Subject agenthood and non-inception readings: Evidence from Spanish and Korean psychological verbs

Paola Fritz-Huechante (Humboldt-Universität zu Berlin)

Joint work with Elisabeth Verhoeven & Julian A. Rott
Humboldt-Universität zu Berlin

Accomplishment Verbs

– 2 types of readings in the Perfective:

- **Non-culmination**: the result state does not take place. This is possible with **agent subjects**.
- **Culmination**: the change of state takes place. This is possible with **inanimate causers**.

(1) *German*

a. **Marie** hat   Peter   geweckt, aber er ist nicht aufgewacht.
  Marie has   Peter   awoken   but   he is   not   woken.up
  'Marie woke Peter, but he didn't wake up.'

b. **Der Wecker**   hat Peter geweckt, # aber er ist nicht aufgewacht.
  the   alarm.clock has Peter awoken   but he is not   woken.up
  'The alarm clock woke Peter, but he didn't wake up.'

– In (1b): 1st clause and 2nd clause contradiction.

Accomplishment Verbs & Defeasible Causatives

– **Agent Control Hypothesis** (ACH, Demirdache & Martin 2015): Source of non-culmination readings is the agenthood of the external argument (Mandarin: Demirdache et al. 2017; Hindi: Singh 1998; Korean: Beavers & Lee in prep.; German and French: Martin & Schäfer 2017, a.o.)

– Term: **Defeasible causatives** (Martin & Schäfer 2017)
  - Agent subject = non-culmination reading
  - Inanimate causer = culmination reading
  - Accomplishments: telic verbs. Process that leads to an endpoint or change of state
  - Also psych verbs

The psych alternation

— Psych verbs participate in a well-known alternation between Stimulus (STM) and Experiencer (EXP) arguments:

(2) a. [We]$_{EXP}$ puzzled over [Sue's remarks]$_{STM}$.   [ES]
    b. [Sue's remarks]$_{STM}$ puzzled [us]$_{EXP}$.   [EO]

(Landau, 2010:68)

Morphological structure of experiencer verbs

(3)   transitive EO basis   →   intransitive ES derivation
      sorprender 'surprise'   *sorprender-se* 'surprise-REFL'
                                                        (Spanish)

(4)   intransitive ES basis   →   transitive EO derivation
      nollata 'get.surprised'   *nolla-key hata* 'get.surprised-ADVR do'
                                                        (Korean)

The psych alternation

Directionality & semantic structure:

- Korean:

ES		EO
ADJ./VERB	INCH.	CAUS.
culkep-ta 'pleased'	*culkew-**eci**-ta* 'become pleased'	*culkep-**key hata*** 'make pleased'
	nolla-ta 'get surprised'	*nolla-**key hata*** 'make get surprised'

2 groups for ES basic items:
Pure States &
Inchoative States

- Spanish

EO	ES	
(NON-)CAUS. VERB	REFL.	INCH./PUNCT
divertir 'entertain'	*divertir-**se*** 'be/get entertained'	*divertir-**se***
sorprender 'surprise'	*sorprender-**se*** 'get surprised'	*sorprender-**se***

2 groups for ES derived items:
Inchoative States &
Punctuals

Semantic structure

- Psych verbs allow non-inception readings.
- Why? Event structural properties of the verbs
- Psych verbs:

  - Left-boundary (Marín & McNally 2005, 2011): onset/beginning of state, **not** a process that leads to a change of state (CoS)

    (Spanish reflexive psych verbs: Marín & McNally 2011; Korean ES verbs: Choi & Demirdache 2014; Polish EO and ES verbs: Rozwadowska 2012)

  - Agent subject   = non-inception reading (NINC)
  - Inanimate causer = inception reading (INC)

Research Questions

– Verbal aspectual ambiguities of EO psych verbs (based on M&M 2011):

- **Type of psych verb**:
  - a) Spanish: Inchoative States   vs.   Punctuals
  - b) Korean: Causative Pure States   vs.   Causative Inchoative States

- **Type of STM**

                          Agent   vs.   Causer   (Pesetsky 1995)

Considering the properties of the target languages:

1. Potential interaction of event structure & type of stimulus of EO
2. Agentive subjects should allow a non-inception of the state implicature (different from non-psych accomplishment verbs) with:
   - Spanish: Inchoative states only
   - Korean: causative pure states & causative inchoative states
3. Causer subjects should not allow a non-inception of the state reading with all verbs.

Outline

1. Psych predicates: argument and event structure
    1.1 Inchoativity
    1.2 Agentivity & event structure
2. Defeasible causation
    2.1 Culmination vs. Inception
    2.2 Interaction with punctuality
3. Methodology: Inception test
4. Results
5. Correlating agentivity
6. Discussion
7. References

1.1 Inchoativity

- Event structure of EO predicates is a problematic issue.
- EO verbs:
  - eventive, i.e. as causative dynamic events (Grimshaw 1990)
  - Accomplishments or achievements (Van Voorst 1992)
  - Causative states (Pylkkänen 2000)
  - **Inchoative states** (Bar-el 2005)
- Bar-el (2005): representation of **inchoative states**:
  - $\lambda e.\exists e_1 \exists e_2 [e = {}^s(e1 \sqcup e2) \wedge (\text{BECOME}(P))(e_1) \wedge P(e_2)]$
  - Inchoative states are complex event predicates.
  - A sum-individual composed by an *inchoativizer* + *state*
 - *Squamish*:

  (5) *chen   t'aya<u>k</u>.*

   1.SG   angry

      'I got angry/upset.'

