

Results at the edge: an event structure based account of passivization

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1 Introduction: event structure based passives

- movement of the result state of a structurally complex event to a discourse-related position at the edge of the ν P is the fundamental characteristics of passive constructions
- passivisation as an operation on the event structure, a predication on the result state of the event, anchoring the event time within the result state subevent
- a semantic requirement, some kind of topicalization, singles out the result state (resP in Ramchand 2005) and assigns it a feature that will determine its movement to a discourse-related projection at the edge of the ν P phase (~ Belletti's 2000 low focal projection)
- the edge between the verbal phrase and the temporal domain of the clause is essential for legibility

2 Argument structure based accounts of passive constructions

2.1 GB

External argument still present in verbal passives (Jaeggli 1986, Roberts 1987, Baker et al. 1989, a.o.; see also Collins 2004):

- Strong Crossover effects
 - availability of subject-oriented modifiers
 - availability of subject-controlled infinitival clauses
 - binding, depictives, purpose-clauses
- (1) a. Such privileges should be kept to oneself.
b. Damaging testimony is always given about oneself in secret trials.
c. *They_i were killed by themselves_i.
d. The book was written drunk.
e. The book was written to collect the money.
f. The book was written on purpose.

passive participle morphology is external argument (Baker et al. 1989)

- *-en* passive participle morpheme is a clitic base-generated in I°
- this clitic is lowered down in the further derivation to adjoin to the verbal stem to “absorb” the case assignment capacity of the verb

Problems:

- Arbitrary differentiation of past and passive participle
- How does NP in *by*-phrase receive its theta role?
- Not in conformity with the UTAH (Baker 1988)

2.2 Collins' (2004) smuggling approach

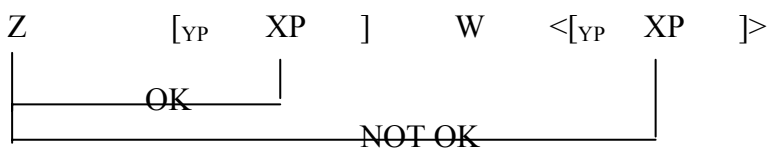
- passive morphology does not absorb external theta role or accusative case
- external theta role is assigned in Spec vP in line with UTAH
- ACC is checked by the *by*-phrase in Voice° directly above vP

problem: locality

Collins' solution: 'Smuggling' of the VP over the vP makes the internal argument the closest to Spec TP allowing for its 'promotion' to subjecthood without any violation of Relativized Minimality or its derivational counterpart.

(2) Smuggling:

Suppose a constituent YP contains XP. Furthermore, XP is inaccessible to Z because of the presence of W, some kind of intervener that blocks any syntactic relation between Z and XP. If YP moves to a position c-commanding W, we say that YP smuggles XP past W.



participle phrase moves to the left of the *by*-phrase dragging along the internal argument

Evidence for XP-movement analysis against head movement analysis:

- (3) a. The coach summed up the argument.
 The coach summed the argument up.
- b. The argument was summed up by the coach.
 *The argument was summed by the coach up.
- (4) a. John was spoken to by Mary.
- b. *John was by Mary spoken to.

Problems:

- What is the status of smuggling in the theory?
- If smuggling is movement, what is the trigger for this movement?
- What are the limits of smuggling and look-ahead computations?
- Why can't smuggling be used to avoid other potential interveners (e.g. in A'-movement)?
- In *There was a man killed*, passivisation applies independently from movement of the internal argument to the subject position.

