

Syntax and Semantics of Causal *denn* in German*

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1 *Weil* vs. *denn* – two ways of *because* in German

- (1) a. *Die Straße ist naß, weil es geregnet hat.*
b. *Die Straße ist naß, denn es hat geregnet.*
The street is wet because it rained.

Weil and *denn* are two discourse connectives in German with a (roughly) causal meaning.

1.1 *Denn* in epistemic and speech act use

However German *denn* can be used in a broader range of sentences than *weil*: *Denn* (but not *weil*) can express the causation of **epistemically judged propositions** (2b) or of **speech acts** (3b).¹

- (2) a. **Es hat geregnet, weil die Straße ganz naß ist.*
b. *Es hat geregnet, denn die Straße ist ganz naß.*
It was raining, because the street is wet.

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¹This kind of data has been discussed extensively for *weil* with V2 word order (Ballweg, 2004; Keller, 1995; Pasch, 1997), which behaves identically to *denn*. Here, I will only consider *denn*.

- (2b) means “It must have rained, because the street is wet.” (X cause must Y; epistemic necessity)
- (3) a. ?? *Ist vom Mittag noch etwas übrig? Weil ich schon wieder Hunger habe.*
 b. *Ist vom Mittag noch etwas übrig? Denn ich habe schon wieder Hunger.*
 Is there anything left over from lunch? – Because I’m already hungry again.
- (3b) means “I ask you if there’s any leftovers because I’m hungry” (X causes the utterance of Y)

Superset Relation:

$$\textit{weil} \left\{ \begin{array}{l} p \text{ CAUSE } q \\ p \text{ CAUSE MUST } q \\ p \text{ CAUSE UTTERANCE OF } q \end{array} \right\} \textit{denn}$$

1.2 Exceptions: where can’t we use *denn*?

Exceptions to the superset relation are the following:

- (i) if the because-clause precedes the main clause (see 4),
- (4) a. *Weil es geregnet hat, ist die Straße naß.*
 b. **Denn es hat geregnet, ist die Straße naß.*
 Because it rained, the street is wet.
- (ii) if a direct answer to a why-question is given (5), or
- (5) a. *Warum ist die Katze gesprungen? — Weil sie eine Maus sah.*
 b. *Warum ist die Katze gesprungen? — *Denn sie sah eine Maus.*
 Why did the cat jump? — Because it saw a mouse.
- (iii) the content of the because-clause is evident or has been previously mentioned (6).
- (6) a. *Es hat heute sehr geregnet. — Ja, die ganze Straße steht unter Wasser, weil es geregnet hat.*
 b. *Es hat heute sehr geregnet. — # Ja, die ganze Straße steht unter Wasser, denn es hat geregnet.*
 It rained a lot today. — Yes, the whole street is submerged under water because of the rain.

1.3 Structure of the rest of the talk

- Syntax: *denn* is a coordinating conjunction of CPs (section 2)
- Semantics: *denn* is a conventional implicature item (section 3)
- How does this explain the distribution facts? (section 4)

2 Syntactic Properties of *denn*

2.1 Previous Analyses

- Traditionally considered a coordinating conjunction (e.g., Pasch (1997))
- Pasch et al. (2003) treat *denn* as a special case, not a coordination

2.2 Coordinating Conjunction of CPs

Denn is not a subordinating conjunction:

- Example (4) shows, that the *denn*-clause cannot occupy the Vorfeld or a Mittelfeld position in the matrix clause.
- *Denn*'s clause is not marked with verb-final word order.

- (7) * *Ich kann nicht kommen, denn ich noch zu tun habe.*
I can not come, because I still to do have.
'I can't come, because I still have work to do.'

⇒ *denn* is a coordinating conjunction.

- But: *denn* differs from *und* (*and*), the prototypical coordinating conjunction.

1. *Und* is happy to combine clauses with all possible word orders, as long as they're parallel.

- (8) *Tina schwimmt und Peter tanzt.* (V2)
'Tina swims and Peter dances.'

(9) *Nimm das Buch und bring es zurück zur Bibliothek.* (V1)
'Take the book and return it to the library.'

