

Inkrementelle Syntax

Phillips (2006): Linear Order and Constituency

Timm Lichte & Pascal Chave

HHU Düsseldorf, Germany

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Was bisher geschah ...

- ATN (Kaplan, 1972):
Motivation: psycholinguistisch adäquat (Ambiguität, Verarbeitungskomplexität), bidirektional
Modelltyp: Automat mit Register und Stack
- LAG (Hausser, 1988):
Motivation: psycholinguistisch adäquat, kommunikativ adäquat, bidirektional
Modelltyp: bottom-up mit linksassoziativer Phrasenstruktur / Automat mit Speicher aus Kategorieketten
- Dynamic Syntax (Kempson et al., 2012)
Motivation: Dialogmodellierung (split-utterances), Modellierung von Kontextabhängigkeit, birektional
Modelltyp: “tree-growing” auf semantischer Repräsentation

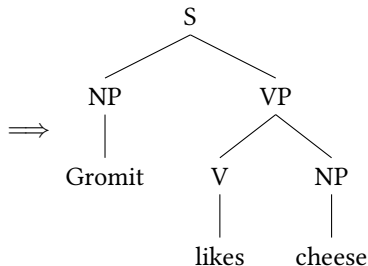
- ??? Phillips (2003):
Motivation: Konflikte bei Konstituententests \rightsquigarrow Koordination
vs. Ellipse vs. Bindung
Modelltyp: Minimalismus, aber top-down mit rechtsassoziativer Struktur

Ablauf:

- Konflikte bei Konstituententests
- Phillips generativer Mechanismus
- Vorhersagen
- Vergleich mit CCG

Konstituententests

- (1) a. *Gromit [likes cheese] and [hates cats].* (coordination)
b. *Gromit [likes cheese] and Wallace does too.* (deletion/ellipsis)
c. *[Like cheese] though Gromit does _____, he can't stand Brie.* (movement)
d. *Wallace and Gromit like each other.* (reciprocal binding)
e. **Each other like Wallace and Gromit.* (illicit reciprocal binding)



Konflikte zwischen Konstituententests

Koordination, aber keine Bewegung:

- (2) a. *Wallace gave [Gromit a biscuit] and [Shawn some cheese] for breakfast.*
b. **[Gromit a biscuit] Wallace gave _____ for breakfast.*

Koordination, aber keine Ellipse:

- (3) a. *Alice [knew that Fred wanted to talk with the queen] and Ethel did too.*
b. **Alice [knew that Fred wanted to talk] with the queen and Ethel did with the presi- dent.*

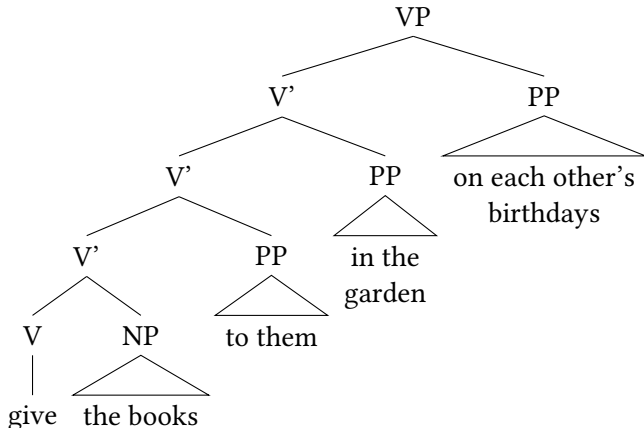
Koordination, aber überschneidende Konstituenten?

