

Argument structure in the syntax-lexicon *continuum*

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PHRASALEX-II

Phraseological Approaches to Learner's Lexicography Online

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Aim of the analysis

- A comparison between constructions collected and analyzed from a corpus and those listed in dictionaries
 - to highlight the role of frequency of use of different constructions
 - to check correspondence/mismatch between real data and what is generally recorded in the lexicographical entries.

Object of analysis

- Two-/three- argument verbs of Italian
- Quantitative data
 - (Mereu 2017, 2020; Mereu & Piunno 2019)
 - Verbs of hitting (verbs of contact)
 - → *colpire* 'hit', *toccare* 'touch'
 - Verbs of breaking (change-of-state verbs)
 - → *rompere* 'break', *tagliare* 'cut'

Cf. Fillmore (1970, 1977), Levin (1993)

Theoretical premises

- **Frame semantics**

- Schematized and contextualized situations
 - → Fillmore's (1977, 1982)

- **Cognitive approaches**

- Role of frequency → Bybee (2006)
- Profile of a word → Langacker (1987, 1991)
- Windows of attention → Talmy (1996, 2000)

- **Construction Grammar**

- Argument structure
 - → Goldberg (1995, 2006), Ruppenhofer and Michaelis (2010), Hilpert (2014), Perek (2015)

Methodology

- Usage-based analysis of data from *Paisà corpus* (Lyding *et al.* 2014)
 - Query: NOUN_{Subject} + VERB (without any postverbal restriction)
- Quantitative analysis
 - 500 occurrences of each verb
 - except for *tagliare* (463 occurrences)
 - Only concrete meanings

Verb	% concrete meanings
<i>colpire</i> 'hit'	69%
<i>toccare</i> 'touch'	23%
<i>rompere</i> 'break'	50%
<i>tagliare</i> 'cut'	39%

Methodology

- Parameters used to distinguish the constructions
 - Verbal transitivity
 - Subject
 - Argumental role
 - Animacy
 - Agentivity vs non-agentivity
 - Object
 - Affectedness

Methodology

- Italian dictionaries
 - standard monolingual dictionary: *GRADIT, Treccani, Sabatini-Coletti*
 - monolingual combinatory dictionaries: *Lo Cascio, CombiNet*
 - bilingual valency dictionary: *PONS (Blumenthal & Rovere)*
- Questions
 - Lexicographic representation
 - How are the verbs under analysis represented?
 - Are the examples representative of actual language use?
 - Are concrete realizations distinguished from abstract (metaphorical uses)?
 - Lexicographic representation vs. usage-based analysis
 - Does the lexicographic representation match the quantitative results of our analysis?

Results of the analysis

colpire ‘hit’

- A verb of motion and contact
 - It describes “moving one entity in order to bring it into contact with another entity”, without necessarily entailing an effect on the second entity (Levin 1993: 148).
- Frame structure
 - **AGENT**: intentionally initiating an action and having control over its performing
 - *a man*
 - **CAUSE**: the unintentional initiator of the action
 - *a storm*
 - **PATIENT**: the entity undergoing the event, which is affected by the situation (Lehmann 2005)
 - *the population*
 - **THEME_(+/-LOCATIVE)**: the entity involved in the event but not affected by it (Jezek 2016)
 - *the ball, the city*
 - **INSTRUMENT**: the device used to perform an action
 - *(with) a stick*
 - **LOCATIVE**: the place in which an action is performed
 - *in the ship’s bow, in the chest*

Results: *colpire* 'hit'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. SUBJ + OBJ	169	48.99%
ii. SUBJ=OBL 1+ OBJ	90	26.09%
iii. PASSIVE (+/-OBL 1)	29	8.41%
iv. SUBJ=OBL 1+ OBJ + OBL 2	26	7.54%
v. SUBJ + OBJ + OBL 1	17	4.93%
vi. SUBJ + OBJ + OBL 1+ OBL 2	5	1.45%
vii. SUBJ	4	1.16%
viii. SUBJ=OBL	3	0.87%
ix. SUBJ=OBL 1+ OBL 2	1	0.29%
x. <i>si</i> -reciprocal	1	0.29%