1.1 Inchoativity

- But Marín & McNally (2005, 2011): **inchoative states** (InS)
  - Instead of an *inchoativizer* what InS have is a *left boundary* (Piñón 1997).
  - Spanish Reflexive Psych-Verbs (SRPV): refer to the onset of the state they are associated with, without referring to the change that produces the state.
  - SRPVs are inchoative, atelic, non-dynamic.
- In other words, inchoativity excludes references to the change of state.
- Verbs are lexically specified to refer to the onset of the state (not to interval prior to onset).

| **Accomplishments**	**Inchoative States**
Right boundary	Left boundary
---------|	|———————
Process CoS	Onset State
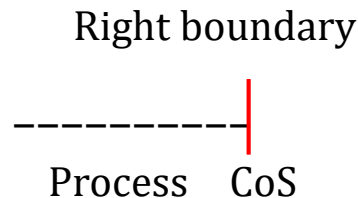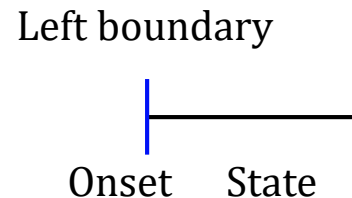
change took place immediately
prior to the onset of the state
being referred to.

1.1 Inchoativity: Spanish

- Two types of Spanish Reflexive Psych Verbs (SRPV) (Marín & McNally, 2011):

  a) INCHOATIVE STATES (INS): include **both** the onset of the state (i.e. *left-boundary*) and part of the state they refer to; e.g.: *divertirse* 'to be/get entertain'

  Boundary ──→ ⊢———— ←── *Span of state*
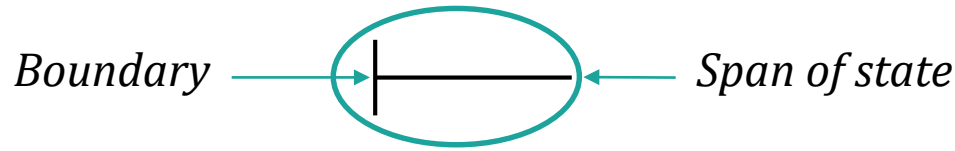
  b) PUNCTUALS: include only the onset of the state; e.g. *sorprenderse* 'to be/get surprised'

  ⊢————
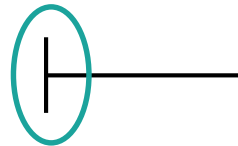
- Inchoativity **also** has an impact on the transitive alternants of the verbs (Marín 2011, 2015):
  - Initial left-boundary +
  - Causative factor

1.1 Inchoativity: Spanish

- Experiencer alternates in case marking between ACC and DAT.
- ACC structures are seen as eventive and DAT constructions are perceived as stative (cf. Arad 1998; Marín 2014, 2015).
- Left-boundary is perceived in ACC structures.
- Differences in **telicity**
- *for*-adverbial & *in*-adverbial (Dowty 1979)
  - Telic predicates accept *in*-adverbial modification (7).

(7) Pablo secó   la   taza **en** 5 minutos.
    Pablo dry-PRT.3.SG the cup in 5 mins.
    'Pablo dried the cup in 5 mins.'

1.1 Inchoativity: Spanish

Inchoative states & **Punctuals**

- Both sub-classes incompatible with **_in_**-adverbial (8). Agentivity might play a role in acceptability: *ingressive* reading
- *For*-adverbial: Inchoative states = durative reading. Punctuals = iterative reading (9)

(8) Pablo/el libro   divirtió/sorprendió   a   Clara   *__en__ 5 minutos.
     Pablo/the book   entertain.PRT.3.SG/surprise.PRT.3.SG to Clara   in   5 mins.
     'Pablo/the book entertained/surprised Clara in 5 mins.'

(9)   Pablo/el libro   divirtió/sorprendió   a   Clara
     Pablo/the book   entertain.PRT.3.SG/surprise.PRT.3.SG   to   Clara
     durante   5 minutos.
     for   5 mins.
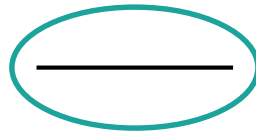   'Pablo/the book entertained/surprised Clara during 5 mins.'

1.1 Inchoativity: Korean

a) PURE STATES: typical states, atelic with no boundaries; e.g. *culkepta* 'pleased'

(10) Mina-nun/ka   (Minho-lul manna-se)   culkew-ess-ta.
Mina-TOP/NOM   Minho-ACC   meet-because pleased-PST-DECL
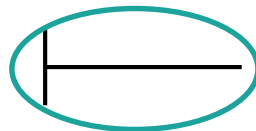'Mina was pleased because she met Minho.'

b) INCHOATIVE STATES: inherently inchoative (i.e. initial zero-marked BECOME operator); e.g. *nollata* 'get surprised'

(11) Mina-nun/ka   (Minho ttaymwuney)   nolla-ss-ta.
Mina-TOP/NOM   Minho because   surprised-PST-DECL
'Mina got surprised because of Minho.'

1.1 Inchoativity: Korean

- ACC-CAUS constructions:
  - Periphrastic structure –*key hata*
  - Typically agentive
  - Animate STM = volitional acting agent
  - Inanimate STM = Causer   (Temme & Verhoeven, 2016)

(12) Mina/soli-ka   Minho-lul   nolla-key   hay-ss-ta.
     Mina/noise-NOM   Minho-ACC   get.surprised-ADVR   do-PST-DECL
     'Mina/the noise made Minho get surprised.'

1.1 Inchoativity: Korean

– Korean causative EO structures receive an atelic interpretation as well. No endpoint.

– *For*-adverbial ***tongan*** = durative reading (13)

– *In*-adverbial ***maney*** = ingressive reading (14)

(13) a. Mina-ka   Minho-lul   sip-pwun   **tongan**   culkep-key/
       Mina-NOM Minho-ACC   ten-minutes for   pleased-ADVR
       nolla-key   hay-ess-ta.
       get.surprised-ADVR   do-PST-DECL
       'Mina made Minho pleased/get surprised for ten minutes.'

     b. Mina-ka   Minho-lul   sip-pwun   **maney**   culkep-key/
       Mina-NOM Minho-ACC   ten-minutes   in   pleased-ADVR/
       nolla-key   hay-ess-ta.
       get.surprised-ADVR   do-PST-DECL
       'Mina made Minho pleased/get surprised in ten minutes.'

