

**Biclausal Causativity in English and German:
A look at Semantic and Pragmatic Constraints**

Christoph Haase
Chemnitz University of Technology

Introduction

What are the determinants of the relationship between temporality and biclausal causativity in English and German?

cf.

(1) Mary read the book because she was interested in it

Temporality of the clausal situation: emerges through the causal relation of the clauses

Temporality of the clauses: emerges through conjunctions or through serial order

Conjunctions: determine processing and integration of implicit causal information

→ temporality is a function of verbal semantics and temporal conjunctions

Goal: investigating the integration of temporal information within biclausal causativity

Rationale

Psycholinguistic studies: Interpretation of temporal information necessary for the processing of causality

→ **enables causal inference**

Recall tests: temporally linked sentences show facilitated recall when they are causally linked

→ **Assumption:** Integration of temporal information influences processing of causality

Grammaticalization of cause-effect-relationships:

Primarily anchored in verbs

→ semantic class of causative verbs

Causative verbs/causatives

- causal core:** expressed via analytic/auxiliary morphological and lexical features
- cause and effect:**
- a) grammaticalized as two independent propositions
 - b) conflated within one clause
- **monoclausal causativity:** degree of conflation creates a ternary (a-c) causative system of grammaticalization patterns

Causative grammaticalization patterns

- a) generic/periphrastic/auxiliary/analytic
(*make/have/let/get*)

- b) synthetic 1 (*develop, drown, break* =
allow make-paraphrase: *make break/ make drown*)

- b) synthetic 2/morphological (*soften, redden* =
allow make-paraphrase: *make soft/ make red*)

- c) lexical/suppletive (*kill, repair* =
disallow make-paraphrase, **make kill*, but: *make dead/whole*)

Conflation and degree of fusion

Type a): causer in S position
 causee in DO position
 effect in non-finite clause

(2) a. I make/have/let/get John (to) clean the kitchen

German: impoverished in periphrastic/analytic causatives
lassen ("let"), strong permissive semantic component or in jussives (rare)

(2) b. Ich lasse Hans die Küche säubern
 I let Hans.ACC the kitchen.ACC clean

Typological view on English and German

English

SVO

subject-first

lexical causatives

satellite-framed

German

SVO, case marking, V2

topic-first

lexical causatives

satellite-framed

Animate-first principle: frequency universal, strong typological principle (Song, 2003)

presence/absence of a causer/causee in a transitive causative situation:
biased by primacy of causer and enables **inchoation**

(3) The window broke

Biclausal Causativity

Causal situation distributed across **more than one clause**

clause 1: cause
clause 2: effect

simple case: **serial order**

(4) a. John hit the window and the glass broke

when sequence of clauses is congruent with natural temporal order:
causes go often unmarked

→ **cognitive default situations** (causer neglect, cf. Haase 2006)

Situations deviating from cognitive default situations

Causer often **double/multiply-marked**, cf. cleft-sentences

(4) b. It was John who broke the glass

marking in biclausal causativity: primarily through conjunctions

(4) c. John hit the window so that the glass broke
(→ temporal sequence congruent with causal situation)

d. The glass broke because John had hit the window
(→ temporal sequence reverses causal situation)

Issues

- a) In what way is causativity **implicit** for verbs in biclausal causativity with reversed cause-effect order?
- b) Which semantic/pragmatic parameters can be isolated for the attribution of causativity in biclausal constructions?

Temporality and Causativity

Two events exist in a situation of **spatiotemporal contiguity**:

Three possible types of relationships:

- a) causal
- b) correlating
- c) stochastic

a) Causation

b) Correlation: immediacy missing, although causation cannot be excluded

c) Coincidence: no systematic and repeatable relationship

Causation/ causativity

...encompasses grammaticalized types of temporal perception in dependence of two events,

one temporally precedes the other and the occurrence of event 2 is **systematically dependent** on the occurrence of event 1

Perception and Acquisition

Acquisition of temporality: occurs before acquisition of causality

pretemporal experiences of infants: not structured through perception and interpretation of causal relations

→ depends on the perception of stimuli with marked differences

four months: classification of stimuli
development of *before-after* knowledge (Cf. Clark, 1998)

