7) from early ENHG (1464), *wenn* marked a temporal clause, thus (7) denotes a sequence of two chronologically ordered events, the girl becoming twelve years old and the bishop's declaration:

- (7) (...) und wenn sy den zwolff jar alt wurdent so  
 (...) and when she the.ACC twelve years old became so  
 kunti sy den der bischof zu der ee (...)  
 explained her then the.SUBJ bishop to the marriage  
 ‘(...) and when she became twelve years old, the bishop declared  
 her to be of an age to marry.’ (early ENHG; St. Gallen 1464: 145,  
 1; from Rieck 1977: 190)

Similarly, in (8) from ENHG, *want* (another dialectal variant of *wande/wann/wenn*) is used to mark a temporal clause:

- (8) want sante Peter sprach zo unsen heren (...) do antworde  
 when saint Peter spoke to our master (...) so answered  
 eme cristus (...)  
 one.INDEF.DAT Christ (...)  
 ‘when St. Peter spoke to our master (...) Christ gave an answer to  
 someone’s question.’  
 (early ENHG; Linnich (at the end of the 15th century) 86, 2; from  
 Rieck 1977: 181)

In Gagel’s (2017) *Zeit I* in ENHG, *wande/wann/wenn* was used pri-

marily as a causal marker. For instance, in (9), *wann* marks a causal clause.

- (9) Jtē einē hoffertigē knecht treyb von dir.  
furthermore a haughty vassal escape.3.SG. from you  
wann du zeüchft auß im deinē künfftigē veind.  
because you draw from him your future enemy  
'Furthermore, a haughty vassal escapes from you because you get  
your future enemy from him.'  
(Zeit I; Bämmler, 1476, e 5v, from Gagel 2017, 239)

Finally, after Gagel's Zeit II, *wande/wann/wenn* has lost its function as a causal marker and been used as a conditional marker (see also Ebert, 1986, 169). In (10) from NHG, *wenn* marks a conditional clause.

- (10) Ich weine mit, wenn dir ein Freund starb.  
I cry with.ADV if you.DAT a friend die  
'I cry with you if you lose a friend of yours.' (NHG; Klopstock  
1771)

Gagel (2017, 241) states that the temporal usage of *swenne/swanne* in the 15th century has evolved into the conditional usage.

Figure 2 shows the change in the frequencies of each usage of *wann*.<sup>2</sup> In Zeit I, *wann* was prominently used as a causal marker but its function as a causal maker is lost in Zeit III. Note also that in Zeit II and Zeit III, the frequency of *wann* with any usage is extremely small. Gagel (2017, 240) attributes this plummet to the emergence of other causal connectives such as *weil* and *denn*. Incidentally, In Zeit I, most of the *wann*-clauses had the Verb-Second (V2) word order, while in Zeit III, all the *wann*-clauses had the Verb-Last (VL) word order as visualized in Figure 3. This indicates that in Zeit I, a causal *wann*-clause was syntactically a finite/matrix clause while in Zeit II, a conditional *wann*-clause was an infinitive/subordinate clause. Similarly, Figures 4 and 5 show that most of VL *wann*-clauses are conditional clauses although the number of *wann*-clauses is much smaller than that of *wenn*-clauses. Gagel (2017, 244) himself notes that all instances of subordinate *wann/wenn*-clauses are semantically ambiguous between causal and conditional, thus no examples are purely causal.

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<sup>2</sup>In Gagel's (2017) original Tables 62 and 63, 'temporal' and 'conditional' categories are named 'causal-temporal' and 'causal-conditional'.

Figure 2: Interpretations of *wann* (plotted based on Table 62 in Gagel (2017))

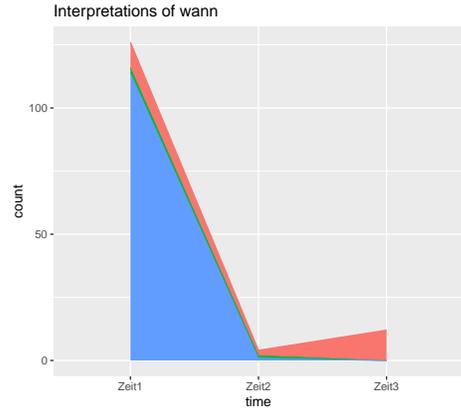


Figure 3: Distributions of V2/VL in *wann*-clauses (plotted based on Table 66 in Gagel (2017))



Figure 4: Interpretations of *wenn* (plotted based on Table 63 in Gagel (2017))

