



Groups of object experiencer verbs — empirically revisited

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AG 2: The syntax of argument structure: empirical advancements and theoretical relevance

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Agenda



1. Psych verbs
2. German psych verbs
3. Aims
4. Empirical behavior I: more tests
5. Hypothesis
6. Empirical behavior II: questionnaire study
7. Conclusion
8. Questions/issues for further research

Central claim of this talk



- On the basis of two empirical lines of reasoning (a qualitative and a quantitative) the claim is made that there are (at least three) predicates, **ärgern** ‘annoy’, **erschrecken** ‘frighten’ and **beruhigen** ‘to calm so. down’, which are regularly considered to be ObjExp verbs, but which in fact are **activities when used with an animate subject** — i.e., they show significantly different behavior from all the other verbs of the NOM-ACC ObjExp psych verb class in German
- particularly relevant because these verbs are often used as independent variables in empirical as well as theoretical studies (see Schepper & Lamers 2010; Temme & Verhoeven 2014; Verhoeven 2014, 2010; Haupt et al. 2008; Bornkessel, Schlesewsky & Friederici 2003; Bornkessel 2002; Scheepers, Hemforth & Konieczny 2000; etc.)

1. Psych verbs



- have been prominent in linguistic discussion for a long time (see Pesetsky 1987, 1995; Belletti & Rizzi 1988; Pustejovsky 1991; Van Voorst 1992; Croft 1993, 1998; Arad 1998; Landau 2002, 2010; etc.)
- but still lively ongoing discussion: many studies on different languages (see Fábregas & Marín 2015 (Spanish); Kim t.a. (Korean); Cheung & Larson 2014 (English/Mandarin); Alexiadou & Iordăchioaia 2014 (Greek/Romanian); Kutscher 2009 (different languages); Verhoeven 2007 (Yucatec Maya); Kaliuweit 2005 (French/Italian); Biały 2005 and Rozwadowska 2012 (Polish); Pylkkänen 2000 (Finish); etc.)
- matter of discussion for theories of argument structure primarily for
 1. linking (problems)
 2. event structure

1. Psych verbs



Since Belletti & Rizzi (1988): three classes of psych verbs:

- **class I:** Experiencer NOM — Theme/Stimulus ACC

(1) **John** fears Mary

= SubjExp

- **class II:** Theme/Stimulus NOM — Experiencer ACC

(2) Mary/The noise frightens **John**

= ObjExp

- **class III:** Theme/Stimulus NOM — Experiencer DAT

(3) The idea appealed **to John**.

2. German psych verbs



- Literature primarily deals with Case patterns (see Engelberg 2015a, 2015b; Klein & Kutscher 2005; Primus 2004), also diachronic explanation of the development (see Wegener 1999, 2000, 2001)
- recently: some work on event/argument structure
- different claims made w.r.t. to **class II ObjExp verbs**:
 - Härtl (1999, 2001, 2008, 2010): **all** class II ObjExp verbs are **activities**
 - Rothmayr (2009): **stative/eventive ambiguity**
 - Kutscher (2009): event structure **too diverse**, cannot explain their behavior
 - Verhoeven (2010, 2014), Scheepers, Hemforth & Konieczny (2000), etc.: two subclasses of class II ObjExp verbs:
 1. **[±agentive]**: can have an agentive reading with an animate stimulus argument
 2. **[−agentive]**: can only have a stative, non-eventive reading

2. German psych verbs



- verbs assigned to the groups **differently** in the literature (e.g., Härtl 2001, 2008, 2010 vs. Verhoeven 2010, 2014), or assignment as such is criticized (Kutscher 2009; Klein & Kutscher 2005)
- assignment based upon a few (acceptability) tests:
 - compatibility with agentive adverbs (*absichtlich* ‘deliberately’)
 - complements of control predicates
 - imperative — problematic → may also express the desire of the speaker (see Klein & Kutscher 2005:14; Wegener 1999; Verhoeven 2007:57)
- [$\pm$ agentive] and [–agentive] groups
 - progressive substitute — problematic (see Verhoeven 2010)
- different results → different grouping of the verbs
 - ⇒ **no agreement on** the assignment of the verbs in the literature