- (4) a. *Wallace gave [Gromit a biscuit] and [Shawn some cheese] for breakfast.*
b. *Wallace gave Gromit [a biscuit in the morning] and [some cheese just before bed- time].*

Konflikte zwischen Konstituententests

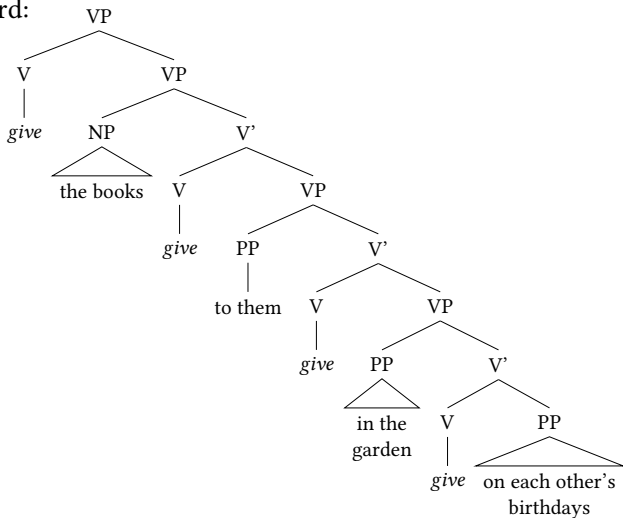
Bewegung (“VP-fronting”), aber keine Bindung (mit “c-command”):

- (5) *John wanted to give books to them in the garden, and [give the books to them_i in the garden] he did _____ on each other_i's birthdays.*



Konflikte zwischen Konstituententests

Bewegung (“fronting”), aber keine Bindung (mit “c-command”):
gebraucht wird:



Konflikte zwischen Konstituententests

Übliche Ausweichstrategien:

- Binding ohne C-Kommando
- Satzkoordination (mit leeren Strukturen) statt Konstituentenkoordination
- Bewegung und Bindung “essentieller” als Koordination
- Sätze mit mehreren Konstituentenstrukturen (z.B. CCG)

(oder Ablehnung von klassischen Konstituentenstrukturen wie bei Hausser)

Konflikte zwischen Konstituententests

Phillips Erklärung:

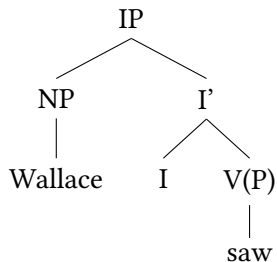
- Incremental structure building: “I suggest that discrepancies in the results of different constituency tests are primarily due to the incremental manner in which syntactic structures are built up from left to right.” (S.42)

(6) **Incrementality Hypothesis**

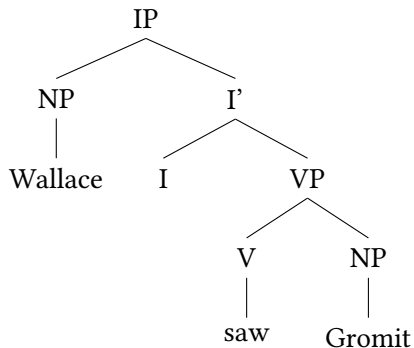
Sentence structures are built incrementally from left to right.

- Konstituenten sind flüchtig (“transient”), d.h. sie können bei der Generierung auch wieder zerstört werden.