3 Proposal: promoting the result state as fundamental ingredient of (eventive) passives

events are structurally complex and involve more than just one subevent (Pustejovsky 1991, Higginbotham 2000, Ramchand 2005)

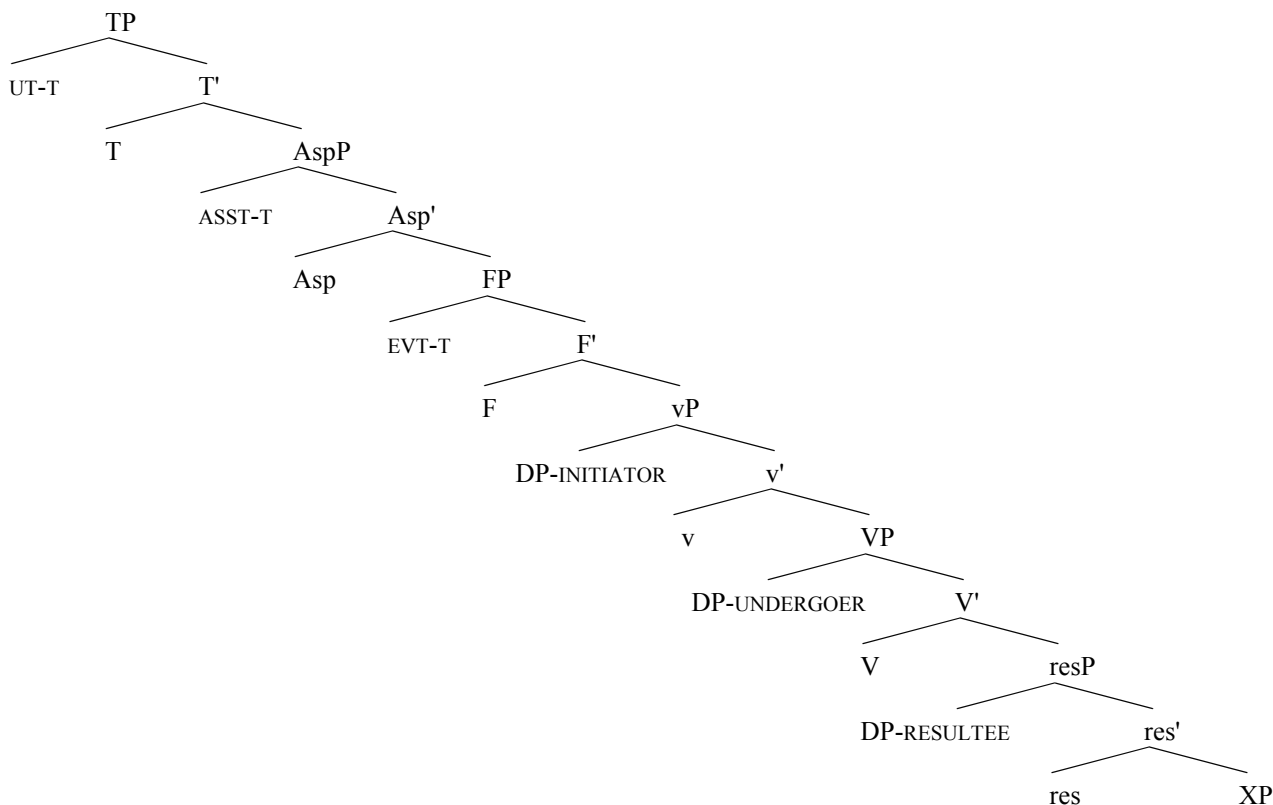
event structure itself is crucially atemporal in nature

- no times associated with any of the subevents
- no immediate link between (atemporal) event and temporal domain of the clause

passivization involves promotion of the result state of the event

- resP (Ramchand 2005) moves to a position above init(iator)P (vP in other approaches)
- this position is independently needed to form a basis for the event time that subsequently serves as the internal argument of Asp° (in the sense of Demirdache & Uribe-Etxebarria 2000)
- In passives the event time falls within the result state subevent
- the particular projection that resP moves to has two properties:
 - the discourse-related part chooses the element that needs to be singled out
 - the quantificational part makes it readable
- main job of this feature:
 - single out an element of the atemporal event structure (resP)
 - enrich its semantics by introducing temporality
 - making it available to temporal domain (& ultimately discourse domain) of the clause