2. German psych verbs



- small n pilot study with 7 subjects
- tried to replicate the test for compatibility with agentive adverbs (*absichtlich* 'deliberately' test)

⇒ results totally different to many claims in the literature:

- *ärgern* 'annoy' gets very high scores in the acceptability study
- others like *interessieren* 'interest' get very low scores
- some verbs like *enttäuschen* 'disappoint' get scores in between, significantly better than the *interessieren* group — but also clearly worse than *ärgern*

⇒ no clear-cut distinction between two groups [$\pm$ agentive] vs. [–agentive]

⇒ but certain patterns seem to be detectable

3. Aims



- check the assignment of verbs to the different groups empirically
- get a better idea about the validity of the tests
- get a clearer picture w.r.t.
 - the different claims made in the literature about the argument/event structure of class II ObjExp verbs
 - Kutscher's (2009) claim that class II ObjExp verbs are empirically too diverse to be ordered in groups based upon their syntactic or event structure properties

4. Empirical behavior I: more tests



1. Tests for agentivity/control/volitional involvement

a. **compatibility with *absichtlich*** ‘deliberately’

b. complements of subject control predicates — problematic:

(4) Er versuchte, zu sterben/ das zu sehen/den Lösungsweg zu verstehen.

He tried to die / that to see /the solution to understand.

→ **complements of object control predicates** (like *ask, force, persuade*)

(5) *Er stachelte ihn an, zu sterben/umzufallen.

He incited him on_{VPTKL} to die /VPTKL.to.fall

(6) Er stachelte ihn an, sie zu treten.

He spurred him on_{VPTKL} her to kick

(7) Er stachelte ihn an, sie zu ärgern.

He spurred him on_{VPTKL} her to annoy

4. Empirical behavior I: more tests



2. Test for agentivity: compatibility with an PP instrument [*mit* 'with' ...]

(8) Peter ärgerte Maria [mit einem Stock].

Peter annoyed Maria with a stick

(9) Peter erschreckte Maria [mit einem Totenkopf].

Peter frightened Maria with a skull

(10) *Peter beeindruckte/enttäuschte Maria [mit einem Stock/...].

Peter impressed/ disappointed Maria with a stick/...

(11) *Peter faszinierte/interessierte Maria [mit einem Stock].

Peter fascinated/ interested Maria with a stick

4. Empirical behavior I: more tests



3. Test for agentivity/eventivity: passivization

(*werden* 'become' = verbal passive, *sein* 'be' = adjectival passive)

→ formation of a verbal passive with psych verbs requires the agentive reading (see Verhoeven 2014:138, 2007:53); adjectival passives require a bi-eventive with a stative component (see Anagnostopoulou 2003:13; Kratzer 2000)

- | | | |
|--|--------|---|
| (12) a. Peter wurde (von Maria) geärgert. | verbal | ✓ |
| b. *Peter ist (von Maria) geärgert. | adj | ✗ |
| (13) a. Peter wurde (von Maria) erschreckt. | verbal | ✓ |
| b. *Peter ist (von/über Maria) erschreckt. | adj | ✗ |
| (14) a. (?)Peter wurde von Maria beeindruckt. | verbal | ✓ |
| b. Peter ist (von Maria) beeindruckt. | adj | ✓ |
| (15) a. Peter wurde (von Maria) enttäuscht. | verbal | ✓ |
| b. Peter ist (von Maria) enttäuscht. | adj | ✓ |
| (16) a. *Peter wurde (von Maria) faszinierte/angewidert. | verbal | ✗ |
| b. Peter ist (von Maria) fasziniert/angewidert. | adj | ✓ |

4. Empirical behavior I: more tests



4. Test for eventivity: *-ung* nominalizations

→ only possible with complex eventive structure (see, e.g., Roßdeutscher & Kamp 2010; Martin & Schäfer 2012a, 2012b):