Der generative Mechanismus

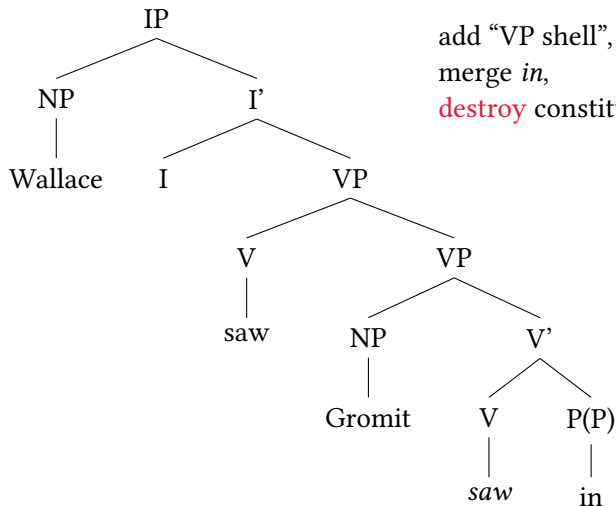


Der generative Mechanismus



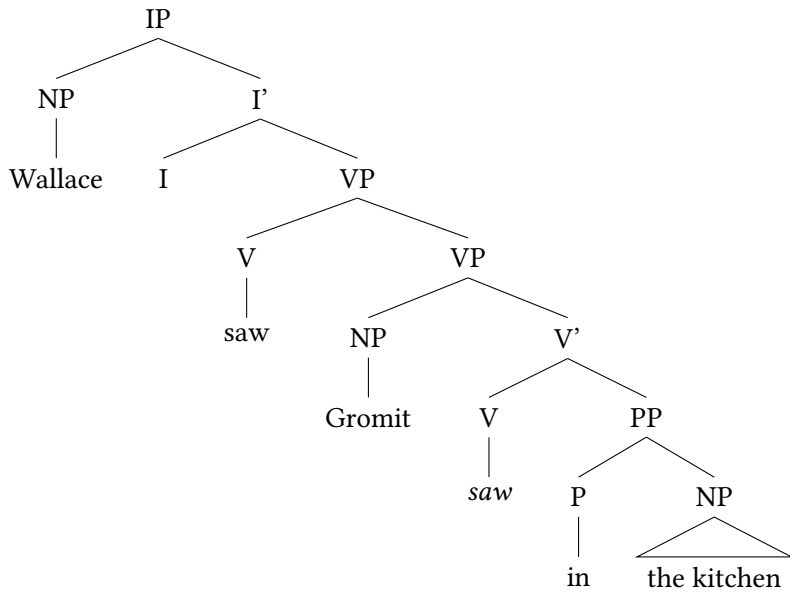
add VP node,
merge *Gromit*,
destroy constituent *Wallace saw*

Der generative Mechanismus

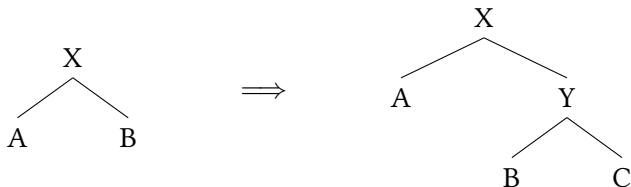


add “VP shell”,
merge *in*,
destroy constituent *saw Gromit*

Der generative Mechanismus



Der generative Mechanismus



- top-down
- rechtsassoziativ (Merge nur am rechten Rand)
- nicht-monoton (mit Löschen, Überschreiben)

⇒ Weicht stark vom üblichen Minimalismus ab,
Darstellung sehr skizzenhaft.

Konstituenten \rightsquigarrow “snapshots of different derivational stages”

Prediction 1

A constituency test may refer only to those strings that are constituents at the point in the incremental derivation when the test applies.

- (7) *Wallace will give Gromit crackers before breakfast.*
- (8)
 - a. *[Wallace] and Wendolene will give Gromit crackers ...*
 - b. *[Wallace will] and Wendolene probably won't give ...*
 - c. *[Wallace [will give]] and Wendolene will send some ...*
 - d. *[Wallace [will [give Gromit]]] and Wendolene will give Preston ...*
 - e. *...*

Aber Vorsicht:

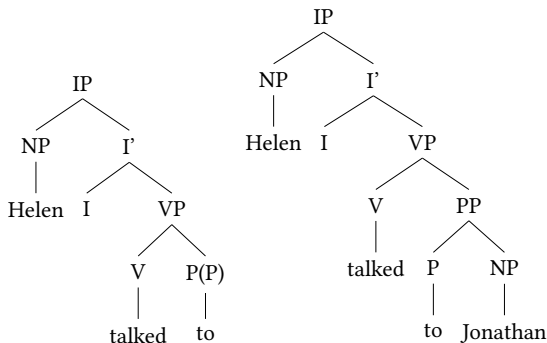
- (9) **The man [who built the rocket has] and [who studied robots designed] a dog.*

Vorhersagen

Prediction 1

A constituency test may refer only to those strings that are constituents at the point in the incremental derivation when the test applies.