8 - 18 months: temporal action planning (e.g. toy is dropped before door is opened, cf. Piaget)

Age of acquisition of causality: **36 months**, (Gelman & Koenig, 2001)

Causative competence

- higher cognitive faculty, critical for the processing of temporal information

First language acquisition: so-called **epistemic causativity**

→ constructions where the temporal order is congruent with natural order but conjunction reverses this

(5) [?]The chair was poorly manufactured, because it broke

temporal competence: fully developed (manufacturing the chair precedes its breaking)

causative competence: inhibited (conjunction reverses temporal order)

Implicit Causativity – Anaphorical Congruence

Temporal Anaphora resolution through seriality: primarily influenced by verbal semantics

Implicit causality: Speaker uses semantic causality information from the verb for focusing on one of the optional antecedents or to integrate information into overall context

(6) a. John questioned Mary because ...

Cause can be attributed to John (NP₁) or Mary (NP₂)

But: experiments show strong effect **in favor of NP₁ (subject attribution)**

thus...

(6) b. John questioned Mary because he wanted to know the truth

(7) a. John praised Mary because ...

anaphora resolution shows strong effect in favor of NP₂ (object attribution):

(7) b. John praised Mary because she had passed the exam

→ classification of verbs as either Type 1 or Type 2: nontrivial classification because it is neither a function of syntax nor of verbal semantics

Congruencies/Incongruencies in implicit causativity (cf. Stewart et al. 2000)

Anaphor Type	implicit causer	Congruency	Example
Name	NP ₁	Congruent	<i>B apologized to A, because B had acted egoistically</i>
		Incongruent	<i>B apologized to because A did not deserve the criticism</i>
	NP ₂	Congruent	<i>D congratulated C because C had won</i>
		Incongruent	<i>D congratulated C because D was impressed</i>
Pronoun	NP ₁	Congruent	<i>B apologized to A because he had acted egoistically</i>
		Incongruent	<i>B apologized to A because he did not deserve the criticism</i>
	NP ₂	Congruent	<i>D congratulated C because she had won</i>
		Incongruent	<i>D congratulated C because she was impressed</i>

Verb types with implicit causativity

classic study defined implicit causativity: Brown und Fish, 1983

state verbs (vaguely Vendlerian) made up of two classes (**S-E, E-S**)

- extended by two classes (Rudolph/Försterling 1997) (**A-E, A-P**)

type	semantic/pragmatic classification	Example
Stimulus-Experiencer-Verbs (S-E)	Subject represents a perceptible stimulus for the direct object	<i>impress, annoy, astonish</i>
Experiencer-Stimulus-Verbs (E-S)	Subject perceives a stimulus from object	<i>admire, pity, trust</i>
Agent-Evocator-Verbs (A-E)	Subject acts under influence of a stimulus from object	<i>accuse, answer, obey</i>
Agent-Patient-Verbs (A-P)	Subject acts upon object	<i>help, inform, support</i>

Data and data discussion

Material: Corpus data from authentic web texts, parallel in German and English

- via Webinterface WebCorp (vgl. www.webcorp.org.uk)

Selection: interpersonal causal situations with subjects in the *because*-clause as pronominal anaphors

WebCorp producing output...

<http://www.huntermania.com/index.php?site=manga/band4>

Document Dated: Unknown

[Plain Text](#) [Word List](#) 3031 tokens, 1016 types

- Hisoka [bewundert Gon](#), [weil er](#) seine eigene Angriffslust mit Hisoka's Mordlust synchronisiert hat und auf den richtigen Moment gewartet hat.

<http://www.fanficparadies.de/stories/543/>

Document Dated: Unknown

[Plain Text](#) [Word List](#) 9132 tokens, 2861 types

- Es gibt einen Starfleet-Captain, den ich immer [bewundert habe](#), [weil er](#) seine Träume wahrgemacht hat.

<http://www.geocities.com/neckam2/5NeuenLeidenV.htm>

Document Dated: 2002/04/03 08:36:58 (server header)

[Plain Text](#) [Word List](#) 4204 tokens, 1379 types

- Edgar [bewundert ihn](#), [weil er](#) trotz seines Alters immer noch seine Meinung vertritt, sich nicht aus der Ruhe bringen läßt und körperlich immer noch fit ist.