1.2 Agentivity & event structure

- Landau (2010): accusative psych verbs with **agentive stimulus** subjects are transitive change-of-state verbs (i.e. accomplishments)

- *Almost*-adverb test: ambiguity in readings
  a) Causing event almost took place
  b) Event of getting into the psychological almost took place.

- With **non-agentive subjects**, only reading (b) is possible.

(14) English (Landau 2010:130)

  a. **John** almost frightened Mary (but at the last moment, he decided not to).

  b. **The movie** almost frightened Mary (#but at the last moment, they cancelled it).

1.2 Agentivity & event structure: Spanish

– Similar readings as in English with *almost* test

– **PUNCTUALS**

(15) a. **Pablo** casi   (la)   sorprendió   a   Clara
      Pablo almost CL.ACC surprise.PRT.3.SG to   Clara
      (pero al   último momento decidió no   hacerlo).
       but   to.the last   moment   decided NEG do.it
      'Pablo almost surprised Clara (but at the last moment he
      decided not to do it.'

MEANING: **READING A**: Pablo almost made Clara be surprised.
            READING B: Clara was almost surprised.

(15) b. **La película** casi (la) sorprendió a Clara
the movie almost CL.ACC surprise.PRT.3.SG to Clara
(#pero al último momento la cancelaron).
but to.the last moment CL.ACC cancelled
'The movie almost surprised Clara (but at the last moment they cancelled it.'

MEANING: **READING B**: Clara was almost surprised.

– **INCHOATIVE STATES**

(16) a. **Pablo** casi (la) divirtió a Clara
Pablo almost CL.ACC entertain.PRT.3.SG to Clara
(pero al último momento decidió no contar chistes).
but to.the last moment decided NEG tell jokes
'Pablo almost entertained Clara (but at the last moment he decided not to tell jokes).'

MEANING: **READING B**: Clara was almost entertained.

– Variation among speakers.

1.2 Agentivity & event structure: Spanish

- Compared to (15a), less acceptable if STM is interpreted as non-agentive.
- If agentivity is explicitly stated, then acceptability is restored.

(16) b. **Pablo** casi (la) divirtió a Clara a propósito
Pablo almost CL.ACC entertain.PRT.3.SG to Clara on purpose
(pero al último momento decidió no contar chistes).
but to.the last moment decided NEG tell jokes
'Pablo almost entertained Clara on purpose (but at the last moment he decided not to tell jokes).'

MEANING: **READING A**: Pablo almost made Clara be entertained.
     READING B: Clara was almost entertained.

- This correlates with scalar results in terms of agentivity (Section 5).

1.2 Agentivity & event structure: Spanish

(16) b. **La película** casi (la) divirtió a Clara

the movie almost CL.ACC entertain.PRT.3.SG to Clara

(#pero al último momento la cancelaron).

but to.the last moment CL.ACC cancelled

'The movie almost entertained Clara (but at the last moment

they cancelled it.'

MEANING: READING B: Clara was almost entertained.

1.2 Agentivity & event structure: Korean

- Typically agentive (Temme & Verhoeven, 2016)
- *-key hata* usually involves an agentive causer & depicts a causing event that does not need to be entailed.
- Light verb *hata* 'do.DECL' (also meaning 'cause', 'enable', 'persuade': Park 1993) relates to an unspecified causing event.
- This causing event makes the experiencer (start) being in the state encoded by the embedded verb.
- If state obtains = actual-result reading (default)
- If state does not obtain = purposive reading (Lee 2014, 2015)

1.2 Agentivity & event structure: Korean

- **CAUSATIVE InS & CAUSATIVE PURE STATES**

(16) a.**Mina**-ka   Minho-lul   culkep-key   /nolla-key

Mina-NOM Minho-ACC pleased-ADVR /get.surprised-ADVR

ha-l   ppen   hay-ess-ta   (kulena macimak swunkan-ey

do-ATTR verge do-PST-DECL but   last   moment-LOC

Mina-nun amwukesto ha-ci   anh-ass-ta).

Mina-TOP   nothing   do-NMLZ NEG-PST-DECL

'Mina almost made Minho pleased/get.surprised (but at the

last moment, Mina decided not to do anything).'

MEANING: **READING A**: Mina almost made Minho be pleased/get surprised.
          READING B: Minho was almost pleased/get surprised.

1.2 Agentivity & event structure: Korean

(16) b. **ku yenghwa**-ka Minho-lul   culkep-key   /nolla-key

the movie-NOM   Minho-ACC pleased-ADVR /get.surprised-ADVR
ha-l ppen   hay-ess-ta   (#kulena macimak swunkan-ey
do-ATTR verge   do-PST-DECL   but   last   moment-LOC
yenghwa-sangyeng-ul   chwisohay-ess-ta).
movie-play-ACC   cancel-PST-DECL
intended: 'The movie almost made Minho pleased/get
surprised (but at the last moment, they cancelled the movie).

MEANING: **READING B**: Minho was almost pleased/surprised.

1.3 Event structure: Summary

TABLE 1. Classification of EO Spanish & EO Korean psych-verbs in terms of their left-boundary.