Results: *colpire* 'hit'

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Results: *colpire* 'hit'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. SUBJ + OBJ	169	48.99%

- SUBJ **AGENT** + OBJ PATIENT/THEME **(10,65%)**
 - (1a) *I giocatori **colpiscono** la palla*
'The players hit the ball'
- SUBJ **CAUSE** + OBJ PATIENT/THEME **(89,35%)**
 - (1b) *L'infarto **colpisce** anche persone con colesterolo normale*
'The heart attack also hits people with normal levels of cholesterol'

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
(1a). SUBJ AGENT + OBJ 'The players hit the ball'	(+)	(+)	+	(+)	+	+

- The agentive subject is primarily represented (except for PONS)
 - However, the dictionaries mainly represent the triargumental structure

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
(1b). SUBJ CAUSE + OBJ The heart attack hits people	+ (sense 3)	–	–	+ (sense 2)	–	+ (sense 4)

- The most frequent structure (SUBJ=CAUSE) is not always represented
- If it is included (Lo Cascio, PONS):
 - it mainly appears as one of the last SENSES
 - it is often mixed with figurative uses
 - *L'influenza colpisce la popolazione*
 - 'Influenza hit ('strikes') the population'
 - *L'ondata di scioperi ha colpito la regione*
 - 'Waves of strikes hit the region'

Results: *colpire* 'hit'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
1. SUBJ + OBJ	169	48.99%
2. SUBJ=OBL 1+ OBJ	90	26.09%

- SUBJ **INSTRUMENT** + OBJ PATIENT

(2) *Una pallottola **colpisce** di striscio Freddie*
 'A bullet grazed Freddie'

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
2. SUBJ INSTRUMENT + OBJ 'a bullet grazed Freddie'	–	–	–	–	–	+ (sense 6, 9)

- This configuration is rarely represented in the dictionaries
- If represented (PONS)
 - it only appears after other constructions (e.g. intransitive) and figurative uses
 - it is mixed with the triargumental structure
 - E.g. *la pallottola ha colpito il cacciatore alla testa*
'the bullet hit the hunter in the head'

toccare ‘touch’

- A verb of contact
 - It describes a “surface contact with no necessary implication that the contact came about through impact” (Levin 1993: 156).
- Frame structure
 - **AGENT**: intentionally initiating an action and having control over its performing
 - *the adversary , the participant*
 - **THEME(+/-LOCATIVE)**: the entity involved in the event but not affected by it (Jezek 2016)
 - *the floor*
 - **INSTRUMENT**: the device used to perform an action
 - *with the hands*

Results: *toccare* 'touch'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. SUBJ=OBL 1+ OBJ	62	54.87%
ii. SUBJ + OBJ	42	37.17%
iii. <i>si</i> -reciprocal	4	3.54%
iv. SUBJ + OBJ + OBL1	3	2.65%
v. PASSIVE (+/-OBL1)	2	1.77%

Results: *toccare* 'touch'

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Results: *toccare* 'touch'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. SUBJ=OBL 1+ OBJ	62	54.87%

- **SUBJ**_{INSTRUMENT} + **OBJ**_{THEME}

(1) il bastone **toccò** la palla
 'the stick touched the ball'

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
I. SUBJ INSTRUMENT + OBJ 'the stick touched the ball'	+ (sense 1b)	+ (sense 1c)	+ (sense 2)	–	–	+ (sense 2)

- It is sometimes mixed with figurative uses
 - E.g. PONS
 - *un vecchietto che sta per toccare l'ottantina*
'an old man who is about to be 80'
lit. an old man who is about to touch the eighties

Results: *toccare* 'touch'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
ii. SUBJ + OBJ	42	37.17%

- **SUBJ** **AGENT** + **OBJ** **THEME**

(2) *il difensore **tocca** la palla*
 'The defender touches the ball'

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
II. SUBJ AGENT + OBJ 'the defender touches the ball'	+ (SENSE 1a)	+ (SENSE 1A)	+ (SENSE 1)	+ (SENSE 1)	+ (SENSE 1)	+ (SENSE 7)