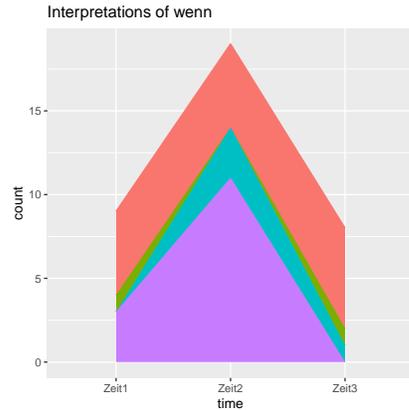
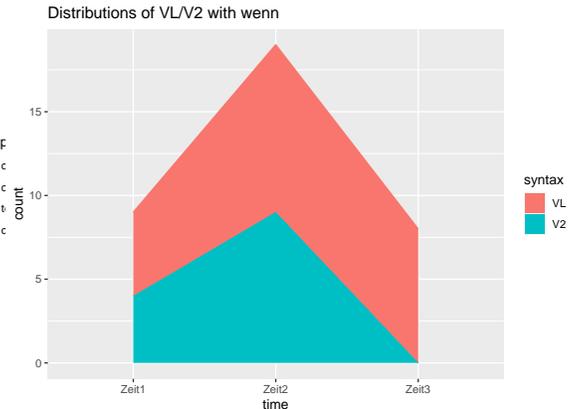


Figure 5: Distributions of VL/V2 in *wenn*-clauses (plotted based on Table 67 in Gagel (2017))



To summarize, the original variants of the German connective *wande/wann/wenn* functioned as a temporal conjunction that connects two events up until early ENHG. In Zeit I of ENHG, *wande/wann/wenn* was predominantly used as a causal marker but in Zeit II, the causal function was succeeded by *weil* and *denn*. In NHG, *wande/wann/wenn* has been used as a conditional. Furthermore, as with the case of Japanese *e-ba*, when *wande/wann/wenn* marked temporal conjunction or causality, the clause had the V2 order, suggesting that it denoted a saturated proposition.

## 4 Analysis

Hara (2019) argues that the core semantics of Japanese *V-e-ba* construction

is a sequential conjunction in the sense of update semantics, i.e.,  $c[\varphi\text{-}e\text{-}ba\ \psi] = c[\varphi][\psi]$  and the causal meaning is derived by an I-implicature while the conditional meaning is derived by Q-implicatures. The current paper proposes that the parallel analysis can be given to the historical development of German *wande/wann/wenn*.

- (11) a.  $c[\varphi\text{-}e\text{-}ba\ \psi] = c[\varphi][\psi]$   
 b.  $c[\text{wann-}\varphi, \psi] = c[\varphi][\psi]$

The temporal usage of *e-ba* and *wande/wann/wenn* is directly derived from (11),  $\varphi$  occurs first and then  $\psi$  occurs next as exemplified in (1) for Japanese and (7) and (8) for German.

The causal meaning of *e-ba* and *wande/wann/wenn* is pragmatically derived via an I-implicature. I-implicatures are obtained by I-principle, which enrich the semantic meaning of the original utterance so that the interpretations fit our stereotypical expectations.

- (12) The I-principle  
 Speaker: Do not say more than is required.  
 Addressee: What is generally said is stereotypically and specifically exemplified. (adapted from Huang, 2007, 58)

Levinson (2001) claims that I-principle enriches the function of English conjunction *and* so that it appears to act as a causal marker.

To illustrate, the *conventional* meaning of (13) is simply a conjunction of two events, but the addressee will pragmatically infer that there is a causal connection between the two events under the pressure of I-principle:

- (13) John turned the key and the engine started.  
*I-implicates*  
 John turned the key, therefore the engine started.

Similarly, the semantic interpretations of (2) and (9) are conjunctions of two events and the causal interpretations are pragmatically inferred as follows:

- (14) Japanese *e-ba* (2)  
 Only harsh events increased *and* Ko'oi was much depressed.  
*I-implicates*  
 Only harsh events increased *therefore* Ko'oi was much depressed.
- (15) German *wann* (9)  
 You get your future enemy from him *and* a vassal escapes from you.  
*I-implicates*  
 You get your future enemy from him *therefore* a vassal escapes from you.