- (17) a. *die Ärgerung der Kinder
b. *die Erschreckung der Kinder
c. ??/* die Beruhigung der Kinder durch den Lehrer
→ different reading from *sich beruhigen* 'calm down'
d. die Beunruhigung der Kinder durch den Lehrer
e. die Ermutigung der Kinder (durch den Lehrer)

→ *ärger(n)* 'annoy', *erschreck(en)* 'frighten' (and *beruhig(en)* 'calm so down')
show again a different behavior — do not allow *-ung* nominalization

⇒ they seem not to be complex events/bi-eventive

⇒ **What are these verbs — states or activities?**

4. Empirical behavior I: more tests



5. Test for eventivity: compatibility with locative adverbials

(see Alexiadou & Iordăchioaia 2014) → ObjExp verbs “do not allow for locative modifiers at all” (Rothmayr 2009: 62)

(18) Peter ärgerte Maria auf dem Schulhof/ im Garten.

Peter annoyed Maria on the schoolyard/ in.the garden.

(19) Peter erschreckte/beruhigte Maria auf dem Schulhof/ im Garten .

Peter frightened/calmed.down Maria on the schoolyard/ in.the garden

(20) *Peter beeindruckte/enttäuschte Maria auf dem Schulhof/ im Garten.

Peter impressed/disappointed Maria on the schoolyard/in.the garden

(21) *Peter faszinierte/interessierte Maria auf dem Schulhof/ im Garten.

Peter fascinated/interested Maria on the schoolyard/ in.the garden.

4. Empirical behavior I: more tests



6. Test for ‘mental state entailment’

(22) Peter ärgerte Maria, aber Maria ärgerte sich nicht.

Peter annoyed Maria, but Maria annoyed REFL not

‘Peter annoyed Maria, but Maria did not get annoyed’

(23) Peter erschreckte Maria, aber Maria erschrak (sich) nicht.

(24) Peter beruhigte Maria (stundenlang), aber Maria beruhigte sich nicht.

→ (22)–(24): **NO** change of state in the experiencer in the sense of Arad's (1998:3) “agentive reading” — as opposed to (25)–(27):

(25) */#Peter beeindruckte/enttäuschte Maria, aber Maria war nicht beeindruckt/enttäuscht.

(26) */#Peter beunruhigte Maria, aber Maria beunruhigte sich nicht.

(27) */#Peter interessierte Maria, aber Maria interessierte sich nicht (für ihn).

4. Empirical behavior I: more tests



- These tests (and some more) show that there are **3 groups** within the verbs which are considered to be class II German ObjExp verbs:
 - **[−agentive]**: *interessieren* ‘interest’, *faszinieren* ‘fascinate’, *anwidern* ‘disgust’, *erstaunen* ‘astonish/amaze’,...
 - **[±agentive]**: *enttäuschen* ‘disappoint’, *beeindrucken* ‘impress’, *beunruhigen* ‘worry/make nervous’,...
 - **third group with clearly and significantly different empirical behavior in the tests**: *ärgern* ‘annoy/rile’, *erschrecken* ‘frighten’, *beruhigen* ‘calm so. down’, *ängstigen* ‘frighten/alarm’, (and maybe *nerven* ‘bug/peeve’, *stören* ‘worry/interrupt’, *reizen* ‘provoke/nettle/tempt’)
 - they behave like monoeventives, but not like states
 - they are agentive, but they do not trigger a (mental) change of state

5. Hypothesis



- Hypothesis: these verbs like *ärgern* and *erschrecken* are in fact regular **activities** with a ('real' volitional) **agent** as subject and a **patient**(-like) object when used with an animate subject
- claim made in different form also
 - by Kutscher (2009:29) w.r.t. to their compatibility with durative adverbials — BUT also claimed for inanimate subjects
 - by Härtl (2001, 2008, 2010) w.r.t. to their event structure — BUT claimed for **all** class II ObjExp verbs
 - by Verhoeven (2007:68): “favor an activity reading”
- empirical basis is thin
- different verbs claimed to be activities
 - ⇒ **no agreement** which verbs are to be considered as activities

