

SYNTHETIC PASSIVES IN EARLY AND IMPAIRED GRAMMAR
A VIEW FROM GREEK REFLEXIVE VERBS

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OBJECTIVES

- i. How different can synthetic passives be in early or (adult) impaired grammar and why?
More precisely:
- ii. Why do reflexive verbs make much better passives in children's grammar?
- iii. Why aren't the passives of agrammatics particularly impaired?

1. EARLIER PSYCHOLINGUISTIC FINDINGS AND EXPLANATIONS

1.1 EARLY PASSIVES CROSSLINGUISTICALLY

- Frasier et al. (1963)
3-4 year-old children: 50% target repetition, 29% target comprehension, 17% target production.
Bever (1970), Maratsos et al. (1974), Horgan (1978): similar findings.
- Maratsos et al. (1985)
Children do extremely poorly on passives of non-actional (mental) verbs in English.
Actional: *hit*, non-actional: *love*

	Actional		Non-actional	
	Active	Passive	Active	Passive
4-year	.97	.85	.92	.34
5-year	.99	.91	.96	.65
7-year	.99	.92	.97	.62

- Borer & Wexler (1987): A-chain Deficit Hypothesis
Children consider object-to-subject A-chains ungrammatical.
They understand verbal passives well enough if they treat them as adjectival passives, (1b). The latter are present in the language and do not involve an A-chain (Wasow 1977).

- (1) a. [The baby]_i was combed t_i by Mary Actional
b. The baby was [_{ADJ} combed] by Mary
c. A combed baby ...

- (2) a. [The baby]_i was seen t_i by Mary Non-actional
 b. *The baby was [_{ADJ} seen] by Mary
 c. *A seen baby ...

➤ Hence, the .85 performance on actional verbs of the 4-year-olds in the previous page is the consequence of misanalysis.

▪ Borer & Wexler (1992)

Their previous account met with problems when faced with VP-internal subjects, and they had to specify that their claims were true only for A-chains that connect two theta positions.

Babyonyshev et al. (2001) go on to explain children's relative success with unaccusatives, considering their subjects to merge directly in Spec, TP.

▪ Terzi & Wexler (2002)

Long Passives (i.e., with *by*-phrase), picture matching task with two pictures

Only children with ceiling performance on actives were included

Actional verbs		Non-actional verbs	
Verbal, Adjectival		Verbal	
sproxno	'push'	agapao	'love'
xtipao	'beat'	mirizo	'smell'
filao	'kiss'	vlepo	'see'
kinigao	'chase'	akouo	'hear'
vourtsizo	'brush'		
akoumbao	'touch'		

	Actional		Non-actional
	Verbal	Adjectival	Verbal
3;8-3;10 (M=3;9)	.03	.83	.20
4;2-4;10 (M=4;7)	.33	.77	.13
5;3-5;10 (M=5;6)	.44	.89	.20

▪ Wexler (2004)

Universal Phase Requirement (UPR)

Adults: consider passive v not to be a phase (Chomsky 2000, 2001)

- (4) John_i T [_{v_{def}} was pushed t_i] Adults


Children: consider v to be a phase, regardless of whether it is defective or not (UPR).

Consequence: children do not accept raising of the object to Spec, T because v already defines a phase.

The EPP features of T are not deleted, and the derivation does not converge.

(5) John_i T [t_i V_{def} was pushed t_i] Children



- Fox & Grodzinsky (1998)

Transmission of the theta-role to the DP of the *by*-phrase is problematic in (many) passives. The problem does not appear with the *by*-phrase of actional verbs because they have an agent theta-role, just like the theta-role of *by*, which is assigned to its DP complement, (3b). More of a processing problem.

- (3) a. The baby was combed [by Mary]
 b. A book [by Chomsky]

- Driva & Terzi (2008)

Long & short passives, picture matching task with three pictures
 Same verbs as in Terzi & Wexler (2002), an additional age group (5;9-6;6, M=6;0)

- Surprisingly higher target performance than in Terzi & Wexler (2002)
- No significant difference between long and short passives, throughout all groups and group performances (.68 - .67, .68 - .75, .67 - .72, .85 - .83)

Early passives so far

- iv. Children's difficulties with passives are attributed primarily to object-to-subject movement (A-chains, Phasehood of v)
- v. Some of these accounts investigate the effect of the *by*-phrase as well.
- vi. Greek-speaking children's passives did not reveal serious effects of the *by*-phrase. See Armon-Lotem et al. (2016) for other languages.

More recently

- Snyder & Hyams (2015): Universal Freezing Hypothesis (UFH)

One can see instances of A-movement in children's grammar.
 Difficulties with (object-to-subject) movement are in fact difficulties with smuggling (Collins 2005).
 Much in the spirit of Gehrke & Grillo's (2008) view if Relativized Minimality.

1.2 PASSIVES IN AGRAMMATIC APHASIA

- Grodzinsky (1990 et seq.): Trace Deletion Hypothesis (TDH)

TDH: The trace of movement is deleted in agrammatism.