TESTS	SPANISH		KOREAN	
	INCH. STATES	PUNCTUALS	PURE STATES	INCH. STATES
INCHOATIVITY				
IN-ADV	X (ingres.)	X (ingres.)	Ingressive	Ingressive
FOR-ADV	✓	Iterative	✓	✓
AGENTIVITY-ALMOST				
AGENT	1 or 2 events	2 events	2 events	2 events
INAN. CAUSER	1 event	1 event	1 event	1 event

Note: Ingres. = Ingressive

Inan. = Inanimate

2.1 Culmination vs. inception

– Accomplishments in the Perfective can have 2 readings (cf. (1)):

- **Non-culmination**: the result state does not take place – with **agent subjects**.
- **Culmination**: the change of state takes place – with **inanimate causers**.

(17) *Mandarin* (Demirdache & Martin 2015)

a. **Yuēhàn** shāo le tā-de shu, dàn méi quán shāo-huǐ.
Yuēhàn burn PFV 3.SG-GEN book but NEG completely burn-destroy
'Yuēhàn burned his book, but it didn't burn completely.'

b. **Huǒ** shāo le tā-de shu, #dàn méi quán shāo-huǐ.
fire burn PFV 3.SG-GEN book but NEG completely burn-destroy
intended: 'The fire burned his book, but it didn't burn completely.'

2.1 Culmination vs. inception

- Spanish & Korean causative psych verbs also behave similarly.
- **Not** a culmination of a process, but rather the starting point of the state
  - **Non-inception**: the experiencer does not start the experiential state – with **agent subjects** (18a, 19a).
  - **Inception**: the experiencer starts the experiential state – with **inanimate causers** (18b, 19b).
- Realization of state tested by the experiencer's awareness of the experiential state.

(18) Spanish

  a. **Pablo** divirtió   a Clara,   pero ella no se

    Pablo entertain.PST.3.SG to Clara   but she NEG REFL

    dio   cuenta y   sigu-ió   indiferente.

    give.PST.3.SG account and remain-PST.3.SG indifferent

    'Pablo entertained Clara, but she didn't realize it and remained indifferent.'

2.1 Culmination vs. inception

(18) Spanish

b. **La película** divirtió a Clara, #pero ella no se
the movie entertain.PST.3.SG to Clara but she NEG REFL
dio cuenta y sigu-ió indiferente.
give.PST.3.SG account and remain-PST.3.SG indifferent
'The movie entertained Clara, but she didn't realize it and
remained indifferent.'

(19) Korean

a. **Mina**-ka Minho-lul culkep-key /nolla-key
Mina-NOM Minho-ACC pleased-ADVR/get.surprised-ADVR
hay-ess-ciman, ku-nun ku-kes-ul alachay-ci
do-PST-but he-TOP that-thing-ACC realize-NMLZ
mos hay-ess-ta.
cannot do-PST-DECL
'Mina made Minho pleased/get surprised, but he didn't realize it.'

2.1 Culmination vs. inception

(19) Korean

b. **ku yenghwa**-ka   Minho-lul   culkep-key   /nolla-key

the movie-NOM   Minho-ACC pleased-ADVR/get.surprised-ADVR

hay-ess-ciman, #ku-nun ku-kes-ul   alachay-ci

do-PST-but   he-TOP   that-thing-ACC realize-NMLZ

mos   hay-ess-ta.

cannot do-PST-DECL

'The movie made Minho pleased/get surprised, but he didn't

 realize it.'

2.1 Interaction with punctuality

- **Punctuals** in Spanish behave differently as the ACH.

(20) **Pablo**/**la película** sorprendió   a   Clara   #pero ella no

Pablo/the movie   surprise.PST.3.SG to Clara   but   she NEG

se   dio   cuenta y   siguió   indiferente

REFL give.PST.3.SG account and remain.PST.3.SG indifferent

'Pablo/the movie surprised Clara, #but she didn't realize it and

remained indifferent.'

- Punctuals specifies **only** the left boundary, so they are perceived as achievements (Marín & McNally 2011).
- Lack of meaningful duration disallow non-inception (and non-culmination) (Piñón 1997; Beavers 2013).

3. Methodology: Inception test

- Items from an inventory of alternating psych verbs.
- Inventory created by a survey for each language featuring the basic emotion domains (i.e. happiness, sadness, anger, fear and disgust).

- **Semantic diagnostics on event structures**

- Tests on inchoativity/punctuality, telicity, a.o. (Dowty, 1979; for Spanish, Fábregas & Marín, 2015; Marín & McNally, 2011; for Korean, Beavers & Lee forthc.; Choi 2015; Choi & Demirdache 2014).
- All tests where conducted with several native speakers of the languages.

Table 2: SUMMARY OF SPANISH VERB INVENTORY BY VERB TYPE

INCHOATIVE ST.	ENG. TRANSLATION	PUNCTUALS	ENG. TRANSLATION
divertir	entertain, amuse	*sorprender*	surprise
contentar	please, make happy	*impresionar*	impress
amargar	depress	*desalentar*	demotivate
deprimir	depress	*conmocionar*	affect deeply
molestar	bother	*alterar*	agitate, upset
disgustar	annoy, upset	*enloquecer*	drive crazy
preocupar	worry	*asustar*	frighten
inquietar	make uneasy, worry	*espantar*	scare away
confundir	confuse	*ofender*	offend
incomodar	disturb	*escandalizar*	scandalize

Table 3: SUMMARY OF KOREAN VERB INVENTORY BY VERB TYPE

CAUSATIVE PURE ST.	ENG. TRANSLATION	CAUSATIVE InS	ENG. TRANSLATION
kippu-key hata	make happy	*nolla-key hata*	make get surprised
culkep-key hata	make pleased	*sinna-key hata*	make get excited
koylop-key hata	make painful for	*selley-key hata*	make get fluttered
sulphu-key hata	make sad	*hungi na-key hata*	make get pleased
wenmangsulept-key hata	make resentful	*michi-key hata*	drive crazy
himtul-key hata	make hard for	*ccacungi na-key hata*	irritate
twulyep-key hata	make afraid	*hwana-key hata*	make get angry
mwusep-key hata	make scared	*sosulachi-key hata*	make get frightened
anthakkap-key hata	make pitiful for	*kepi na-key hata*	make get scared
honlansulep-key hata	make confused	*cichi-key hata*	make get tired

