

*A Contrastive View on Causation:  
Causer Neglect*

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1. Introduction

**Conceptualization of cause-effect relationships:**  
"Players": causer, causee/effect, directionality

**Causation:** cause-effect relationship (a cognitive and experiential universal)

**Causativity:** grammaticalized causation in different languages

**Crosslinguistic view:**

- grammaticalization in different languages can reveal
- a) universal principles
  - b) principles that are related to conceptualization differences

1. Introduction

**Speaker conceptualization of causal relationships:**

1. **mapping** constituents (causer/causee) onto conceptual prototypes (Agent/Goal etc.)
2. **recognizing the temporal order** of the antecedent (cause) and consequent (effect) due to human temporal processing

**Constraints:** asymmetry, primacy, word order

1. Introduction

sensory input: no explicit causal information  
→ computed from sensory input in some way

sensory input: presence/absence of candidate cause and of effect

**Covariation between cause and effect:** extent to which they vary together

contingency  $\Delta P_i = P(e|i) - P(e|i')$   
 $i$  = candidate cause,  $e$  = effect

$P(e|i)$  = probability of  $e$  given the presence of  $i$   
 $P(e|i')$  = probability of  $e$  given the absence of  $i$

1. Introduction

**Distribution of causative situation:**  
biclausal and monoclausal causativity

but:

- observation of asymmetry between causers and causees: not all "players" may be grammaticalized
- related to issue of control: causers have primary control
- asymmetry emphasizes different **degrees of coercion**, thus **control of causees** (transparent in case hierarchies)

1. Introduction

**Why care?**

phenomena to be observed:

- causer often unmarked (null-subject languages, passives)
- causers sometimes highly marked (cleft sentences)
- default: marked by primacy as they are increasingly subjects, e.g. early in sentence
- frequency universal: 79% of all languages have SO

**Method:** elicitation of specific preferences corresponding with the different L1 of speakers

### 1.1 Causal asymmetry and the L2 learner

#### Learner interpretation of causal asymmetry:

cf. assignment of conceptual roles  
• uncontroversial in most lexical causatives of the *break*-type *John breaks the bottle* → *The bottle breaks*

#### Continuum of grammaticality:

- (1) The knife cuts well
- (1') The bread cuts well
- (1'') ?The director cuts well
- (2) ?The axe splits well
- (2') The trunk splits well
- (3) ??John breaks well
- (3') ?The ice-pick breaks well
- (3'') The ice breaks well

### 1.2 Causal asymmetry and intentionality

#### Problem case: Psych-verbs

- (4) John amuses the audience →
- (4') \*The audience amuses

therefore **double bias**:

1. grammaticality judgment (L2!)
2. causer/causee attribution

### 2. Types of Causation

**Core of a causal situation:** event 1 temporally precedes event 2

- occurrence of event 2 perceived to be dependent on occurrence of event 1:  
both form a cause-effect relationship

**Acquisition of Causation:** cf. *because* - sentences which reverse order

- infant speech output: **epistemic causativity**
- (5) Mom likes me because she buys me an ice-cream

### 2. Types of Causation

English: **three-way x 2 causative system**

- a) biclausal, series of simple verbal propositions:  
*John bought a knife because he needed it*  
cl<sub>1</sub>[effect] conj. cl<sub>2</sub>[cause]  
*One more word and I leave the room*  
cl<sub>1</sub>[cause] conj. cl<sub>2</sub>[effect]
- b) complex verbal proposition:  
*John made us suffer*
- c) one simple proposition, usually the "effect":  
*The bottle broke*

Thus: conceptualization is equally complex and fused

### 2.1 Conflation and degree of fusion

Cause and effect can be lexicalised with two different verbal elements or conflated into one verb

**Degree of fusion** leads to different types of causatives

#### 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 dead/whole*)

### 2.1 Conflation and degree of fusion

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

- (6) 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)