(...)

Frequencies of interpersonal causativity, E-S and S-E

Experiencer– Stimulus	Frequency	Stimulus - Experiencer	Frequency
<i>Accept</i>	131	<i>Astonish</i>	46
<i>Admire</i>	89	<i>Bore</i>	36
<i>Adore</i>	8	<i>Confuse</i>	32
<i>Pity</i>	16	<i>Enchant</i>	5
<i>Suffer from</i>	21	<i>Encourage</i>	12
<i>Trust</i>	116	<i>Frustrate</i>	108
<i>Worry about</i>	2	<i>Impress</i>	64
		<i>Tire</i>	2

Frequencies of interpersonal causativity, A-E and A-P

Agent – Evocator	Frequency	Agent – Patient	Frequency
<i>Accuse</i>	81	<i>Influence</i>	113
<i>Answer</i>	123	<i>Bribe</i>	16
<i>Escape</i>	122	<i>Betray</i>	175
<i>Obey</i>	168	<i>Dominate</i>	32
<i>Congratulate</i>	62	<i>Apologize to</i>	54
<i>Praise</i>	233	<i>Help</i>	316
		<i>Inform</i>	98
		<i>Support</i>	252

Anaphora in corpus data: manually disambiguated and counted

Co-reference disambiguated pronominal anaphora E–S and S–E

E – S	% NP₁	% NP₂	% other	S – E	% NP₁	% NP₂	% other
<i>Accept</i>	81	13	1	<i>Impress</i>	74	18	8
<i>Pity</i>	62	38	0	<i>Confuse</i>	69	28	3
<i>Admire</i>	38	61	1	<i>Enchant</i>	100	0	0
<i>Suffer</i>	90	10	0	<i>Tire</i>	100	0	0
<i>Worry ab.</i>	100	0	0	<i>Encourage</i>	83	17	0
<i>Adore</i>	38	62	0	<i>Astonish</i>	74	19	7
<i>Trust</i>	63	36	1	<i>Frustrate</i>	96	4	0
				<i>Bore</i>	97	3	0

Co-reference disambiguated pronominal anaphora A–E and A-P

A – E	% NP₁	% NP₂	% other	A - P	% NP₁	% NP₂	% other
<i>Accuse</i>	64	35	1	<i>Influence</i>	60	32	8
<i>Answer</i>	81	16	3	<i>Bribe</i>	75	25	0
<i>Escape</i>	95	5	0	<i>Betray</i>	62	32	6
<i>Obey</i>	71	28	1	<i>Dominate</i>	94	6	0
<i>Congratulate</i>	45	54	1	<i>Apologize</i>	93	6	1
<i>Praise</i>	31	68	1	<i>Help</i>	54	35	11
				<i>Inform</i>	74	23	3
				<i>Support</i>	41	56	3

Global result: Co-reference in *because*-clause either with subject or object in matrix clause