3. Methodology: Inception test

- Based on the ACH (Demirdache & Martin, 2015): parallel experimental design on Spanish and Korean to identify:
  - Initiation of the state in EO sentences
  - Availability of an agentive interpretation of the STM:
    - *Agentive* subjects allow for a *non-inception reading.*
    - *(Inanimate) Causers* do not allow a *non-inception reading.*
- EXPECTATIONS:
  - Spanish: InSt + [+animate]   = N-INC
            InSt + [-animate]   = INC
            Punctuals + [+/-animate] = INC
  - Korean: Caus. Pure St/Caus. InSt + [+animate] = N-INC
            Caus. Pure St/Caus. InSt + [-animate] = INC
- 40 sentences:
  - Dependent variable
    - Acceptability of NON-INCEPTION of the experiential state
  - Fixed factors
    - ANIMACY OF SUBJECT (2 levels): animate vs. inanimate
    - VERBAL ASPECT (2 levels) per language:
      - SPANISH: Inchoative states vs. Punctuals
      - KOREAN: Causative InS vs. Causative pure states

3. Methodology: Inception test

- 10 verbs: VERBAL ASPECT factor.
  - 20 Spanish & 20 Korean items.
  - Each appeared twice (STIMULUS factor).
  - No fillers included.
- Spanish: n. 32 (8 f., 24 m.; age M = 34,57)
- Korean: n. 32 (15 f., 17 m.; age M = 36,32)
- *Sample of sentences:*

SPANISH

(21) Pablo/la película sorprendió   a Clara, #pero ella no se   dio   cuenta
   Pablo/the movie surprise-PRT.3S to Clara   but she not REFL gave account
   y   siguió   indiferente.
   and remained   indifferent
   'Pablo/the movie surprised Clara, but she didn't realize it and remained indifferent.'

KOREAN

(22) Minho/ku yenghwa-ka Mina-lul   nolla-key   hay-ess-ciman,
   Minho/the movie-NOM   Mina-ACC   get.surprised-ADVR do-PST-but
   #ku-nye-nun   ku-kes-ul   alachay-ci   mos-hay-ss-ta.
   that-girl-TOP   that thing-ACC   realize-NEG   cannot-do-PST-DECL
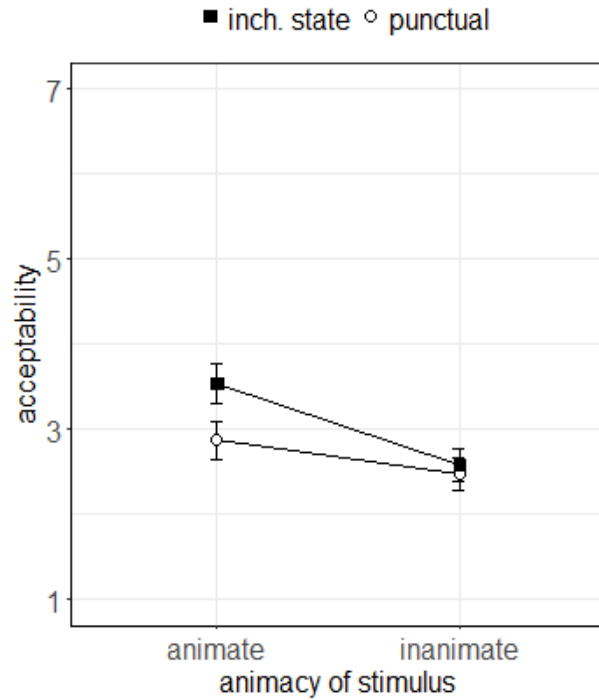   'Minho/the movie made Mina get surprised, but she didn't realize it.'

- Likert Scale sentence evaluation: 1 (very bad) to 7 (very good).
- Survey implemented on OnExp (University Göttingen).
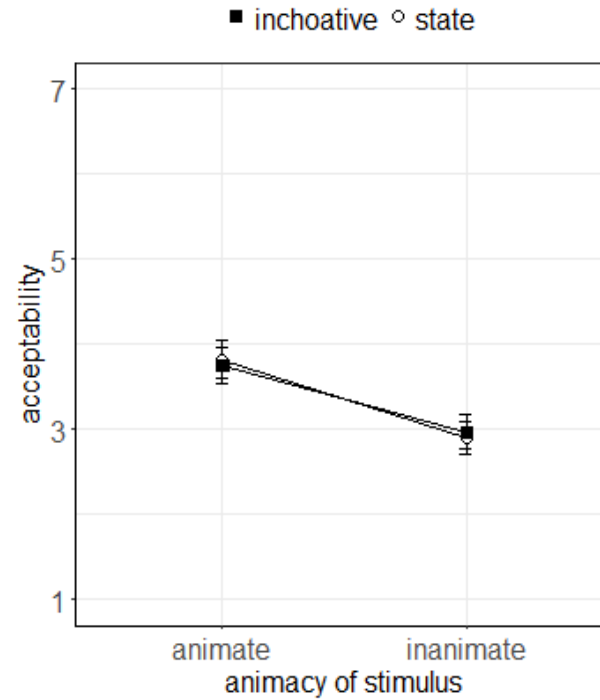
4. Results & Discussion

Figure 1: Effects of 'Verbal Aspect' and 'Animacy' of the stimulus on 'Inception'