6. Questionnaire study



- acceptability study (7-point scale)
- 16 verbs
- 4 of the tests:
 - (I) compatibility with *absichtlich*
 - (II) possibility of being embedded under object control predicates
 - (III) passivization: ability to form verbal passive
→ (I)-(III): **agentivity**
 - (IV) compatibility with durative adverbials → **eventivity: activity**
- online questionnaire
- 41 subjects, 19 female
- mean age: 40,58 years — median age: 29 years

6. Questionnaire study



- 16 verbs:
 - *ärgern* 'annoy/rile', *erschrecken* 'frighten', *beruhigen* 'calm so. down', *ängstigen* 'frighten'
 - *beeindrucken* 'impress', *enttäuschen* 'disappoint', *begeistern* 'enthuse', *beunruhigen* 'worry'
 - *interessieren* 'interest', *faszinieren* 'fascinate', *erstaunen* 'amaze', *anwidern* 'disgust'
 - control group: canonical transitive verbs (taken from Verhoeven 2010): *treten* 'kick', *schubsen* 'push', *zwicken* 'pinch', *schlagen* 'beat'
- only animate arguments used

6. Questionnaire study



(I) compatibility with *absichtlich* ‘deliberately’

(28) Peter ärgerte Maria absichtlich.

Peter annoyed Maria deliberately.

(II) possibility of being embedded under object control predicates

(29) Peter stachelte Felix an, Maria zu ärgern.

Peter spurred Felix on_{VPTKL} Maria to annoy.

(III) passivization: ability to form verbal passives

(30) Maria wurde von Peter geärgert.

Maria became by Peter annoyed.

- predictions: verbs with agents get high scores on all tests like the control group vs. [–agentive] verbs: low scores
 - 2 different patterns according to [$\pm$ /–agentive] property
 - 3 different patterns if there is a third group

6. Questionnaire study



(IV) compatibility with durative adverbials *X Minuten lang* ‘for x minutes’

(31) Peter ärgerte Maria zehn Minuten lang (, danach verlor er den Spaß daran und hörte auf.)

‘Peter annoyed Maria for ten minutes, then, he didn’t take any pleasure in it any longer and stopped doing it’

→ manipulated to rule out the stative reading usually possible with the durative adverbials

→ predictions:

- activities should get high scores
- states should get low scores
- accomplishments/achievements should get low scores

6. Questionnaire study



Results: mean

	<i>ärgern</i> 'annoy'	<i>erschrecken</i> 'frighten'	<i>enttäuschen</i> 'disappoint'	<i>beeindrucken</i> 'impress'	<i>beunruhigen</i> 'worry'	<i>faszinieren</i> 'fascinate'	<i>interessieren</i> 'interest'
(I) agentive adverb	6.49	6.37	5.15	4.07	4.66	2.61	1.61
(II) control	6.22	6.15	3.61	4.00	4.24	2.68	1.61
(III) passive	6.34	6.32	6.39	4.61	4.51	3.02	1.41
mean agentiv.	6.35	6.28	5.05	4.23	4.47	2.77	1.54
(IV) durative adv.	5.95	4.41	2.27	3.46	3.63	2.49	2.24

6. Questionnaire study



Results: mean (standard deviation)

	canonical trans. verbs	ärgern 'annoy'	erschrecken 'frighten'	beruhigen 'calm down'	enttäuschen 'disappoint'	beunruhigen 'worry'
(I) agentive adverb	6.29 (1.18)	6.48 (1.08)	6.37 (0.94)	[3.59] (2.04)	5.15 (1.70)	4.66 (1.92)
(II) control	6.11 (1.37)	6.22 (1.15)	6.15 (1.11)	6.27 (1.34)	3.61 (1.82)	4.24 (1.92)
(III) passive	6.63 (0.92)	6.34 (1.13)	6.32 (1.11)	6.31 (1.20)	[6.39] (1.28)	4.51 (1.85)
mean gentility	6.35	6.35	6.28	[6.29] 5.374	5.05 [4.37]	4.47
(IV) durative adv.	5.64 (1.57)	5.95 (1.45)	4.41 (2.03)	5.48 (1.45)	2.27 (2.23)	3.63 (1.85)