Consequence: Passives of agrammatics are impaired because the moved object is not associated with its extraction site, hence its (theme) theta-role cannot be retrieved.

- Grodzinsky (2006)

Passives are better in German & Dutch: theta-role assignment to the theme can take place to the left (just as in the case of actives).

To sum up:

In both early and impaired grammar (agrammatism) the difficulties with passives are associated with the object-to-subject movement, captured in a different manner:

- i. Early language: A-chains (phases), or smuggling have not matured.
- ii. Impaired adult language: Trace of moved DP is deleted.

1.3 FREQUENCY: A THIRD FACTOR

Frequency has also been considered as a relevant factor in early language.

- Demuth (1989): Sesotho passives are more frequent than their English counterparts. This is why children acquire them earlier.
- Crawford (2012): Sesotho passives are indeed more frequent compared to English. Nevertheless, Sesotho-speaking children do *not* acquire them earlier than their English-speaking peers.

2. GREEK PASSIVES AND RECENT THEORETICAL DEVELOPMENTS

2.1 GREEK PASSIVES

- Synthetic

(6) O kathigitis xirokrot-ite (apo tus fitites tu).
the professor applaud-3s-NACT by the students his
'The professor is applauded by his students.'

- Robust morphological syncretism, hence:

Reflexive/reciprocal

(7) O kathigitis ksiriz-ete.
the professor shaved-3s-NACT
'The professor is shaved.'

(8) Ta pedia agaliaz-onde.
the children hug-3p-NACT
'The children are hugging each other.'

Middle

(9) To kenurjo vivlio tu X diavaz-ete kala.
the new book the-gen X-gen read-3s-NACT well
'X's new book reads well.'

Anticausative

(10) To trapezomandilo lerothike (apo ti saltsa).
the tablecloth litter-3s-NACT-past (from the sauce)
'The tablecloth was littered from the sauce.'

Deponent

(11) I Maria xriazete ena kenurjo aftokinito
the Mary need-3s-NACT a new car
'Mary needs a new car.'

2.2 RECENT THEORETICAL DEVELOPMENTS

Research in the 2000s is not particularly preoccupied with the thematic object. Instead, it focuses on:

- i. properties of the external argument,
- ii. properties of the functional head that introduces, or binds, this argument.

- Collins (2005, 2017)

External argument is always merged in the canonical subject position, Spec, vP.

-en: identical in passives and past participles.

by: head of VoiceP, a dummy linker (not a lexical preposition). *by*+DP do not form a constituent.

External argument is syntactically present in short passives (PRO or null generic pronoun *one*).

On the other side,

- Bruening (2013, 2014)

By: combines with DP to form a PP.

This PP is an adjunct that selects the syntactic category of the phrase it adjoins to, VoiceP (with an open, unsaturated argument). *By* is not semantically empty

See Kallulli (2007) for *by*-phrases beyond English and their contribution to the passive/anticausative distinction.

- Alexiadou, Anagnostopoulou & Schäfer (2015).

Passive vP/VoiceP lacks a specifier (hence, no ACC case)

Passive is a functional head, *Pass*, selecting a VoiceP without a syntactically present external argument (after Pykkänen 2008, and many others afterwards).

The semantics of *Pass* imposes existential quantification over the external argument (Williams 1987 a.o).

by: an adjunct selecting for Voice P (after Bruening)

For Greek in particular

- Alexiadou & Doron 2012, Spathas, Alexiadou & Schäfer 2015, Alexiadou & Schäfer 2014

- Greek has no *Pass*, only Middle Voice

Rationale: low productivity of passives, syncretism with middles.

Also: (potential) evidence from Corrective tests/contexts showing lack of DRE effects (see below).

- Middle: Like with English *Pass*, there is no syntactic position for external arguments.

Middle introduces an external argument slot, and existentially binds this argument.

As with English *Pass*, the implicit argument cannot be bound. It only takes narrow scope with respect to other quantifiers (i.e., negation).

- Middle vs. Passive: A semantic difference – Disjoint Reference Effects (DRE)

Passive = DRE

Middle ≠ DRE

- Middle Voice unifies Passive (Naturally Disjoint) and Reflexive (Naturally Reflexive) verbs.

No morphological reflexivization strategy (in Greek), i.e., no reflexive morpheme of the verb.

Naturally Reflexive Verbs: restriction of event described arises from information of the lexical item. This information can be overridden by contextual clues.

Hence, a Naturally Reflexive Verb in NACT is true of both reflexive and non-reflexive events/interpretations.¹

2.3 EARLY LANGUAGE: PASSIVES VS. REFLEXIVES

Terzi et al. (2014)

Reflexives (Naturally Reflexive Verbs), (Short) Passives (Naturally Disjoint Verbs)

Picture matching task, three pictures

20 children, age: 5;06-8;00 (M=6;09)

	(1) Naturally Disjoint verbs (NDV) Target: Passive	(2) Naturally Reflexive Verbs (NRV) Target: Reflexive
(M= 6;09)	.70	.99

➤ Problems with Disjoint Reference (DRE)? If yes, they would apply to all environments. But it is not the same when the verb is a NRV.