Let us now turn to how the conditional interpretations of *e-ba* in Present-day Japanese and *wande/wann/wenn* in New High German come from (11). If the input context  $c$  in (11) is the utterance context, we obtain the interpretation of the sequential conjunction, i.e., ' $\varphi$  and then  $\psi$ ' as we

have seen above. In contrast, if  $c$  is a suppositional context, we obtain the conditional interpretation,  $\varphi \rightarrow \psi$  (Roberts, 1996; Kaufmann, 2000). That is, suppose a context where  $\varphi$  is true and in that context,  $\psi$  is true:

- (16) Japanese *e-ba* (3)  
 Suppose a context where you mention them sweetly. In that context, men will love you more.  
 $\Rightarrow$  If you mention them sweetly, men will love you more.
- (17) German *wenn* (10)  
 Suppose a context where your friend dies. In that context, I cry with you.  
 $\Rightarrow$  If your friend dies, I cry with you.

Thus, the semantics of *e-ba* and *wande/wann/wenn* given in (11) allows us to derive all three meanings, (temporal) conjunction, causal, and conditional. The next question arises as to: Why do Present-day *e-ba* and NHG *wenn* only have the conditional interpretations? The answer is that the other meanings are excluded by Q-implicatures. Along the diachronic development, morphemes that lexically mark causal and temporal/conjunction interpretations have appeared. In Japanese, *node* ‘because’ and *kara* ‘because’ emerged in Early Modern Japanese (17th C., (18)) and in Modern Japanese (19th C.,(19)), respectively (Kobayashi, 1996). Figure 6 shows the diachronic distribution of frequencies of the constructions that mark causality.

- (18) nandi-ga naku-node ore-mo utsu-mahi-to-ha  
 you-NOM cry-because I-ADD attack-not-COMP-TOP  
 omohe-domo...  
 think-though  
 ‘Because you cry, I also thought I’d better not attack you, but ...’  
 (EModJ; Kyoogenki 1660; Kobayashi 1996, 364)
- (19) gan’yaku-wo sasiage-maseu-kara sore-wo asaban-ni  
 pill-ACC give-POL-because it-ACC morning.night-DAT  
 ippkuku-dutu ken’yoo-nasaremasu-to musaki-ga  
 one.dose-every take-POL-ADD discomfort-NOM  
 hiraki-masi-te oshoku-mo susumi-maseu.  
 open-POL-and meal-ADD proceed-COP  
 ‘Because I will give you some pills, you take one every morning and evening, the discomfort will go away and your appetite will come back.’  
 (ModJ; Kokkeibon, 1802, Yajima 2013, 228)

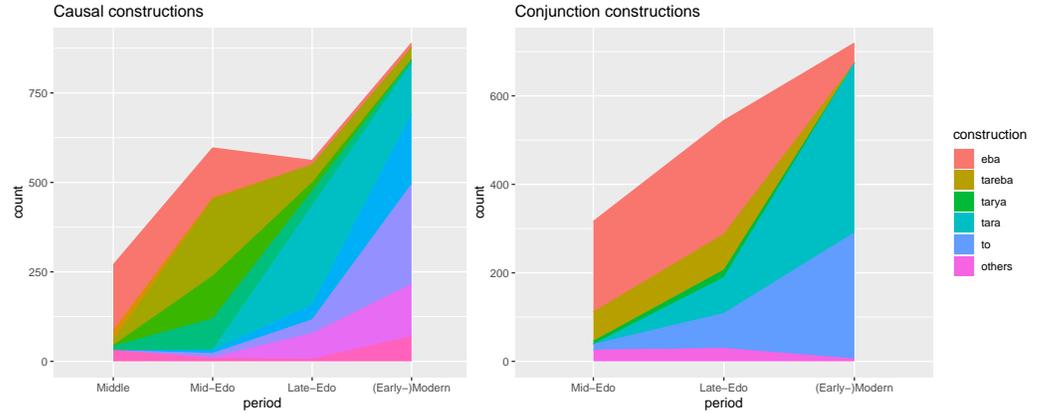
As for conjunction, *to* ‘and’ emerged in Early Modern Japanese (17th Century) as exemplified in (20). See Figure 7 for the diachronic distribution of conjunction constructions.