(5) event structure embedded under clausal structure



creating the link between the atemporal event and the temporal domain

syntax and semantics of tense and aspect involve reference to points/intervals in time (Partee 1984, Zagana 1990, Stowell 1996, Giorgi & Pianesi 1997, Demirdache & Uribe-Etxebarria 2000)

Demirdache & Uribe-Etxebarria (2000) (following Klein 1994): intervals event time (EV-T), assertion time (AST-T), utterance time (UTT-T)

Tense and Aspect are predicates that take temporal arguments (following Zagana 1990)

aspect head: event time as internal argument, assertion time as external argument

- imperfective aspect: assertion time lies within the event time (WITHIN)
- perfective aspect: assertion time lies after the event time (AFTER)

tense head: assertion time as internal argument, utterance time as external argument

- present tense: utterance time WITHIN assertion time
- past tense: utterance time AFTER assertion time
- (Demirdache 2005:) future tense: utterance time BEFORE assertion time

Ramchand (to appear): “crucial phase boundary between vP and the temporal phrase structural domain requires the establishment of a relation between the extended event topology which makes no direct reference to times, and the actual time variable which is only introduced at Asp”

➤ **there is no event time since vP is crucially atemporal in nature**

- aspect introduces a time variable [\sim assertion time in Demirdache & Uribe-Etxebarria 2000] that is in some way related to the event structure
- minimal denotation of Asp (in Russian, $\tau(e)$ is Krifka’s (1998) temporal trace function):
[[Asp]] = $\lambda P \lambda t \exists e: [P(e) \ \& \ t \in \tau(e)]$
- crucial difference to D&U-E: event time is not existent in Ramchand’s approach but is more or less replaced by Krifka’s (1998) temporal trace function

problems:

- AspP provides both the temporal trace function as well as the event time
- still not clear in which part of the event the event time is located

➤ **split Krifka’s temporal trace function and introduction of the assertion time**

necessary ingredients:

- syntactic reflex of Krifka’s temporal trace function: extra projection
- additional landing site for the part of the event structure that the event time is related to (some kind of focus projection, cf. Belletti 2000)
- Aspect and Tense heads come with an argument structure with the relevant arguments utterance time¹, assertion time, event time (Demirdache & Uribe-Etxebarria 2000)
- events are complex and consist of atemporal subevents (Ramchand 2005, to appear)

see also: Borer’s (2005) quantificational phrase QP, quantification over events

Arsenijević (to appear): verbal predicates have some functional projection that basically picks out that part of the complex event structure that something is asserted about

- whatever is asserted about the event has to move up – in that sense it could also be the case that it is used to focalize some particular subevent

¹ Or in any case, some reference time which in many cases is the utterance time. See Stowell (1996) for this point.

4 Empirical evidence

4.1 (Eventive) passives involve resultativity

- (6) a. The argument was summed **up by the coach**. (= **Error! Reference source not found.**, Collins 2004)
*The argument was summed **by the coach up**.
b. John was spoken **to by Mary**.
*John was **by Mary** spoken **to**.
- resP moves taking along particle in verb-particle constructions / *to*-phrase in ditransitives
 - particle is generated in prtP as the direct complement of resP (cf. Ramchand 2005, Ramchand & Svenonius 2002) and there is no way to move the whole resP over initP without moving the particle along with it
- (7) a. The table was wiped **clean by John**. (from Postal 2001)
??The table was wiped **by John clean**.
b. The metal was hammered **flat by John**.
??The metal was hammered **by John flat**.