	(1) NDV Target: Passive	(2) NRV Target: Reflexive	(3) NRV Target: Passive
(M=6;09)	.70	.99	.95
Andreopoulos (2012)			
20 children, 1 st Grade (M=6;07)	.71	.95	.93
20 children, 2 nd Grade (M=7;08)	.76	.98	.100

➤ If target interpretation were a matter of context, NRV should be equally problematic when in a DRE environment, induced by contextual clues in (3).

Proposal

- Children seem to know that there are different types of verbs (Naturally Reflexive and Naturally Disjoint Reference). Hence, they behave in a different manner in (1) and (3).
- Contextual clues alone are not sufficient for children to interpret NACT verbs. Contextual clues lead to target interpretation when they coincide with some additional (grammatical) property of the verb.
- Hence, when Naturally Reflexive verbs are forced to have passive interpretation, (3), contextual clues and properties of the verb coincide in that the surface subject of the sentence is the theme. This is why target performance is high.

¹ A Naturally Disjoint Verb in NACT should describe non-reflexive events in out of the blue contexts and reflexive events in other contexts, but the latter never happens. See SA&S (2015) for discussion of this this asymmetry.

- ❖ With Naturally Disjoint Verbs, contextual clues do not have some common grammatical property along the same line with the verb/sentence in Passive in (1).

This holds true for both English and Greek Passives. Moreover,
 English: NRV cannot have passive interpretation (no syncretism with Passives, not synthetic)
 Hebrew: NRV cannot have passive interpretation (no syncretism with Passives).

➤ Important methodological point: future studies should take such finding into consideration for reliable results.

It is possible that the relatively high success rates on the Greek passives in Armon-Lotem et al. (2016) is a consequence of having included Naturally Reflexive Verbs in the experiment.

3. EARLY VS. (ADULT) IMPAIRED PASSIVES

3.1 SYNTHETIC VS. ANALYTIC PASSIVES

- Oikonomou (2014)

Synthetic morphology allows for a range of additional interpretations, i.e.: Anticausatives, Reflexives, Deponents. See also Kallulli (2007).

- Oikonomou 2014, Oikonomou & Alexiadou 2016

Morphological spell out is a reflection of the syntactic structure in the Voice domain.

Synthetic Passives: merging of [PassHead + VoiceHead] creates a single domain (and *contextual allosemy*).

Analytic Passives: PassHead+VoiceHead are spelled out separately, forming two distinct domains (and obstructing *contextual allosemy*).

3.2 SHORT PASSIVES

Picture matching task, three pictures (see 2.3)

Early language

(Terzi et al. 2014)

20 children, age: 5;06-8;00 (M=6;09)

	NDV	NRV	NRV
	Target: Passive	Target: Passive	Target:
Reflexive			
	(M= 6;09)	.70	.95
			.99

Agrammatic Aphasia

Picture matching task, three pictures (same task as children's above)

(Nanousi & Terzi, 2017)

	NDV	NRV	NRV
	Target: Passive	Target: Passive	Target: Reflexive

.94

.100

.94

3.3 LONG PASSIVES

Early language

Angelopoulos & Terzi (2017)

Picture matching task, three pictures

15 children, 4;01-5;02 (M=4;09)

	Passives	Actives	(Object Relatives)
	.58 (.52)	.96 (.93)	.81 (.80)

Agrammatic Aphasia

(Terzi & Nanousi, 2017)

6 Broca's aphasics

Picture matching task, three pictures (same task as children's above)

	Passives	Actives	(Object Relatives)
	.90,3 (.90,3)	.99 (.97)	.53,5 (.58) ²

Not a lot of other findings from Greek-speakers' passives with agrammatism

Fyndanis et al. (2013)

Three agrammatics

(target performance)

	Passives	Actives
#1	.94	.94
#2	.39	.56
#3	.50	.70

To sum up:

Passives do not appear very difficult for Greek-speaking aphasics.

Short passives in particular were found extremely good, close to reflexives.

It is not that the aphasic participants did not have problems in the overall, as demonstrated by their performance on Object Relatives (also object clitics, Nanousi & Terzi (2017)).

Proposal

- Difficult to evoke head movement/merging, along the lines of 3.1, in any meaningful manner.
- Rather, it seems that contextual allophony allows for subject theme in passives (which is known already from reflexives).
- English: not synthetic, hence no similar hint is available.
Hebrew: synthetic, but passives and reflexives do not share a morphological paradigm.

² Numbers in parentheses report the results of a repetition of the experiment, conducted for reasons having to do with the relative clauses (Terzi & Nanousi 2017). It is worth noting that results were very similar.

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