- (20) dausi ban-wo uti-kiru-to Hongaku hitori Hoozooboo-mo  
 monk board-ACC hit-finish-and Hongaku alone Hoozooboo-ADD  
 ihi-keri.  
 say-PAST

‘The monk finished playing go and Hongaku alone said “Hoozoo-boo”’  
 (EModJ; Suishoan, 1623)

Figure 6: Japanese constructions that mark causality (plotted based on Table 3 on page 217 in Yajima (2013))

Figure 7: Japanese constructions that mark conjunction (plotted based on Table 3 on page 113 in Yajima (2013))



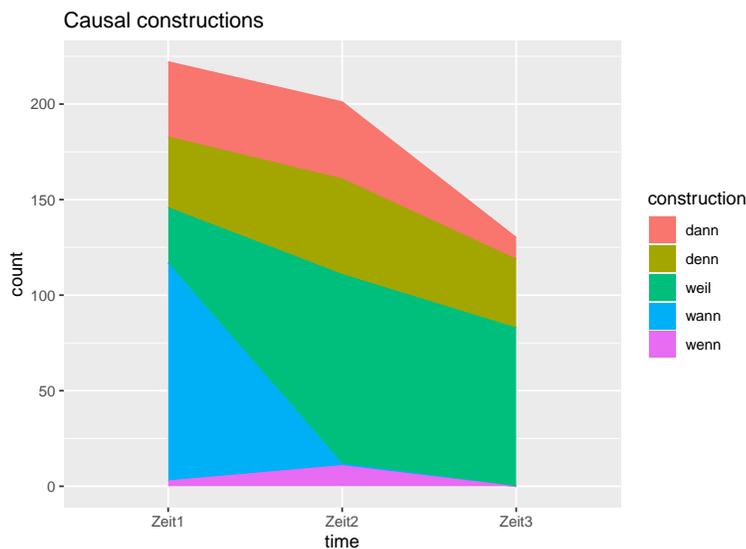
Similarly in German, *weil* ‘because’ (21) and *dann/denn* ‘so’ (22) took over the causal meaning from *wann/wenn* in Zeit II as reported by Gagel (2017, 240). The diachronic distribution of causal constructions is visualized in Figure 8.

- (21) (...) weil ich mich gegen ihm nicht wehren dörffte.  
 (...) because I me against him not resist must  
 ‘(...) because I am not permitted to go against him.’ (von Grimmelshausen, 1669)
- (22) (...) denn zu dem Ende hatte ich diese Rheyß angefangen  
 (...) because to.the.DAT end had I that rice begun  
 ‘(...) because at the end, I had begun by eating that rice’ (Gagel 2017, 204, Raleigh, 1599, 4)

On the other hand, the diachronic distribution of the morphemes that mark temporal is rather complex. The temporal usage of *als* as the one employed in Modern German had established in Early New High German (Hartweg & Wegera, 2005, 178). The temporal *wann* had branched out from the conditional *wenn* in the 18th Century (NHG; Gagel 2017, 236, Paul 2002, 1162; cf. Kluge 2011, 982).

These morphemes that emerged later are logically stronger than the default sequential conjunction. Consider *node* (*weil*) and *e-ba* (*wann*) first. There is a Q-scale,  $\langle node, e-ba \rangle$  ( $\langle weil, wann \rangle$ ) because  $CAUSE(\varphi, \psi)$  entails  $\varphi \rightarrow \psi$ , but  $\varphi \rightarrow \psi$  does not entail  $CAUSE(\varphi, \psi)$ . Thus,  $\varphi-e-ba-\psi$  ( $wann-\varphi, \psi$ ) Q-implicates  $\neg CAUSE(\varphi, \psi)$ . Similarly, the temporal conjunction *to* (*als*) is stronger than *e-ba* (*wann*), i.e.,  $\langle to, e-ba \rangle$  ( $\langle als, wann \rangle$ ), since  $\varphi \& \psi$  entails  $\varphi \rightarrow \psi$ , but  $\varphi \rightarrow \psi$  doesn’t entail  $\varphi \& \psi$ . Thus,  $\varphi-e-ba-\psi$  ( $wann-\varphi,$

Figure 8: Causal constructions in German (plotted based on Tables 25/26 (*weil*), 41/42 (*dann/denn*), and 62/63 (*wann/wenn*) in Gagel (2017))