(10) *Helen talked to Jonathan, and Alice did _____ *(to) Matthew.*

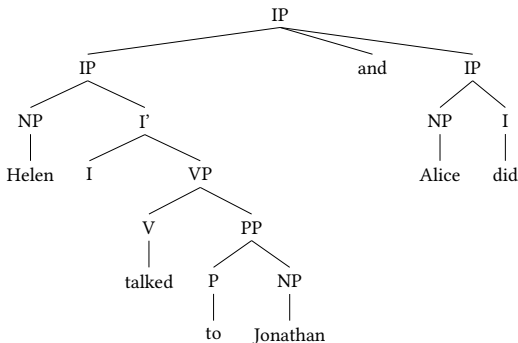


Vorhersagen

Prediction 1

A constituency test may refer only to those strings that are constituents at the point in the incremental derivation when the test applies.

(10) *Helen talked to Jonathan, and Alice did _____ *(to) Matthew.*



Prediction 2

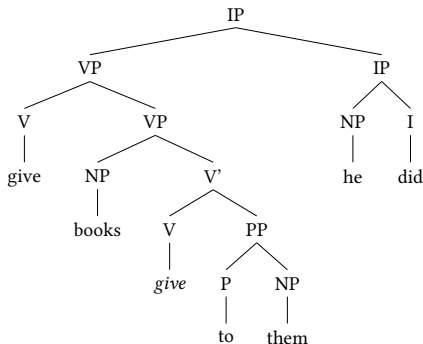
Contradictions between constituency tests arise when those tests apply at different stages in the incremental derivation of a sentence.

- (11) *... and [give the books to them_i in the garden] he did _____ on each other_i's birthday*

Prediction 2

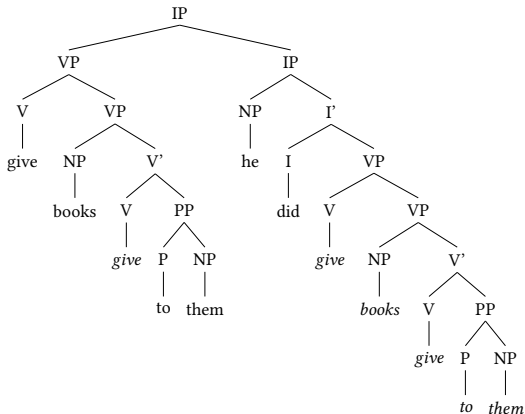
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- (11) ...and [give the books to them_i in the garden] he did _____ on each other_i's birthday



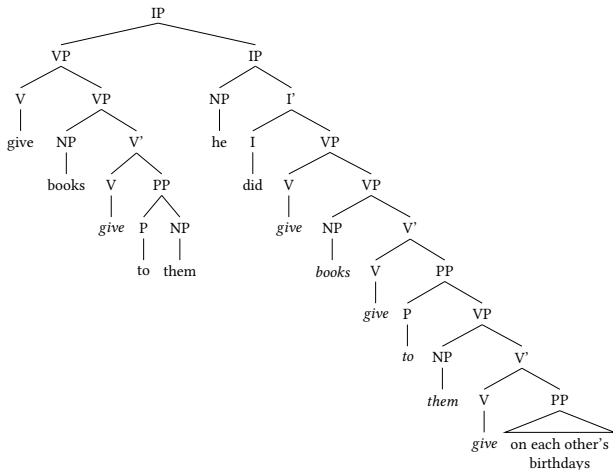
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Weitere Vorhersagen

Prediction 3

Constituents become invisible to syntactic processes as soon as they have been destroyed.

Prediction 4

If right node raising is coordination of constituents that do not survive until the end of the derivation, then no syntactic process should be able to refer to the conjuncts of RNR structures after the shared material has been added to the structure.

Prediction 5

Constituency changes during the course of a derivation, but most c-command relations do not. Therefore, tests involving c-command relations should not conflict with one another.