- Lo Cascio includes this construction next to figurative uses
 - E.g. *toccare un argomento* 'touch a theme'

rompere ‘break’

- A pure change of state verb (Levin 1993)
 - It expresses the change in the “material integrity” (Hale & Keyser 1987) of the entity involved in the event it describes, “without specifying how this change of state comes about” (Levin 1993: 242).
- Frame structure:
 - **AGENT**: intentionally initiating an action and having control over its performing
 - *the mother*
 - **EXPERIENCER**: The participants experiencing the event, having no control over its performing
 - *the boy*
 - **CAUSE**: the unintentional initiator of the action
 - *the explosion*
 - **PATIENT**: the entity undergoing the event, which is affected by the situation (Lehmann 2005)
 - *the glass*
 - **INSTRUMENT**: the device used to perform an action
 - *with the claws, with the bayonet*

Results: *rompere* 'break'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. <i>si</i> -anticausative (SUB=OBJ (+/-OBL1))	154	62.10%
ii. SUBJ + OBJ	43	17.34%
iii. PASSIVE (+/-OBL1)	17	6.85%
iv. <i>si</i> -indirect	15	6.05%
v. SUBJ + OBJ + OBL1	9	3.63%
vi. SUBJ=OBL 1+ OBJ	7	2.82%
vii. SUBJ + OBJ + OBL 1+ OBL2	2	0.81%
viii. <i>si</i> -impersonal + OBJ	1	0.40%

Results: *rompere* 'break'

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Results: *rompere* 'break'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. <i>si</i> -anticausative (SUBJ=OBJ +/-OBL1)	154	62.10%

- SUBJ **PATIENT**

(1a) *Quando il motore **si rompe** per la seconda volta ...*

'When the engine broke down for the second time'

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
II. SUBJ PATIENT 'the engine broke'	+ (ENTRY 2)	+ (SENSE 1A)	+ (3RD GRAMMATICAL USE)	+ (ENTRY 3)	+ (ENTRY 2)	+ (SENSE 13)

- Dictionaries generally do not highlight the importance of the patient-oriented uses of *rompere*
 - It is represented as a 'pronominal intransitive' use or 'reflexive use'
 - As a different entry (GRADIT, Lo Cascio)
 - As a different grammatical use (SAB-COL)
 - It is sometimes (PONS, Lo Cascio) mixed with other figurative uses
 - E.g. *rompersi le scatole* 'to be bored'

Results: *rompere* 'break'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. <i>si</i> -anticausative (SUB=OBJ (+/-OBJ 1))	154	62.10%
ii. SUBJ + OBJ	43	17.34%

- **SUBJ** **AGENT** – **OBJ** **PATIENT** **(53%)**
 (2a) *La madre ha rotto il bicchiere*
 'The mother broke the glass'
- **SUBJ** **CAUSE** – **OBJ** **PATIENT** **(47%)**
 (2b) *L'acqua rompe i vetri della cupola*
 'The water broke the glass of the dome'

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
II. SUBJ AGENT + OBJ 'The mother broke the glass'	+ (SENSE 1a)	+ (SENSE 1)	+ (SENSE 1)	+ (SENSE 1)	+ (SENSE 1)	+ (SENSE 10, 11)

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
II. SUBJ CAUSE + OBJ 'The water broke the glass'	+ (SENSE 5)	+ (SENSE 2C)	+ (SENSE 2)	–	–	+ (SENSE 6, 8)

tagliare ‘cut’

- A “verb causing a change of state by moving something into contact with the entity that changes state” (Levin 1993: 10) and denoting a break in the material integrity.
- Frame structure:
 - **AGENT**: intentionally initiating an action and having control over its performing
 - *a man, the police*
 - **EXPERIENCER**: The participants experiencing the event, having no control over its performing
 - *the boy*
 - **PATIENT**: the entity undergoing the event, which is affected by the situation (Lehmann 2005)
 - *the rope, the hair*
 - **INSTRUMENT**: the device used to perform an action
 - *(with) a knife*
 - **MALEFICIARY**: the entity for whose disadvantage the action is performed
 - *to the lady, to the enemies*
 - **(MANNER)**: the way the event is performed and the produced effect
 - *into two pieces*