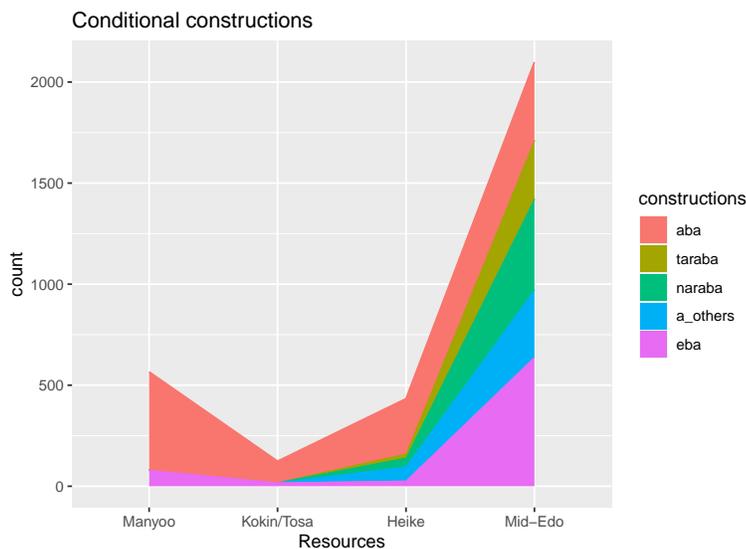
$\psi$  Q-implicates  $\neg(\varphi \& \psi)$ . Figure 9 visualizes the diachronic distribution of the constructions that mark conditional in Japanese. *E-ba* gains its conditional function only after the Mid-Edo Era (Early Modern Japanese).

To put it another way, in the earlier period, there was only a single construction *V-e-ba* or a single morpheme (a variant of) *wande/wann/wenn* to mark all three interpretations in question: temporal conjunction, causal and conditional. The hearer in this period had to use contextual information to disambiguate the speaker’s intended meaning for a successful communication. In the later period, the speaker recruited a new morpheme *node/weil (to/als)* to mark the causal (conjunction) interpretation when the speaker thinks that given the utterance context, the hearer is likely to interpret *V-e-ba* or *wande/wann/wenn* as otherwise. This disambiguation effort is grammaticalized in Present-day Japanese and New High German. Hara (2019) analyzes this diachronic development of Japanese *V-e-ba* using Deo’s (2015) Evolutionary Game Theory model.

## 5 Conclusion

This paper reviewed diachronic developments of Japanese construction *e-ba* and German connective *wande/wann/wenn*. Their diachronic trajectories are similar in that both originally denote the temporal conjunction that connects two events, acquired causal meanings and presently function as a conditional marker. Moreover, when these constructions marked temporal conjunction or causality, the clauses headed by them were finite, indicating that they were saturated propositions. The current paper applied Hara’s

Figure 9: Japanese conditional constructions (plotted based on Tables 1&2 on pages 64&66 in Yajima (2013))



(2019) pragmatic analysis of Japanese *e-ba* to German *wande/wann/wenn*. More specifically, the conventional semantics of *e-ba* and *wande/wann/wenn* is a sequential conjunction of two saturated propositions. That is, the entire sentence expresses two events in chronological order. The causal meaning is pragmatically obtained as an I-implicature. That is, when the speaker utters  $\varphi$  and  $\psi$ , the hearer infers that  $\varphi$  caused  $\psi$  since it is a stereotypical interpretation. The conditional meaning in the later period is derived by Q-implicatures. By then, morphemes that explicitly mark causal and conjunction have been already available, thus from the fact that the speaker chooses the weaker form, i.e., *e-ba* or *wande/wann/wenn*, the hearer implicates that the stronger meanings are false, thus only the conditional meaning is true. Since the proposed analysis is a pragmatic one, it is no surprise that a single analysis can apply to the diachronic trajectories of two unrelated languages, Japanese and German. The next question arises as to: Is this trajectory universal?

There are a lot of other remaining questions. As mentioned by Hara (2019) and indicated in Figures 6, 7 and 9, there are other constructions that denote causality, conjunction and conditional in Japanese. Similarly in German, competing morphemes/constructions complicate the pragmatic and diachronic picture. For instance, both *weil* and *denn* denote causality but have different syntactic structures, and *wann*, which used to be a variant of *wande/wann/wenn*, has branched out to be a temporal marker. Disentangling these issues will shed new light on the pragmatics and diachrony of causality and conditionality.