(10) *Anna sagt, daß ihre Tochter nicht kann und ihr Sohn keine Lust hat.* (VF)
'Anna says that her daughter can't and her son doesn't want to.'

o This doesn't work for *denn*, *denn* doesn't tolerate VF word order:

(11) *Anna sagt, daß es heute geregnet hat, denn die Straße * naß ist / ✓ ist naß.*
'Anna says that it rained today, because the street * wet is / ✓ is wet.'

2. *Und* (*and*) can't coordinate two asymmetric clauses.

(12) * *Hier ist das Buch und bring es zurück zur Bibliothek.*
'Here's the book and return it to the library.'

(13) * *Nimm das Buch und du kannst es solange behalten, wie du willst.*
'Take the book and you can keep it as long as you want.'

In contrast, *denn*-clauses don't have to match the form of the matrix clause (see (3b) and (14)). Instead, they are always root clauses that have verb-second order (normally) or verb-first order (for orders and questions).

(14) *Du kannst nicht erwarten, daß ich dir so viel Geld leihe,*
You can not expect, that I you so much money lend,
*denn bin ich Krösus?*²
because am I Croesus?
'You can't expect that I'll lend you so much money, because am I Croesus?'

Proposal

⇒ While *und* coordinates all kinds of phrases, *denn* only coordinates full CPs.

⇒ *Denn* is a conjunction coordinating CPs.

²(Pasch et al., 2003, p. 585)

What does this tell us?

✓ Exception (i)

- As a coordinating conjunction, *denn* can only appear in between the two clauses it connects.
- This also explains the requirement that the conjuncts be verb-initial or verb-second.
- In the following sections, I still need to explain the superset relation between *denn* and *weil*, and exceptions (ii) and (iii).

3 *Denn* as Conventional Implicature

Proposal I propose that *denn*'s semantics is two-fold:

1. Truth-conditionally, *denn* has the semantics of the logical \wedge .
 2. The causal meaning of *denn* is located in its **conventional implicature** (CI):
- (15) In a sentence “A, *denn* B”, with $\llbracket A \rrbracket = \phi$ and $\llbracket B \rrbracket = \psi$, *denn* has the following semantics:
Assertion: $\phi \wedge \psi$
Conventional Implicature: CAUSE(ψ, ϕ)

Conventional Implicature

- Grice (1989); Karttunen and Peters (1978); Potts (2004)
- CIs are meanings conventionally associated with words
- CIs are commitments made by the speaker of the utterance
- they are logically independent of the assertions
- Tests for CIs: Bonami and Godard (2005) (for evaluative adverbs in French)
 - CIs cannot be semantically embedded

Conditionals.

- Conventional implicatures cannot be embedded in the antecedent of a conditional.
 - The following examples show that while *weil* can be embedded in a conditional, sentences with *denn*-clauses are only grammatical when the *denn*-clause is understood as a parenthetical, which stands outside of the conditional itself.
- (16) a. *Wenn Peter zu spät kam, weil er den Bus verpaßt hat, war es seine eigene Schuld und er sollte bestraft werden.*
b. # *Wenn Peter zu spät kam, denn er hat den Bus verpaßt, war es seine eigene Schuld und er sollte bestraft werden.*
If Peter was late because he missed the bus, it was his own fault and he should be punished.
- (17) a. *Wenn Peter zu spät kam, weil er den Bus verpaßt hat, hat er den Anfang des Films nicht gesehen.*
b. *Wenn Peter zu spät kam, denn er hat den Bus verpaßt, hat er den Anfang des Films nicht gesehen.*
If Peter was late — he missed the bus (by the way) — he won't have seen the beginning of the movie.

Questions.

- CIs cannot be understood as being in the scope of a question.
- (18) a. *Wer kam zu spät, weil er den Bus verpaßt hat?*
b. # *Wer kam zu spät, denn er hat den Bus verpaßt?*
Who was late because he missed the bus?

Example (18a) can be asked in a situation when several people were late, for (potentially) different reasons. The question is asked to clarify who of these people was late because they missed the bus (instead of for some other reason). Example (18b) can be used only as an echo question.