- (6') Ich lasse Hans die Küche säubern  
I let Hans.ACC the kitchen.ACC clean

relationship between Type a) and Type b):

- (7) Mary whitens the wall  
(7') → Mary makes the wall white

### 2.2 Cause deletion in English inchoatives

*The bottle broke* → omitted causing/precipitating event

**causer:** completely excluded

**causee:** structurally in position of exerting control (occupies subject position/agentive role)

Comrie, 1989: **Cause is structure-independent**

- different means to express cause highlight focal elements of the causative situation
- not rule-based but pragmatically conditioned by
- 1. case-hierarchy of control of the causee
- 2. heterogeneous nature of the grammaticalization of cause:

PP: *because of, thanks to, due to, owed to*

Conjunctions: *because, so that*

passive *by*-phrase

### 3. Hypotheses and expectations

**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**

### 3. Hypotheses and expectations

**Hypothesis 1:** Causers are primarily supplied by L2 learners in a sentence complementation experiment

**Hypothesis 2:** Causer neglect expected under assumption that inchoative situations in which a non-animate subject is involved in a spontaneous action belong to **cognitive standard situations** (cf. null-subject languages)

### 3.1 Conceptualization bias

Important grammatical difference: heterogeneous structure of German inchoatives, cf.

(8) *John stops the train* → *The train stops*

(8') *Hans stoppt den Zug* → *Der Zug stoppt*  
→ English - German 1:1 mapping

(9) *John moved the stone* → *The stone moved*

(9') *Hans bewegte den Stein* → \**Der Stein bewegte*  
→ (9') only acceptable as reflexive,

(9'') *Der Stein bewegte sich*  
The stone moved itself

• co-referenced reflexive PRO in verb-internal position  
→ conceptual difference: causee is its own causer

### 3.2 Inchoativity bias

**Causative**

*The sun reddens the sky*

*The wine reddens his face*

German: stemV change

*Die Sonne rötet den Himmel*

**reflexive  
particleV  
suppletion**

**Inchoative**

*The sky reddens*

*His face reddens*

\**Der Himmel rötet*

*Der Himmel rötet sich*

*Sein Gesicht errötet*

His face **blushes**

\**Der Himmel errötet*

\**Der Himmel errötet sich*

### 3.2 Case-marking bias

**Causer:** agentive, +/-intentional

**Causee:** consumer of the verbal action (most lexical causatives) or "causative pivot" (Langacker, 2002)

**Action chain:** conflated, "single-clause expressions with more than the usual number of ... participants" (ibid)

→ exhausts frame of complementation within one clause

(10) *Bill drowns* → *John drowns Bill*

[B =>[A →]] to [A →]

*John drowns Bill* to *Bill drowns*

A is causative pivot, takes ACC or ABS, O-role  
B is action-chain head, S-role

### 3.2 Case-marking bias

**Case marking:** triggers hierarchy of more coercive vs. less coercive causation

**ACC:** A undergoes direct, coercive causation

**DAT:** A indirect, noncoercive causation, is attributed some agentivity

cf. causative *make* and especially catenative *help*

(11) *John makes Bill sing*

(11') *John helps Bill sing*

(11'') *Hans hilft Wilhelm singen* *Hans helps Wilhem.DAT sing*

• explicit case marking in German

English: enables process focus (Slobin, 1997)

German: particle verbs, enforces resultativity

• often the preferred lexicalization for inchoatives, cf.

(12) ?*Das Glas bricht* → *Das Glas zerbricht*

*The glass breaks* → *The glass breaks apart*

### 3.3 Manner bias

**English/ German:** manner-languages (Talmy, 1985)

• explicit manner: these causatives form awkward transitives that stretch the causative-inchoative alternation, cf.