Results: *tagliare* 'cut'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. PASSIVE (+/-OBL1)	47	25.82%
ii. SUBJ + OBJ	46	25.27%
iii. SUBJ + OBJ + OBL1	38	20.88%
iv. SUBJ=OBL 1+ OBJ	17	9.34%
v. <i>si</i> -indirect	11	6.04%
vi. SUBJ=OBL 1+ OBJ + OBL2	6	3.30%
vii. <i>si</i> -passivizing	5	2.75%
viii. SUBJ=OBL	4	2.20%
ix. SUBJ + OBJ + OBL 1+ OBL2	4	2.20%
x. SUBJ=OBL 1+ OBL2	1	0.55%
xi. SUBJ + OBL1	1	0.55%
xii. <i>si</i> -impersonal + OBJ	1	0.55%
xiii. <i>si</i> -direct reflexive (+/-OBL1)	1	0.55%

Results: *tagliare* 'cut'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. PASSIVE (+/-OBL1)	47	25.82%
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ix. SUBJ + OBJ + OBL 1+ OBL2	4	2.20%
x. SUBJ=OBL 1+ OBL2	1	0.55%
xi. SUBJ + OBL1	1	0.55%
xii. <i>si</i> -impersonal + OBJ	1	0.55%
xiii. <i>si</i> -direct reflexive (+/-OBL1)	1	0.55%

Results: *tagliare* 'cut'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. PASSIVE (+/-OBL1)	47	25.82%

- SUBJ **PATIENT**+ Passive verb
 - (1) Il suo braccio fu tagliato
'His arm was cut off'

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
I. SUBJ PATIENT + Passive verb 'His arm was cut off'	–	–	–	–	–	(-)

- Completely absent
 - PONS: the construction only appears with a figurative meaning
 - E.g. *Sono state tagliate le battute della commedia*
'Jokes from the play have been cut'

Results: *tagliare* 'cut'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. PASSIVE (+/-OBL1)	47	25.82%
ii. SUBJ + OBJ	46	25.27%

- SUBJ **AGENT** + OBJ **PATIENT**

(2a) *La ragazza ha tagliato una corda del suo violino*
 'The girl cut a string on her violin'

(2b) *I surfers tagliarono i capelli*
 'Surfers cut their hair'

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
II. SUBJ AGENT + OBJ	+	+	+	+	+	+
'The girl cut a string'	(SENSE 1)	(SENSE 1)	(SENSE 2)	(SENSE 1)	(SENSE 1)	(SENSE 6)

- It is often exemplified as a triargumental structure

Results: *tagliare* 'cut'

SYNTACTIC CONFIGURATIONS	ABSOLUTE FREQUENCY	FREQUENCY IN %
i. PASSIVE (+/-OBL1)	47	25.82%
ii. SUBJ + OBJ	46	25.27%
iii. SUBJ + OBJ + OBL1	38	20.88%

- SUBJ **AGENT** + OBJ _{PATIENT} + OBL1 **MALEFICIARY**
 (3a) Spesso i soldati giapponesi tagliavano i seni alle donne
 'Japanese soldiers often cut off women's breasts'
- SUBJ **AGENT** + OBJ _{PATIENT} + OBL1 **INSTRUMENT**
 (3b) Le lucertole potevano tagliare il cibo con l'intera fila dentaria
 'The lizards could cut their food with their entire dental row'

Dictionary data

	Gradit	Treccani	Sab-Col	Lo Cascio	CombiNet	PONS
II. SUBJ + OBJ + OBL1	+	+	+	+	+	+
'The girl cut a string'	(SENSE 1)	(SENSE 1)	(SENSE 1)	(SENSE 1)	(SENSE 1)	(SENSE 11)