Denial.

- CIs can't be explicitly denied.

In the following dialogue, B's denial doesn't concern the causal link between Peter's missing the bus and his coming late. Instead, B can only deny the fact that Peter was late using this simple negation.

- (19) A: Peter kam zu spät, denn er hat den Bus verpaßt.
'Peter was late, because he missed the bus.'
B: Nein.
'No.'

Negation.

- Similarly, CIs can't be embedded under negation:

- (20) a. *Paul ist nicht zu spät gekommen, weil er den Bus verpaßt hat. [Sondern er hatte noch zu tun.]*
b. # *Paul ist nicht zu spät gekommen, denn er hat den Bus verpaßt. [Sondern er hatte noch zu tun.]*
'Paul wasn't late because he missed the bus. [But rather, because he still had work to do.]'
- (21) # *Es ist nicht so, daß Paul zu spät gekommen ist, denn er hat den Bus verpaßt.*
int.: It is not the case that Paul's missing the bus is the reason for his lateness.

Counterfactuals.

- CIs can't appear in the consequent of a counterfactual.³

³We have to be careful to construct our sentences right. In a sentence "If A, then B because C", two scopings are possible (corresponding to two distinct syntactic structures). We're aiming here for a clear reading of (if A then (B because C)). This can be achieved for example by having A and B be the same thing: A sentence ((if A then A) because C) does not make much sense conversationally. However, for a counterfactual, (if A then (A because C)) makes sense (see (22a)).

- (22) a. *Wenn Peter gekommen wäre, dann (wäre er gekommen), weil du da bist.*
 b. # *Wenn Peter gekommen wäre, dann wäre er gekommen, denn du bist da.*
 ‘If Peter had come, he would have come because you’re here.’

⇒ *Denn*’s causal meaning is contributed as a conventional implicature, as the diagnosis above shows.

4 Consequences: Distribution of *denn* vs. *weil*

This section shows how the two facts about *denn*’s syntax and semantics explain the differences between the uses of *denn* and *weil*.

4.1 Three Exceptions to the Use of *denn*

(i) *denn*-clauses cannot precede the main clause

- ✓ Syntax: All coordinating conjunctions must follow their first argument.

(ii) *denn*-clauses cannot be direct answers to *why*-questions

- ✓ CIs can never function as the direct answer to a question.

- (23) What does being small contrast with? — # Ants are small but strong.

(iii) the content of a *denn*-clause cannot be backgrounded

- Truth-conditionally, *denn* means the same as *and*. Sentences where an entire conjunct of *und* (*and*) is previously mentioned are infelicitous due to redundancy (24).

- (24) *Es wird heute regnen.* —

a. * *Ja, ich muß zuhause bleiben, denn es wird heute regnen.*

b. ?? *Ja, ich muß zuhause bleiben, und es wird heute regnen.*

It’s going to rain today. — Yes, I’ll have to stay home, because/and it’s going to rain today.

- ✓ Potts (to appear) shows for nominal appositions that CIs are generally infelicitous when their content is backgrounded (example from op.cit.).

- (25) Lance Armstrong survived cancer.
 - a. # When reporters interview Lance, a cancer survivor, he often talks about the disease.
 - b. And most riders know that Lance Armstrong is a cancer survivor.

⇒ The exceptions to the useability of <i>denn</i> are explained by it being a coordinating conjunction (i), and a conventional implicature item (ii), (iii).
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4.2 *Denn* in Epistemic and Speech-Act Causal Sentences

- Speech act *denn* sentences like (3) are similar in meaning to relevance conditionals (see Siegel (2005)), such as (26).

- (26) If you're hungry, there's pizza in the fridge.

Siegel's Analysis for Relevance Conditionals

- Variables for potential literal acts (assertions, questions, etc.) are introduced by a meaning-shift rule when interpretation of a sentence would otherwise be divergent.
 - Variables are introduced for the potential literal act that is commonly associated with the type of sentence, i.e., an assertion variable for declaratives, a question variable for interrogatives, etc.
 - Obligatory existential closure applies to these variables, based on the set of relevant entities.
- (27) After the meaning shift, (26) can be paraphrased as:
"If you're hungry, there's an assertion that pizza is in the fridge and it is relevant."