Prediction 6

Transient constituents have no special status. Therefore, any syntactic process that applies at an appropriately early stage of the derivation should be able to target transient constituents.

Vergleich mit CCG

(100) *Type raising* (TR)

a. $X \Rightarrow Y/(Y \backslash X)$

general form

b. $NP \Rightarrow S/(S \backslash NP)$

specific case

(101) *Forward function composition* (FC)

a. $X/Y \quad Y/Z \quad \Rightarrow \quad X/Z$

general form

b. $S/(S \backslash NP) \quad (S \backslash NP)/NP \Rightarrow S/NP$

specific case

(102) Leo saw Elliot

— ————— ———
NP (S \ NP) / NP NP

— TR

S / (S \ NP)

————— FC

S / NP

—————>

S

Vergleich mit CCG

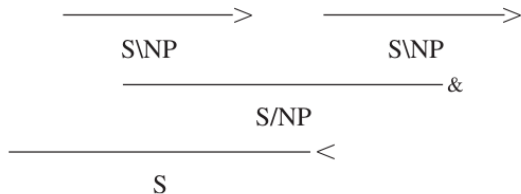
(103) a. *Coordination (&)*

$X \text{ CONJ } X \Rightarrow X$

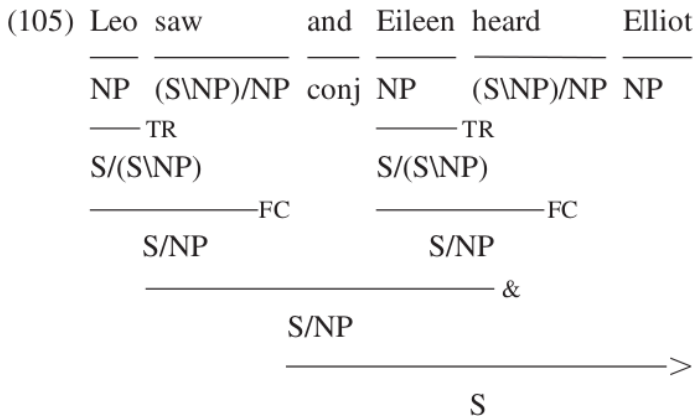
b. and: CONJ

(104) Leo saw Elliot and heard Eileen

NP (S\NP)/NP NP conj (S\NP)/NP NP



Vergleich mit CCG



Vergleich mit CCG

Eigenschaften von CCG:

- flexible Konstituentenstruktur durch Type Raising und Flexible Composition
- ⇒ mehrere Konstituentenstrukturen pro Satz möglich
- ⇒ ausreichend Flexibilität für Koordinationstest [?]

Aber:

- Konstituenten persistieren (keine Flüchtigkeit/“destroy”)
- ⇒ sichtbar für alle nachfolgenden syntaktischen Prozesse
⇒ andere Vorhersagen
- ⇒ Abkopplung von Konstituentenstruktur und c-Kommando (für Bindung), ...
- keine rechtsverzweigende Struktur

Zusammenfassung

- **Konflikte zwischen Konstituententests** durch inkrementellen Aufbau und Flüchtigkeit
- **generatives Modell**
 - Darstellung sehr skizzenhaft
 - ungewöhnlich innerhalb des Minimalismus
 - top-down, rechtsassoziativ, nicht-monoton
- **Linguistische Vorhersagen**
 - Konjunkte bei RNR
 - relative Eingeschränktheit von Bewegung und Ellipse
 - ...

Außerdem:

“It should also be noted that the nonincrementality of standard models of grammar provided one of the primary arguments for separation of grammatical and processing systems in the 1960s and 1970s (see Fodor, Bever, and Garrett 1974, Levelt 1974). If the current proposal is correct, then this particular argument for separation of grammar and processing systems disappears.”

- Hausser, Roland. 1988. Left-associative grammar: An informal outline. *Computers and Translation* 3(1). 23–67.
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- Phillips, Colin. 2003. Linear order and constituency. *Linguistic Inquiry* 34(1). 37–90.