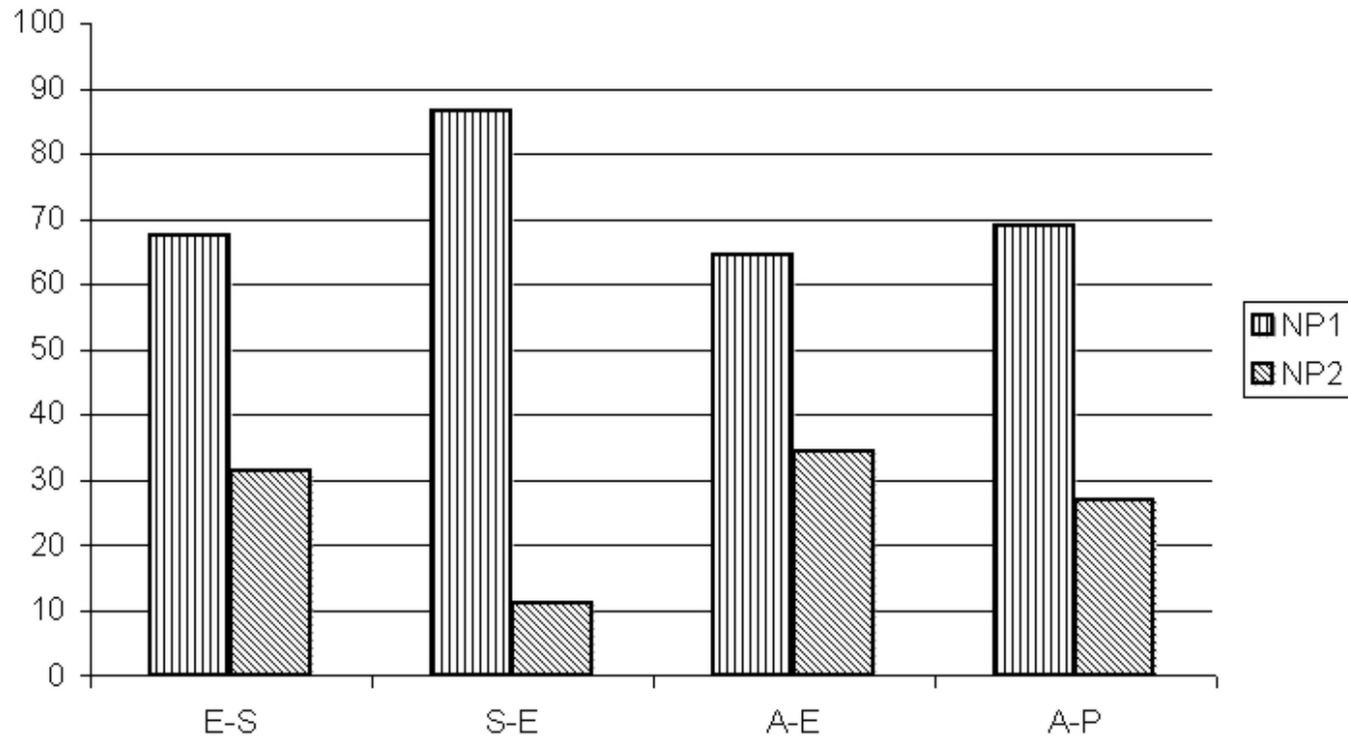
→ **low-frequency** cases with new actants(cf. *other* in table)

→ maximal value 11% for *help* = often complex situations with multiple actants/interlocutors

Discussion of average co-reference: strong tendency in favor of subjects (NP₁):

Mean values of co-reference

types	% NP₁	Congruency	% NP₂	Congruency
E-S	67,4	incongruent	31,4	congruent
S-E	86,6	congruent	11,1	incongruent
A-E	64,5	incongruent	34,3	congruent
A-P	69,1	congruent	26,9	incongruent



For S-E- and A-P-Verbs: Majority of co-reference to subject-NP (NP₁).
86,6% and 69,1% correlate with predicted congruency

Findings

- 1) Values for incongruent co-reference not significantly different to congruent co-reference
- 2) Overall effect: in favor of NP₁, co-reference for serially first constituent in the clause
- 3) Primacy effect higher activation for first items in an ordered sequence

Dependence on temporal seriality test: **parameter of voice**

Class	E-S Verb	Voice	
		Active	Passive
NP₁	<i>Accept</i>	28	79
	<i>Pity</i>	6	56
	<i>Admire</i>	6	28
	<i>Suffer under</i>	19	0
	<i>Worry about</i>	2	0
	<i>Adore</i>	1	2
	<i>Trust</i>	30	43
	Σ	92	208
NP₂	<i>Accept</i>	9	9
	<i>Pity</i>	38	0
	<i>Admire</i>	54	0
	<i>Suffer under</i>	2	0
	<i>Worry about</i>	0	0
	<i>Adore</i>	5	9
	<i>Trust</i>	22	20
	Σ	130	38