4.2 Not all transitive verbs can form passives (cf. e.g. Postal 2001)

transitive verbs involving telic predicates can (8), those involving atelic ones cannot (9):

- (8) a. The lion **killed the antelope**.
The antelope was killed (by the lion).
b. He **put the card** on the table.
The card was put on the table (by him).
- (9) a. This laptop **weighed two kilos**.
***Two kilos were weighed** (by this laptop).
b. This chair **cost 50 euro**.
***50 euro were costed** (by this chair).
- such transitive verbs never have a resultative reading and can never be part of an event structure containing a result state

4.3 Problem: a number of atelic predicates (not containing resPs) can still form passives

Rizzi & Belletti (1988): two kinds of **psych-verbs** – *worry* (*preoccupare*) vs. *appeal* (*piacere*)

worry-verbs can undergo passivisation, *appeal*-verbs cannot (examples from Reinhart 2002):

- (10) a. The news **worried / surprised / excited** Max.
b. Max was **worried / surprised / excited** (by the news).
- (11) a. The solution **appeals** to me / **escapes** me.
b. *I am **appealed / escaped** (by the solution).
- *worry*-verbs can have an inchoative meaning of the state denoted by the psych verb (e.g. *Max got into a worrying state*)
 - *appeal*-verbs cannot (e.g. **I got into an escaping state*)
- *worry*-verbs allow secondary predication where the state denoted by the verb is a kind of result state predicated over the internal argument
- passive formation is possible if it involves promoting this kind of result state
- *appeal*-type verbs cannot involve such a secondary predication and cannot form passives

Similarly, *love* is able to form passives:

- (12) a. Mary **loved** Max.
b. Max was **loved** (by Mary).

4.4 Ditransitives

- (13) a. John **sold** a radio **to Mary**.
John **sold Mary** a radio.
b. John **bought** a radio **for Mary**.
John **bought Mary** a radio.
- (14) a. A radio was **sold to Mary**. (Postal 2001, citing Fillmore 1965)
Mary was **sold** a radio.
b. A radio was **bought for Mary**.
*Mary was **bought** a radio.

assumption: only goals are part of the resP, benefactives are not (but see Tungseth 2006 for a different treatment)

4.5 Floating quantifiers

floating Qs banned from post-verbal position in passives (unexpected under previous approaches):

- (15) a. John gave the boys **both** a good talking to.
John gave **both** the boys a good talking to.
b. The boys were **both** given a good talking to.
*The boys were given **both** a good talking to.
- floating Qs move together with internal argument and the resP to; remain stranded there after movement of internal argument to [Spec TP]

4.6 Existential *there*-constructions

- (16) a. There was a man killed.
b. *There was killed a man.
- regular passives involve 2 independent operations:
- movement of resP to form a basis for the event time
- movement of a DP to Spec TP to satisfy the EPP
- in *there*-constructions, 2nd movement does not take place (expletive insertion satisfies EPP)

5 Further evidence: comprehension patterns in agrammatic Broca's aphasics

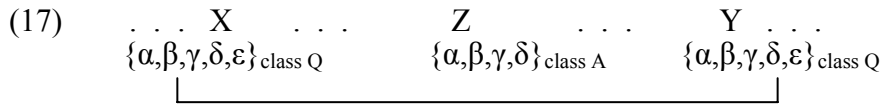
Grillo (2005): selective deficitarian comprehension in agrammatic Broca's aphasia as a consequence of minimality effects² (arise when a dependency has to be built over an intervening element which shares part of its featural make up with the goal)

- limitation of computational resources can affect the possibility to move resP over vP

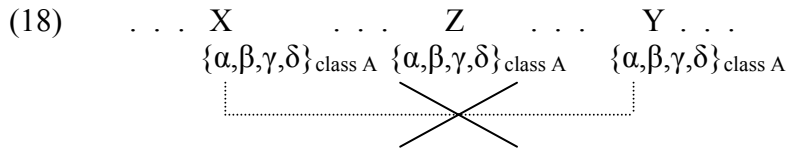
predictions:

- comprehensions of passives with and without *by*-phrase should be equally problematic whereas unaccusatives and adjectival are not (see Grodzinsky 1999, Piñango 1999)
- there should be difficulties in computing dependencies that cross potentially similar elements

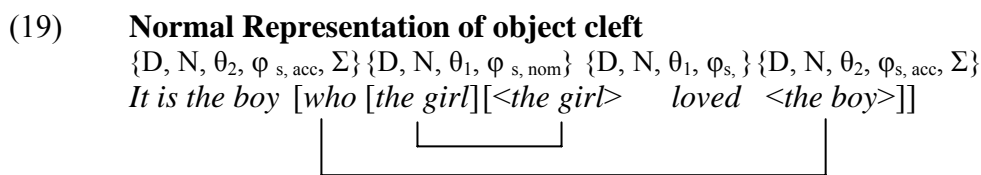
² on Relativized Minimality see Rizzi 1990, 2002; Starke 2001 a.o.



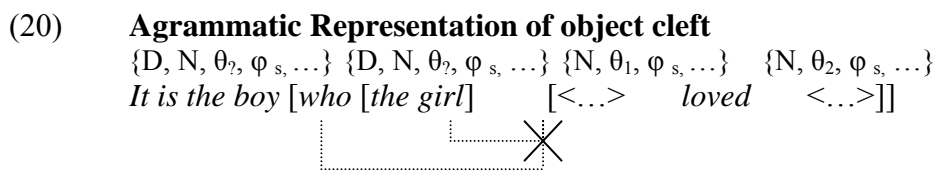
- every node is associated with particular set of morphosyntactic features
- RM should permit the formation of a relation Σ between X and Y: the presence of the element ϵ suffices for RM to see the difference between X and Z and therefore to authorize the movement of Y over Z.



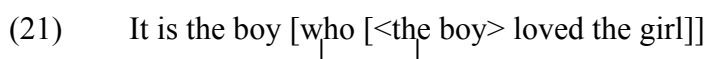
➤ with this feature configuration RM disallows a relation between X and Y



- Σ defines <who> as a member of the Operator's class and distinct from the Argumental class to which <the girl> belongs.



- extreme impoverishment of features leads to RM blocking chain formation: it is impossible to assign the correct theta role to each argument
- different with subject relatives (are correctly interpreted by agrammatic patients): no NP intervenes between moved constituent and trace, hence no RM effects



(22) **Agrammatic aphasia comprehension patterns** (see also Grodzinsky 2004, Drai and Grodzinsky 2006 and reference cited therein)

Above Chance Performance	Chance Performance
Subject relatives	Object relatives
Subject Clefts	Object Clefts
Actives	Passives
Adjectival Passives ³	Verbal Passives
Unaccusatives	Passives
SVO Hebrew Actives	OSV/OVS Hebrew Actives
Object Control	Subject Control
Unscrambled Object	Scrambled Object
...	...

³ See Kratzer (2000) and Anagnostopoulou (2003) on the difference between adjectival and verbal passives.

6 Summary & outlook

- shift of focus from an argument structure to an event structure based perspective on the formation of passives accounts for several syntactic and semantic properties of the passive construction, some of which remain unexplained under previous accounts.
- more than the internal argument moves in passives (in the lines of Collins 2004)
- the position resP moves to and the feature related to this movement constitute an example of edge-related syntax/semantics (legibility issue)
- movement of (part of) the atemporal and structurally complex event is necessary to single out an element of the first phase (in this case resP) and to enrich its semantics by introducing temporality and thus making it available to the next phase
- predictions for agrammatic Broca's aphasia are borne out
- strict Compositionality: semantics can be directly read off syntax

future research:

- **structure of participles: differences between passive and perfect participles**

both are morphologically identical in many languages

both constructions involve some resultative semantics

but: external argument in perfect tense constructions / internal argument in passive constructions promoted to subject position

- **acquisition of passives**
- **cross-linguistic research: is it always resP which moves?**
- **implications for case**

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