6. Questionnaire study



Results without *ärgern*, *erschrecken*, *beruhigen*:

	<i>enttäuschen</i> 'disappoint'	<i>beunruhigen</i> 'worry'	<i>beeindrucken</i> 'impress'	<i>faszinieren</i> 'fascinate'	<i>erstaunen</i> 'amaze'	<i>interessieren</i> 'interest'
(I) agentive adverb	5.15	4.66	4.07	2.61	2.66	1.61
(II) control	3.61	4.24	4.00	2.68	2.68	1.61
(III) passive	6.39	4.51	4.61	3.02	2.24	1.41
mean agentivity	5.05 [4.37]	4.47	4.23	2.77	2.53	1.54
(IV) durative adv.	2.27	3.63	3.47	2.49	2.31	2.24

6. Questionnaire study



- **ärgern** ‘annoy’ and **erschrecken** ‘frighten’ and **beruhigen** ‘calm so. down’ get clearly different scores in the tests
 - which are almost **identical to the scores of the canonical transitive** verbs, (and do not significantly differ from these verbs with $\alpha=0.05$,) but
 - are **significantly different** (two-tailed sign test with $\alpha=0.05$) to all other psych verbs
- *interessieren* ‘interest’, *faszinieren* ‘fascinate’, *anwidern* ‘disgust’ and *erstaunen* ‘amaze’ get consistently very low acceptability ratings (<3) in the agentivity tests (→ [–agentive] ObjExp verbs)
- *enttäuschen* ‘disappoint’, *beeindrucken* ‘impress’, *beunruhigen* ‘worry’ and *ängstigen* ‘frighten/alarm’ get acceptability ratings in between those two groups, with higher standard deviation, i.e. more variation, than *ärgern*, *erschrecken*, and *beruhigen* (→ [±agentive] ObjExp verbs)

7. Conclusion



Hypotheses:

- *ärgern*, *erschrecken* and *beruhigen* show significantly different behavior with respect to agentivity [+agentive] and eventivity [+dynamic; –change of state] in contrast to the rest of ObjExp verbs 
- all ObjExp class II verbs are activities (Härtl 2001, 2008, 2010) 
- *ärgern*, *erschrecken* and *beruhigen* are **activities** when used with an animate subject 
- class II ObjExp verbs — without *ärgern*, *erschrecken* and *beruhigen* — can be grouped into [±agentive] and [–agentive] subclasses 

7. Conclusion



- [**+agentive**] when used with an animate subject: *ärgern*, *erschrecken*, *beruhigen*
→ psych verbs??
- [**±agentive**]: *enttäuschen*, *beeindrucken*, *beunruhigen*, ...
→ lower scores might be the price for agentive ambiguity(/ coercion into an agentive reading)
→ can have agentive, eventive, and stative readings (see Arad 1998)
- [**−agentive**]: *interessieren*, *faszinieren*, *anwidern*, *erstaunen*, ...
→ can have eventive and stative readings
→ differences within the group may reflect whether verbs can be coerced into an eventive reading or not (like, e.g., *interessieren*)

8. Questions/issues for further research



- alternating ObjExp verbs and their relation to SubjExp verbs with *sich* REFL (e.g., *etw. ärgert jdm.* ‘sth annoys so’ — *sich ärgern* ‘REFL annoy’)
→ “psych causative alternation” (Alexiadou & Iordăchioaia 2014)?? (see Zifonun 1997)
- issue of passivization of ObjExp verbs with inanimate stimulus
→ empirical issue: data unclear (see Klein & Kutscher 2005:6)
- further and broader empirical testing of verbs like *ängstigen* ‘frighten/ alarm’, *überraschen* ‘surprise’, *nerven* ‘bug/peeve’, *stören* ‘worry/interrupt’ and *reizen* ‘provoke/nettle/tempt’ — and accounting for their behavior
- eventive behavior of the [$\pm$ agentive] and [–agentive] verbs
- stative nature of ObjExp verbs (see Husband 2010; Rothmayr 2009 on stativity)

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