(13) *John moved the vase* → *The vase slid (across the table)*

(13') ?*John slid the vase*

**Manner:** does not cross the conceptual boundary between causer and causee.

• no explicit manner: cause takes over function of manner or cause becomes ungrammatical:

(14) *John slowed the train* → *The train grinded*

but (14') \**John grinded the train*

→ **manner presupposes intentionality**

• caused motion: typically very specific

• spontaneous/inchoative motion: typically generic

### 3.4 Unaccusativity bias

**Unaccusatives:**  $V_i$  with S-Agent, cf. *fall*, *melt*, *sink*

• typical causee processes

can be used  $V_i$  as in

(15) *The sun melted the ice*

(16) *The torpedo sank the ship*

But:

process can be coerced but not without a causer

cf. ungrammaticality of imperatives or *-er* nominals

(17) \**Fall!*; \**Melt!* or \**Sink!*

(17') \**faller*; \**melter*; ?*sinker*

### 4. Data and discussion

**Vantage point of research:** L2 learners provide a crosslinguistic view because they (may be) naïve conceptualizers

→ thus study on causer/causee assignment of L2 learners

**Expected outcome:**

• variables to be obtained: total number of causer or causee supplied in incomplete sentences

*The closet's moving* (causer missing) vs.

*John's moving* (causee missing)

• causer/causee attribution: measured in occurrences of supplied arguments in sentence complementation task

### 4.1 Data and discussion: Methodology

**Test design:**

- subjects: German adult learners of English; n=49
- target: identification of the causative situation
- role assignment: triggered by different parameters (resultativity, inchoativity, animacy, manner, psych...)

**Parameters of the present study:**

causer centered: resultativity

causee centered: inchoativity

**independent variables:**

all  $V$  are lexical causatives: +caus-inch or -caus-ich  
+resultative or -resultative

**dependent variables:** +/-causer or +/-causee supplied

### 4.2 Data and discussion: Examples

**Complementation task**

Causal perspective on situation: presented in pairs  
Causer/causee: missing from sample sentences in equal numbers

**Varied design:** causativity-inchoativity and resultativity

**+caus-inch & +result**

*The glass's breaking*  
*John's breaking*

**+caus-inch & -result**

*The city's developing*  
*The architects' developing*

**-caus-inch & +result**

*The treasure's finding*  
*The detective's finding*

**-caus-inch & -result**

*The knife's cutting*  
*The bread's cutting*

#### 4.3 Data discussion: overview

Number of test participants:  $n=49$

Total causers supplied (cumulated):	392	31%
Total causees supplied (cumulated):	405	32%
no suppletion:	468	37%
<b>total:</b>	<b>1265</b>	<b>100%</b>

**Mean assignment:**

- 8 causers/participant**
- 8.3 causees/participant**
- 9.5 neither/participant**

**40 sentences, randomized order**

#### 4.4 Data discussion: Dependencies

$\chi^2$  : causer/causee x +/-result

	resultative +	resultative -	total
causer supplied	202	190	392
	207.1	184.9	
causee supplied	219	186	405
	213.9	191.1	
total	421	376	797

critical value (5%) and 1  $df = 3.84$   
 $H_0$  = there is no relation between  
 causer/causee assignment and resultativity

$H_0$  cannot be rejected due to  $0.52 < 3.84$

#### 4.4 Data discussion: Dependencies

$\chi^2$  : causer/causee x +/-caus-inch

	caus-inch +	caus-inch -	total
causer supplied	223	169	392
	249.4	142.6	
causee supplied	284	121	405
	257.6	147.4	
total	507	290	797

critical value (5%) and 1  $df = 3.84$   
 $H_0$  = there is no relation between  
 causer/causee assignment and caus-inch

$H_0$  must be rejected due to  $15.1 > 3.84$ ,  $p < .005$   
 → small but significant effect