(a) Spanish

(b) Korean

4. Results & Discussion-General Effects

Table 3: LINEAR MODEL FIT ON 'INCEPTION' IN SPANISH (RANDOM FACTORS: 'SPEAKERS' 'VERBS')

			t-test		model comparison (LogLikelihood)	
effect	estimate	st. error	t-value	p	χ^2	p
INTERCEPT	3.54	.31	11.55	< .001		
ASPECT (state)	−.67	.27	−2.49	.05		
STIMULUS (inanimate)	−.96	.24	−3.93	< .001		
ASPECT^STIMULUS	.57	.26	2.16	.5	4.48	<.05

Table 4: LINEAR MODEL FIT ON 'INCEPTION' IN KOREAN (RANDOM FACTORS: 'SPEAKERS' 'VERBS')

			t-test		model comparison (LogLikelihood)	
effect	estimate	st. error	t-value	p	χ^2	p
INTERCEPT	3.75	.27	13.75	< .001		
STIMULUS (inanimate)	−.86	.24	−3.62	< .001	11.19	<.001

- Statistic inferences based on generalized linear mixed-effects models. Random factors: SUBJECTS and ITEMS.
- Significance of fixed effects estimated with a log-likelihood test on model comparison.

4. Results & Discussion-General Effects

STIMULUS: In line with ACH Hypothesis

– **Both languages**:

- – Agenthood of subject (ANIMACY OF SUBJECT factor) makes a NINC possible: cancellation of the onset of the experiential state (cf. (18a) & (19a)).

- – Inanimate causer cannot defeat inception (cf. (18b) & (19b)).

– **Korean**:

- – STIMULUS only main effect.

- – No interaction of VERBAL ASPECT factor

- – Both caused InS verbs and caused pure states can cancel inception of state depending on agentivity of subject.

- – Results in line with Lee (2015) & Beavers and Lee (in prep.) = intentionality of the subject: (a) Resultative reading, (b) Purposive reading.

4. Results & Discussion-General Effects

ASPECT:

– **Spanish**:
  – Punctuality overrules the agentivity.
  – Only left boundary, i.e. lack of duration (achievements) does not allow a NINC reading. In line with Piñón (1997), Beavers (2013) and Demirdache & Martin (2015).

– **Korean**:
  – Agentivity of the subject **strongly** correlated with intentionality.

STIMULUS^ASPECT:

– The type of verb plays a role only with potential agents and not so with causers.
– ASPECT is not just cumulated to the effect STIMULUS, but it only applied in the level of 'animate' of the factor STIMULUS.
– This is the source of the interaction effect for Spanish.

5. Correlating agentivity

- Inception test confirmed our hypotheses under the assumption that animate STM can be interpreted as agents:
  - **Korean**: Intentionality of agent allowed NINC readings with both groups of verbs: Caus. InS & Caus. pure states.
  - *-key hata* allows for purposive readings.
  - **Spanish**: NINC readings are most acceptable with InS verbs + animate subject = Agentivity is a crucial factor
  - As predicted, punctuals are significantly less acceptable with InS readings = Agentivity is overridden by punctuality

- **For Spanish** with InS: acceptability of InS readings varies between lexical items (see index Table 6).
- **Prediction**: availability to adopt an agentive reading = acceptability of cancellation of the inception of the state

5. Correlating agentivity: Agentivity test

–   Subject control verb of decision: target verbs were embedded in *x decided to* **[verb]** *y* frame (see Grafmiller 2013; Verhoeven 2017 for German EO verbs).

–   Matrix verb implies the subject has control over the event in the subordinate clause.

–   EO verb salient for an agentive reading = compatibility with matrix verb (23a)

(23) a. El   cajero   decidió   molestar a Karen.

 the cashier decide.PST.3.SG bother   to Karen

 'The cashier decided to bother Karen.'

 b. ?La   anciana   decidió   deprimir   a Alejandra.

  the elderly.woman decide.PST.3.SG depress   to Alejandra

  'The elderly woman decided to depress Alejandra.'

# 5. Correlating agentivity: Agentivity test

- EXPECTATIONS:
  - Mean acceptabilities in *agentivity test* should predict results of *inception test*.
  - Gradient agentivity with InS verbs significantly correlates with mean results in inception test.
  - Punctuals should not show this correlation since punctuality overrides agentivity.
- All verbs used for the *inception test* in Spanish were used in the agentivity test.
- Proper names or definite common nouns were used as subjects and objects with each verb.
- All test sentences contained DPs denoting animate individuals.
- Spanish: n. 29 (13 f., 16 m.; age $M = 34,34$)
- Likert Scale sentence evaluation: 1 (very bad) to 7 (very good).
- Survey implemented on OnExp (University Göttingen).

5. Agentivity test results

Figure 1: AGENTIVITY & NON-INCEPTION READINGS CORRELATION WITH SPANISH PUNCTUAL AND INCHOATIVE STATE VERBS.