- The most represented OBL is the manner (e.g. *cut the cheese into slices*)
 - GRADIT: SVO+OBL manner
 - TRECCANI: SVO+OBL manner, instrument, maleficiary
 - SABATINI-COLETTI: SVO+OBL manner, instrument, maleficiary
 - LO CASCIO: SVO+OBL manner, maleficiary
 - COMBINET: SVO+OBL manner
 - PONS: SVO+OBL instrument, manner

Conclusions 1/2

- Dictionaries tend to represent the whole set of uses
- Actual uses of single constructions do not always match the representation of entries in the lexicographic works, even in those usage-based
 - **Agentivity** is primarily represented in dictionaries, even though it is not the most frequently used
 - Cf. *colpire*: SUBJ_{CAUSE}
 - **Patient-oriented** uses are disfavoured
 - Cf. *rompere*: SUBJ_{PATIENT}
 - Cf. *tagliare*: passive
- Confusion between concrete, figurative and idiomatic uses
 - They often overlap indistinctly (mainly in PONS and in Lo Cascio)

Conclusions 2/2

- Theoretical implications
 - There is a deep interdependence between lexis and grammar
 - Syntactic and semantic frames
 - The argument structure is often affected by the pragmatic needs of the speaker
 - this proves that argument structure is built on the basis of the linguistic and situational context.
- Applied implications
 - relevant consequences on language teaching of verbal units, and more specifically on their representation in learner's dictionaries
 - → verb meanings and true contexts of use

Thank you for your attention!

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- Fillmore, C. J. (1970). The grammar of hitting and breaking. In R.A. Jacobs & P.S. Rosenbaum (eds.), *Readings in English transformational grammar*, 120–133. Waltham, MA: Ginn.
- Fillmore, C. J. (1977). Topics in lexical semantics. In R. W. Cole (ed.), *Current issues in linguistic theory*, 76-138. Bloomington: Indiana University Press.
- Goldberg, A.E. (1995). *A construction grammar approach to argument structure*. Chicago: The University of Chicago Press.
- Goldberg, A.E. (2006). *Constructions at work. The nature of generalization in Language*. Oxford: OUP.
- Jezek, E. (2016). *The Lexicon: An Introduction*. Oxford: Oxford Textbooks in Linguistics.
- Langacker, R. W. (1987). *Foundations of cognitive grammar. Vol. 1: Theoretical perspectives*, Stanford: SUP.
- Langacker, R. W. (1991). *Foundations of cognitive grammar. Vol. 2: Descriptive application*, Stanford: SUP.
- Lehmann, C. (2005). Participant roles, thematic roles and syntactic functions. In T. Tsunoda & T. Kageyama (eds.), *Voice and Grammatical Relations: In Honor of Masayoshi Shibatani*, 153-174. Amsterdam & Philadelphia: John Benjamins Publishing.
- Levin, B. (1993). *English verb classes and alternations: A preliminary investigation*. Chicago: CUP.
- Mereu, L. (2017). La struttura argomentale in una prospettiva usage-based. *Studi e saggi linguistici*, LV, 69-107.
- Mereu, L. (2020). *Semantica della frase*. Roma: Carocci.
- Mereu, L., & Piunno, V. (2019). The argument structure of verbs of hitting and breaking in Italian. *LINGUE E LINGUAGGIO*, XVIII(1), 147-180.
- Perek, F. (2015). *Argument structure in usage-based construction grammar*, Amsterdam & Philadelphia: John Benjamins Publishing.
- Ruppenhofer, J. & L.A. Michaelis (2010). A constructional account of genre-based argument omissions. *Constructions and Frames* 2. 158–84.
- Simone, R., Piunno, V. (2017): “Combinazioni di parole che costituiscono entrata. Rappresentazione lessicografica e aspetti lessicologici“, *Studi e saggi linguistici*, LV. 13-44.
- Talmy, L. (1996). *The windowing of attention in language*. In M. Shibatani & S.A. Thompson (eds.), *Grammatical constructions: Their form and meaning*, 235-287. Oxford: OUP.
- Talmy, L. (2000). *Toward a cognitive semantics*. Cambridge: The MIT Press.