Co-reference in dependence on voice for E-S-Verbs

Dependencies on voice parameter

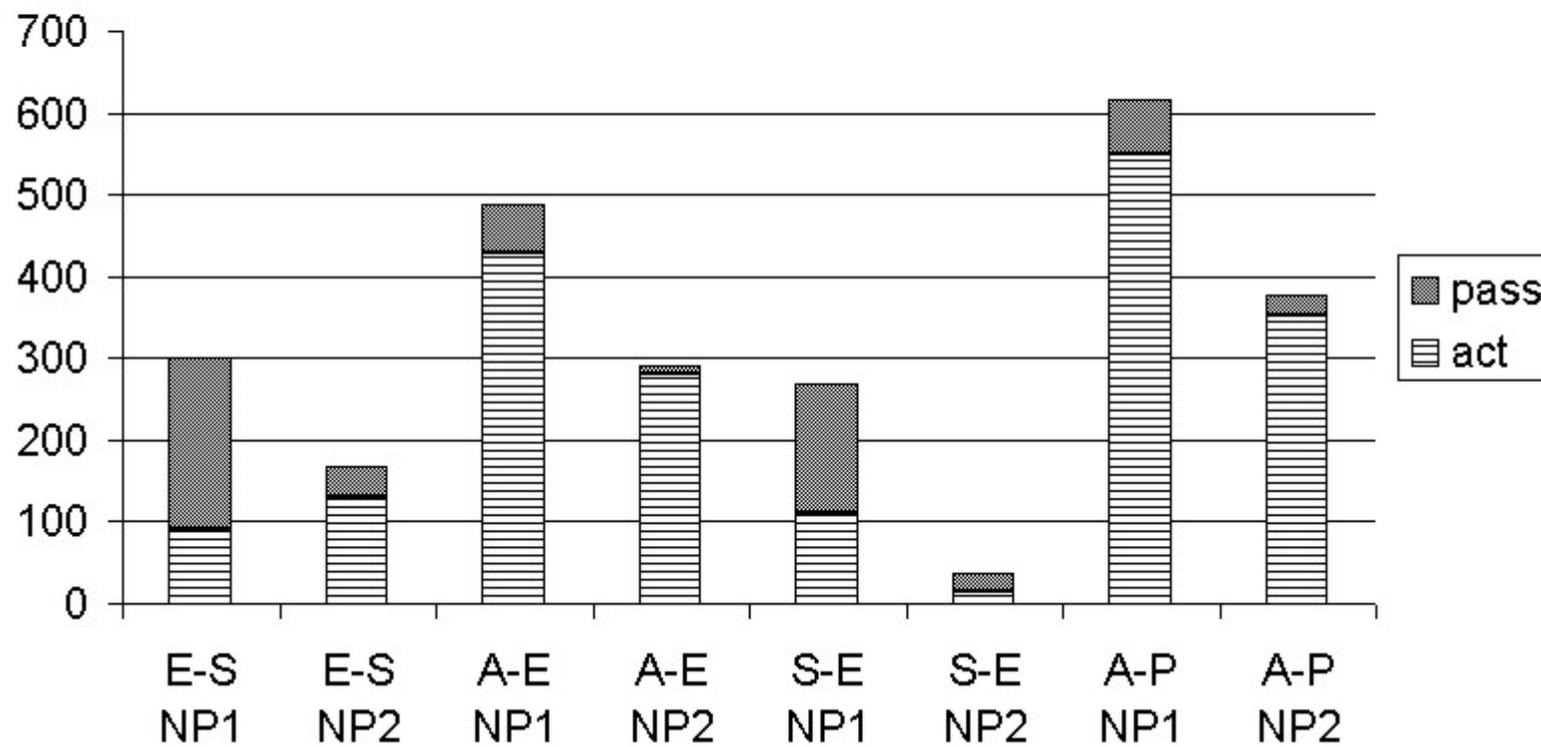
Co-reference of subject-NPs with passive (P/A ratio: 208/92)
 Co-reference of object-NPs with active (P/A ratio: 38/130)

Different profiles for all classes:

E-S			A-E			S-E			A-P		
NP ₁	act	pass									
Σ	92	208	Σ	430	57	Σ	110	158	Σ	549	67
NP ₂			NP ₂			NP ₂			NP ₂		
Σ	130	38	Σ	281	11	Σ	15	22	Σ	352	24

Co-reference in dependence on voice for all classes

Distribution of co-reference in dependence on voice



Conclusion

- a) Corpus data support a congruency effect concerning subject-NPs as suggested in psycholinguistic studies
- b) Temporality is dependent on serial order of constituents, esp. primacy

However, serial order is dependent on parameter of voice