(a) PUNCTUAL VERBS   (b) INCHOATIVE STATE VERBS
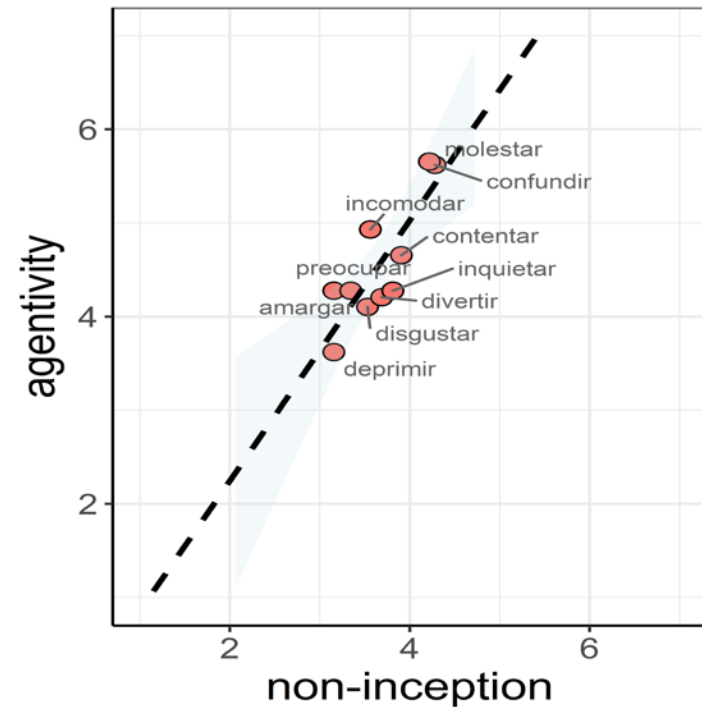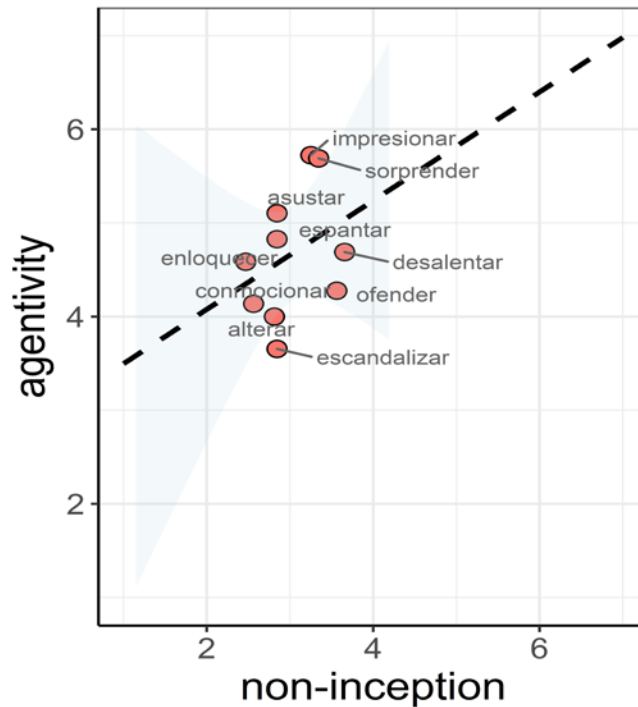
5. Agentivity test results

Table 5: LINEAR MODEL FIT ON 'AGENTIVITY' & 'INCEPTION' WITH INCHOATIVE STATE VERBS
(RANDOM FACTORS: 'SPEAKERS' 'VERBS')

			t-test		model comparison (LogLikelihood)	
effect	estimate	st. error	t-value	p	χ^2	p
INTERCEPT	1.38	.66	2.10	< .01		
STIMULUS (inanimate)	−.5	.13	3.80	< .001	12.25	<.001

- Statistic inferences based on generalized linear mixed-effects models.

- Dependent variable: judgments of non-inception reading (NON-INCEPTION)

- Fixed factor: mean values of agentivity test per verb (AGENTIVITY)

- Random factors: SUBJECTS and ITEMS.

- Significance of fixed effects estimated with a log-likelihood test on model comparison.

5. Results & Discussion-General Effects

- In line with our predictions.
- **Inchoative states**: Means of agentivity test significantly correlate with the verbs availability to defeat inception.
- **Punctuals**: correlation not found.
- Punctuality overrides agentivity.

6. Summary

- ACH

  STM
  [+animate]   →   Non-Inception Reading
  [-animate]   →   Inception Reading

- Psych domain: aspect of verbs seem to play a role on availability of non-inception readings. This turns to be language specific:

SPANISH			KOREAN		
INCHOATIVE ST.	[+animate]	+/- N-INC	CAUS. INS.	[+animate]	+/- N-INC
	[-animate]	- N-INC		[-animate]	- N-INC
PUNCTUAL ST.	[+/animate]	- N-INC	CAUS. PURE ST.	[+animate]	+/- N-INC
				[-animate]	- N-INC

- Spanish:
  - Inchoative states: in line with ACH.
  - Punctual states: punctuality overrules ACH.

6. Summary

- Korean:
  - Causative pure states and causative inchoative states: in line with ACH.
  - Require *intentionality of the subject* by direct causation (Beavers & Lee, in prep.)
- Spanish Agentivity:
  - Correlation of 'agentivity' & 'non-inception' reading means found for inchoative states
  - Such correlation not found for punctual verbs.

References

Arad, M. (1998). Psych-notes. *UCL Working Papers in Linguistics* 10. Retrieved from http://www.phon.ucl.ac.uk/home/PUB/WPL/98papers/abstracts/arad.htm

Bar-el, L. (2005). Aspectual Distinctions in Skwxwu7mesh. Unpublished doctoral dissertation, University of British Columbia.

Beavers, J. 2013. Aspectual classes and scales of change. *Linguistics* 54. 681–706.

Beavers, J. & Lee, J. (in prep.). Intentionality and non-culmination in Korean accomplishments. Manuscript, University of Texas at Austin.

Choi, J-B. (2015). On the universality of aspectual classes: Inchoative states in Korean. In E. Labeau & Q. Zhang (Eds.), Taming the Tame Systems, pp. 123-135. Leiden: Brill Rodopi.

Choi, J-B. & Demirdache, H. (2014). Reassessing the typology of states evidence from Korean (degree) inchoative states. Workshop on the Ontology and the Typology of States. France.

Demirdache, H. & Martin, F. (2015). Agent control over non-culminating events. In E. Barrajón, J. L. Cifuentes, and S. Rodríguez (Eds.), *Verb Classes and Aspect*, pp. 185-217. Amsterdam: John Benjamins.

Demirdache, H., Liu, J., Martin, F. & Sun, H. (2017). Licensing non-culminating accomplishments in Mandarin. Experimental and theoretical evidence. TELIC 2017 Workshop on Non-Culminating Irresultative and Atelic Readings of Telic Predicates. Combining Theoretical and Experimental Perspectives. Universität Stuttgart at Stuttgart.