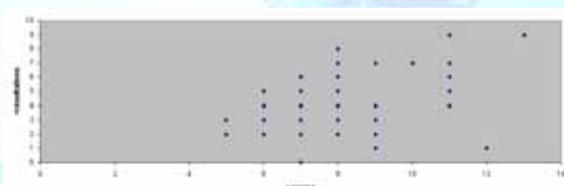
#### 4.5 Data discussion: Correlation

inconclusive  $\chi^2$  results  
 thus look at stability and consistency in  
 test subject behavior

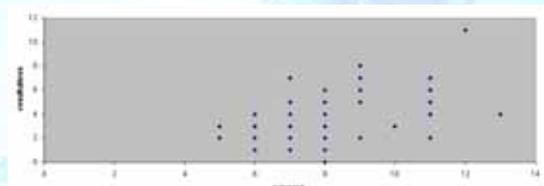
test subject	causer supplied	resultative +	resultative -
01	11	5	6
02	7	5	2
03	13	9	4
...	...	...	...
48	8	3	5
49	9	2	7
total	392	202	190

Scatterplots:

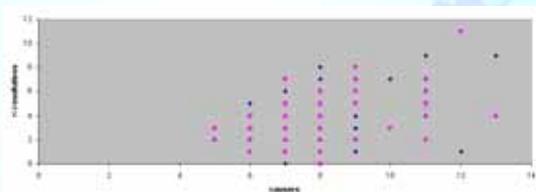
#### 4.5 Correlation: Scatterplot 1



#### 4.5 Correlation: Scatterplot 2



#### 4.5 Correlation: Scatterplot 3 and score



#### Pearson product moment $r$

- 1) +causer x -resultative  $r = 0.38208812$
  - 2) +causer x +resultative  $r = 0.4911263$
- $p > .001$ , two-tailed (critical value 0.451)  
Thus a small effect for weak positive correlation of causer and +resultatives

#### 4.6 Data discussion: Animacy

	causer supplied	causee supplied	no suppletion
total / %	392 / 31	405 / 32	468 / 37
+ANIM relative, %	82.9	5.1	
-ANIM relative, %	17.1	94.9	
total	100	100	

#### Animacy: strongest cue for causer assignment

- learners supply causer or causee arguments or neither
- no-suppletion: reflexive reading or *John's breaking... to John's breaking up with Lucy was terrible*
- supplied causers: largely animate (83%)
- supplied causees: largely non-animate (95%)

#### 4.7 Data discussion: Reflexives

No suppletion	reflexive	other
Total / %	31 / 6.7	437 / 93.3

#### neither causer nor causee supplied:

- fewer learners than expected supply reflexive inchoative
- due to the perceived grammaticality of many English forms without reflexive where German reflexive is obligatory

#### 4.8 Data discussion: Trends

- neither causer nor causee supplied: fewer learners than expected opted for the reflexive inchoative

Inchoative: temporal onset is present, therefore:

- Causatives:** (19) CAUSE [x, BEGIN [ BECOME [  $V_{\text{caus}}$  y ] ] ] = become y (but was not y before)  
(19') *The architects develop the city*
- Inchoatives:** (20) [x BECOME [ x BE AT A/A+er ] ] = become developed or more developed  
(20') *The city develops*

German verbs of the *move*-type do not follow this formula:

- (21) CAUSE [x, BEGIN [ BECOME [  $V_{\text{caus}}$  x ] ] ] as in  
(21') *Die Stadt entwickelt sich*  
The city develops itself

### 5. Conclusion

L2 learner's assignment of causer/causee roles in ambiguous causatives depends on

#### Parametric cues:

- 1) Animacy bias of causer and causee**
  - data trends point towards a salience of the causee
  - rejects hypothesis 1 in favor of hypothesis 2
  - Most spontaneous/inchoative verbal events are conceptualized as cognitive standard situations in which a causer is the default assumption, unmarked and/or phonetically zero**
  - ties in with Croft's observation of causer avoidance (common agent suppression, Croft 2001) in English passive
- 2) Resultativity bias in favor of causers**
  - resultative causativity is supplied with causers

### 6. Selected references

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