## References

- Abe, Akio, Ken Akiyama & Gen'e Imai. 1998. *Shikibu, Murasaki; Genji monogatari*. Tokyo: Shōgakkan.
- Arndt, Erwin. 1959. Das aufkommen des begründenden *weil*. *Beiträge zur Geschichte der deutschen Sprache und Literatur* 81. 388–415.
- Deo, Ashwini. 2015. The semantic and pragmatic underpinnings of grammaticalization paths: The progressive to imperfective shift. *Semantics and Pragmatics* 8(14). 1–52. doi:10.3765/sp.8.14.
- Ebert, Peter Robert. 1986. *Historische Syntax des Deutschen II: 1300-1750*. Frankfurt/New York: Peter Lang.
- Eroms, Hans-Werner. 1980. Funktionskonstanz und systemstabilisierung bei den begründenden konjunktionen im deutschen. *Sprachwissenschaft* 5. 73–115.
- Frellesvig, Bjarke. 2016. *A History of the Japanese Language*. Cambridge University Press. [https://www.ebook.de/de/product/10408872/bjarke\\_frellesvig\\_a\\_history\\_of\\_the\\_japanese\\_language.html](https://www.ebook.de/de/product/10408872/bjarke_frellesvig_a_history_of_the_japanese_language.html).
- Fukuda, Yoshiichiro. 2006. Jooken hyoogen no han'i: Koten nihongo no setsuzoku joshi ba o megutte. In *Jooken Hyoogen no Taishoo*, Kuroasio.
- Gagel, Sebastian. 2017. *Frühneuhochdeutsche-Konnektoren: Entwicklungslinien kausaler Verknüpfungen auf dem Gebiet der Modalität*. Berlin/Boston: De Gruyter.
- von Grimmelshausen, Hans Jakob Christoffel. 1669. *Der Abentheurliche Simplicissimus Teutsch*. Nürnberg: Felsecker.
- Hara, Yurie. 2019. Diachronic semantic shift of sequential conjunction: the causal to conditional path. *Semantics and Linguistic Theory* 29. 300. doi:10.3765/salt.v29i0.4614.
- Hartweg, Frédéric & Klaus-Peter Wegera. 2005. *Frühneuhochdeutsch. Eine Einführung in die deutsche Sprache des Spätmittelalters und der frühen Neuzeit*. Tübingen: Max Niemeyer 2nd edn.
- Huang, Yan. 2007. *Pragmatics* Oxford Textbooks in Linguistics. New York: Oxford University Press.
- Kaufmann, Stefan. 2000. Dynamic context management. In S. Kaufmann M. Faller & M. Pauly (eds.), *Formalizing the Dynamics of Information*, Stanford, CA: CSLI.
- Klopstock, Friedrich Gottlieb. 1771. *Oden*. Hamburg: Bode.
- Kluge, Friedrich. 2011. *Etymologisches wörterbuch der deutschen sprache*, Berlin: De Gruyter 25th edn.
- Kobayashi, Kenji. 1996. *Nihongo Jooken Hyoogenshi no Kennkyuu*. Hitsuji Syobo.

- Kratzer, Angelika. 1991. Conditionals. In A. von Stechow & D. Wunderlich (eds.), *Semantics: an international handbook of contemporary research*, 651–656. Berlin: De Gruyter.
- Levinson, Stephen C. 2000. *Presumptive meanings: the theory of generalized conversational implicature*. Cambridge, MA: MIT Press.
- Levinson, Steven C. 2001. *Presumptive Meanings*. Cambridge, Massachusetts: The MIT Press.
- Paul, Hermann. 2002. Deutsches wörterbuch. bedeutungsgeschichte und aufbau unseres. wortschatzes, Tübingen: Max Niemeyer 10th edn.
- Rieck, Susanne. 1977. *Untersuchungen zu Bestand und Varianz der Konjunktionen im Frühneuhochdeutschen unter Berücksichtigung der Systementwicklung zur heutigen Norm*. Heidelberg: Winter.
- Roberts, Craige. 1996. Information structure in discourse: Towards an integrated formal theory of pragmatics. In Jae Hak Yoon & Andreas Kathol (eds.), *Ohio State University Working Papers in Linguistics*, vol. 49, 91–136. The Ohio State University.
- Sakakura, Atsuyoshi. 1958. Jooken hyoogen no nagare. *Kokugogaku* 33.
- Takada, Hiroyuki, Noriko Onodera & Hirofumi Aoki (eds.). 2018. *Rekishi goyooron no hooho*. Tokyo: Hitsuji Shobo.
- Wunder, Dieter. 1965. *Der Nebensatz bei Otfrid: Untersuchungen zur Syntax des deutschen Nebensatzes*. Heidelberg: Carl Winter.
- Yajima, Masahiro. 2013. *Kamigata/Osakago ni okeru Jooken Hyoogen no Shiteki Tenkai (Historical Development of Conditional Expressions in Kamigata/Osaka Language)*. Kasama Shoin.