Dowty, D. (1979). *Word Meaning and Montague Grammar.* Dordrecht: Reidel.

Fábregas, A. & Marín, R. (2015). Deriving individual-level and stage-level psych verbs in Spanish. *The Linguistic Review 32(2)*, 167–215.

References

Fábregas, A., Jiménez-Fernández, A. & Tubino, M (2017). What's up with dative experiencers. In R. Lopez, J. Ornelas de Avelar and S. Cyrino (Eds.), *Romance Languages and Linguistic Theory 12: Selected Papers from the 45th Linguistic Symposium on Romance Languages, Campinas, Brazil*, pp. 30-47. Amsterdam: John Benjamins. Retrieved from https://www.researchgate.net/publication/317691659_What's_up_with_dative_experiencers

Grafmiller, J. (2013). The Semantics of syntactic choice. An analysis of English emotion verbs. Unpublished doctoral dissertation, Stanford University.

Grimshaw, J. (1990). *Argument Structure. Cambridge.* Cambridge, MA: MIT Press.

Kim, I-K. (2008). On the NOM-DAT alternation of experiencer in Korean: A conceptual semantics approach. Unpublished master's dissertation, Hankuk University of Foreign Studies, Seoul.

Landau, I. (2010). *The Locative Syntax of Experiencers.* Cambridge, London: MIT Press.

Lee, Juwon. 2014. Multiple interpretations and constraints of causative serial verb constructions in Korean. In Kayla Carpenter, Oana David, Florian Lionnet, Christine Sheil, Tammy Stark & Vivian Wauters (eds.), *Proceedings of the 38th annual meeting of the Berkeley linguistics society*, 288-306. Berkeley, CA: Berkeley Linguistics Society.

Lee, Juwon, 2015. *An intention-based account of accomplishments in Korean.* TX: University of Texas at Austin Ph.D. dissertation

Marín, R. (2011). Casi todos los predicados psicológicos son estativos. In A. Carrasco (Ed.), *Sobre estados y estatividad*, pp. 26-44. München: Lincom.

Marín, R. (2014). Stativity and agentivity in Spanish psych verbs. Workshop on the Syntax and Semantics of Experiencers. Berlin.

References

Marín, R. (2015). Explaining the link between agentivity and non-culminating causation. *Proceedings of SALT 25*, 246-266.

Marín, R. & McNally, L. (2011). Inchoativity, change of state, and telicity: Evidence from Spanish reflexive psychological verbs. *Natural Language and Linguistic Theory 29*, 467-502.

Martin, F. & Schäfer, F. (2017). Sublexical modality in defeasible causative verbs. In A. Arregui, M. L. Rivero, and A. Salanova (Eds.), *Modality Across Syntactic Categories*, pp. 87-108. Oxford: Oxford University Press.

Park, K-S. 1993. *Korean causative in Role and Reference Grammar*. NY: State University of New York, Buffalo MA dissertation. Pesetsky, David. 1995. *Zero syntax, Experiencers and cascades.* Cambridge: MIT Press.

Pesetsky, D. (1995). *Zero Syntax: Experiencers and cascades.* Cambridge: MIT Press.

Piñón, C. (1997). Achievements in an event semantics. In A. Lawson, & Cho, E. (Eds.), *Proceedings of Semantics and Linguistic Theory VII*, pp. 273-296. Ithaca, NY: CLC Publications.

Pylkkänen, L. (2000). On stativity and causation. In C. Tenny and J. Pustejovsky (Eds.), *Events as grammatical objects: The converging perspectives of lexical semantics, logical semantics and syntax*, pp. 417-442. Stanford: CSLI Publications.

Rozwadowska, B. 2012. On the onset of psych eventualities. In Eugeniusz Cyran, Henryk Kardela & Bogdan Szymanek (eds.), *Sound, structure and sense, Studies in memory of Edmund Gussmann*, 533-554. Lublin: Wydawnictwo KUL.

Singh, M. (1998). On the semantics of the perfective aspect. *Natural Language Semantics,* 6(2), 171-199.

References

Temme, A. & Verhoeven, E. (2016). Verb class, case, and order: A cross-linguistic experiment on non-nominative experiencers. *Linguistics 54.4*, 769-814.

Van Voorst, J. (1992). The aspectual semantics of psychological verbs. *Linguistics and Philosophy, 15*, 338-345.

Verhoeven, Elisabeth. 2017. Features or scales in verb meaning? Verb classes as predictors of syntactic behaviour. In Ludovic de Cuypere, Clara Vanderschueren & Gert De Sutter (eds.), *Current trends in analyzing syntactic variation*. *Belgian Journal of Linguistics,* 31. 164-193.

Yang, B. (1994). Morphosyntactic phenomena of Korean in role and reference grammar: Psych-verb constructions, inflectional verb morphemes, complex sentences, and relative clauses. Unpublished doctoral dissertation. State University of New York at Buffalo.

Appendix

Lexical aspect	Verb	Mean	SE
inchoative	deprimir	3.62	0.33
State	disgustar	4.1	0.38
	divertir	4.21	0.35
	amargar	4.28	0.35
	inquietar	4.28	0.31
	preocupar	4.28	0.36
	contentar	4.66	0.33
	incomodar	4.93	0.31
	confundir	5.62	0.23
	molestar	5.66	0.29
punctual	escandalizar	3.66	0.31
	alterar	4	0.31
	conmocionar	4.14	0.33
	ofender	4.28	0.35
	enloquecer	4.59	0.31
	desalentar	4.69	0.35
	espantar	4.83	0.34
	asustar	5.1	0.32
	sorprender	5.69	0.25
	impresionar	5.72	0.25