Applying this to *denn*

The same kind of coercion happens in speech act because-clauses, but only if the clauses are full CPs.

Accordingly, (3b) is coerced to mean (28):

(3b) *Ist vom Mittag noch etwas übrig? Denn ich habe schon wieder Hunger.*
Is there anything left over from lunch – Because I’m already hungry again.

(28) “Because I’m already hungry again, there is a relevant question whether there’s anything left from lunch.”

Epistemic Causation

- I carry over the same kind of argument to the epistemic sentences (2):
- The epistemic operator MUST involved in these sentences is introduced by the context.
- *Denn* conjoins two CPs - if an epistemic MUST is inferred for the first one, sentences like (2b) are obtained.

(2b) *Es hat geregnet, denn die Straße ist ganz naß.*
It was raining, because the street is wet.

(29) (MUST it rained) *denn* (the street is wet)

- Sentences with *weil* like (2a) show that an epistemic MUST introduced by inference in the first argument may only have wide scope, since the sentence doesn’t have the reading that the *denn* sentence has.
- It is yet unclear why explicit epistemic MUST can sometimes be embedded in the matrix clause only, without taking wide scope:

(30) ? *Weil sein Licht an ist, muß Peter zuhause sein.*
Because his light is on, Peter must be home.

⇒ Analysis analogous to relevance conditionals.

⇒ Clauses can introduce variables for potential literal acts or an epistemic MUST.

5 Conclusion

This paper shows that German *denn* is a conventional implicature item, and a coordinating conjunction of CPs. Together, these facts explain why *denn* can be used to express a wider range of causal relations than the related *weil*, and why at the same time there are some restrictions on the use of *denn*.

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References

- Joachim Ballweg. 2004. *Weil* – Ursachen, Gründe, Motive. In H. Blühdorn, E. Breindl, and U. H. Waßner (eds.), *Brücken schlagen. Grundlagen der Konnektorenssemantik*, 325–332. Berlin: Walter de Gruyter.
- Olivier Bonami and Danièle Godard. 2005. Les adverbes évaluatifs dans une approche multidimensionnelle du sens. In I. Choi-Jonin, M. Bras, A. Dagnac and M. Rouquier (eds.) *Questions de Classification en Linguistique: Méthodes et Descriptions*, 19–37. Berne: Peter Lang.
- Kai von Fintel and Sabine Iatridou. 2003. Epistemic Containment. *Linguistic Inquiry* 34(2):173–198.
- Paul Grice. 1989. *Studies in the Way of Words*. Cambridge, MA: Harvard University Press.
- Lauri Karttunen and Stanley Peters. 1978. Conventional implicature. In D. A. Dineen and C.-K. Oh (eds.), *Syntax and Semantics 11: Presupposition*. New York: Academic Press.
- Rudi Keller. 1995. The epistemic *weil*. In D. Stein and Susan Wright (eds.), *Subjectivity and Subjectivisation*, 16–30. Cambridge: Cambridge University Press.
- Angelika Kratzer. 1999. Beyond “Ouch” and “Oops”: How descriptive and expressive meaning interact. *Cornell Conference on Theories of Context Dependency*.

- Renate Pasch. 1997. *Weil* mit Hauptsatz – Kuckucksei im *denn*-Nest. *Deutsche Sprache* 25:252–271.
- Renate Pasch, Ursula Brauße, Eva Breindl, and Ulrich Hermann Waßner. 2003. *Handbuch der deutschen Konnektoren*. Berlin: Walter de Gruyter.
- Christopher Potts. 2004. *The Logic of Conventional Implicature*. Oxford University Press.
- Christopher Potts. to appear. Conventional Implicatures. In G. Ramchand and C. Reiss, eds., *The Oxford Handbook of Linguistic Interfaces*.
- Muffy Siegel. 2005. Biscuit conditionals: Quantification over potential literal acts. Ms., Temple University.