

'AN ACCOUNT OF SELECTION RESTRICTIONS WITHIN A CONCEPTUAL FRAMEWORK'

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2. THE CONCEPTS OF 'COLLOCATION' AND 'SELECTION RESTRICTION' WITHIN FUNGRAMKB

○ FunGramKB is made up of two information levels (Periñán and Mairal, 2009; fc):

1. The lexical level = linguistic knowledge
2. The conceptual level = non-linguistic knowledge

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2. THE CONCEPTS OF 'COLLOCATION' AND 'SELECTION RESTRICTION' WITHIN FUNGRAMKB

1. The lexical level
 - a. The lexicon stores information about lexical units, preserving the major linguistic assumptions of RRG - logical structures, macroroles, etc.
 - b. The morphicon handles cases of inflectional morphology.
2. The conceptual level
 - a. The ontology or the world model
 - b. The cognicon: where procedural information is kept.
 - c. The onomasticon: where information about instances of entities and events is stored.

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2.1. COLLOCATIONS

- ◉ Firth (1957)
- ◉ Koike (2001):
 - English, German and French: Halliday (1961), Sinclair (1966), Coseriu (1967), Mitchell (1971), Mel'cuk (1981) or Cruse (1986).
 - Spanish: Mendivil (1991), Alonso Ramos (1993), Corpas (1996), and Wotjak (1998).
- ◉ In FunGramKB, collocations are understood in a broad sense to refer to those combinations of lexemes that commonly and frequently co-occur in a language, including both grammatical and lexical collocations.

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2.2. SELECTION RESTRICTIONS

- ◉ Unlike the restrictive treatment given by Generative Grammar, they are understood not as semantic requirements on the nature of the arguments a predicate subcategorizes for, but as **conceptual constraints prototypically related to cognitive situations**.
- ◉ They are not word-oriented, so their place in FunGramKB is the **conceptual level**, specifically, **the ontology**.
- ◉ Example: the concept 'EAT'.

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2.2. SELECTION RESTRICTIONS

- ◉ 'Traditional' selection restrictions are better known as '**selectional preferences**' in FunGramKB.
- ◉ This view on selectional preferences is totally consistent with the approach taken by Coseriu (1967), McCawley (1968), Fillmore (1970), and Bosque (2004), to name just a few.
- ◉ Selection restrictions provide **non-linguistic information**, since the information expressed through features like 'human', 'animal', etc., has no relation whatsoever with our knowledge of languages like English, Spanish or Japanese, but with 'the real world' and our experiences there.

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3. FUNGRAMKB SELECTIONAL PREFERENCES: THE DOMAIN OF POSSESSION

- ◉ According to Jackendoff (1992: 79), *apud* Faber & Mairal (1996: 264), **POSSESSION** is:
 - an artificial relationship established between two entities, one of whom has the right or authority to use the other as he wishes and has the right or authority to control anyone else's use of the other, and to impose sanctions for uses other than those he permits

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FunGramKB Editor

Ontology

199 events

- [-] @#EVENT
 - [-] @#COMMUNICATION
 - [-] @#MATERIAL
 - [-] @#PSYCHOLOGICAL
 - [-] @#STATIVE
 - [-] @#EXISTENCE
 - [-] @#RELATIONAL
 - [-] @#CONSTITUTION
 - [-] @#IDENTIFICATION
 - [-] @#LOCATION
 - [-] @#POSESSION

Entities Events Qualities

Webmaster: Carlos Perinián

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3. FUNGRAMKB SELECTIONAL PREFERENCES: THE DOMAIN OF POSSESSION

- ◉ Thematic frames (TF) and meaning postulates (MP) provide the semantic properties used to characterize the basic and terminal concepts that populate the ontology.
- ◉ Both TFs and MPs employ concepts to formally describe meaning.
- ◉ They are language-independent conceptual schemata, not lexical representations.

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3.1. SELECTIONAL PREFERENCES IN BASIC CONCEPTS

FunGramKB Editor

Ontology

199 events

- [-] @#STATIVE
 - [-] @#EXISTENCE
 - [-] @#RELATIONAL
 - [-] @#CONSTITUTION
 - [-] @#IDENTIFICATION
 - [-] @#LOCATION
 - [-] @#POSESSION
 - [-] +HAVE_00
 - [-] +SABOUND_00
 - [-] +BREED_00
 - [-] +HOLD_00
 - [-] +LACK_00
 - [-] +STORE_00
 - [-] +WEAR_00

Entities Events Qualities

Edit structure Edit properties

English Spanish Italian

be clothed in
be dressed in
dress
have on
take

calzar
llevar
llevar encima
llevar puesto

French German Bulgarian

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3.1. SELECTIONAL PREFERENCES IN BASIC CONCEPTS

- ◉ Selectional preferences of the concept +WEAR_00: +HUMAN_00, +PET_00, +GARMENT_00, +ORNAMENT_00, +BODY_AREA_00 and +ON_00.
- ◉ They are situated in the TFs and MPs of the ontology because it is there that they can exert constraints typically related to the cognitive situation displayed by the events.

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FunGramKB Editor

Ontology

299 events

Conceptual Information:

CONCEPT: +HAVE_00

SUPERORDINATE(S): #POSSESSION

THEMATIC FRAME: (x1: +HUMAN_00+ANIMAL_00)Theme (x2: +CORPUSCULAR_00+HUMAN_00+ANIMAL_00+SUBSTANCE_00+ORGANIZATION_00)Referent

MEANING POSTULATE:

DESCRIPTION: have or possess: "She has \$1,000 in the bank"

English: belong, carry, have, have got, keep

Spanish: disponer, gozar, haber, llevar, pertenecer

Italian:

French: German: Bulgarian:

3.2. SELECTIONAL PREFERENCES IN TERMINAL CONCEPTS

- A terminal concept, preceded by symbol \$, can only be encoded when there is a conceptual restriction on the meaning of a basic concept.
- Selectional preferences then allow us to codify the distinguishing parameters that differentiate them.
- Terminal concepts within POSSESSION: \$ABOUND_00, \$GRASP_00 and \$SPORT_00.

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FunGramKB Editor

Ontology

298 events

Conceptual Information:

CONCEPT: +LACK_00

SUPERORDINATE(S): +HAVE_00

THEMATIC FRAME: (x1)Theme (x2)Referent

MEANING POSTULATE: + (e1: n +HAVE_00 (x1)Theme (x2)Referent (f1) Location) + (e2: +NEED_00 (x1)Theme (x2)Referent)

DESCRIPTION: be without, "This soup lacks salt"; "There is something missing in my jewellery box!"

English: abound, be rich

Spanish: abundar, rebosar

Italian:

French: German: Bulgarian:

FunGramKB Editor

Ontology

299 events

Conceptual Information:

CONCEPT: \$ABOUND_00

SUPERORDINATE(S): +HAVE_00

THEMATIC FRAME: (x1: +HUMAN_00+ANIMAL_00)Theme (x2: +CORPUSCULAR_00+ANIMAL_00+SUBSTANCE_00+ORGANIZATION_00)Referent

MEANING POSTULATE: + (x1: +HUMAN_00 (x1)Theme (x2)Referent (f1: +MUCH_00)Quantity

DESCRIPTION: Have in large numbers

English: abound, be rich

Spanish: abundar, rebosar

Italian:

French: German: Bulgarian:

3.3. SUBCONCEPTS

- There are cases in which the conceptual restriction or specification takes place exclusively in **one** or **all** of the participants of the TF of a basic or terminal concept, **without varying the MPs.**
- These are known as **SUBCONCEPTS** in FunGramKB and appear preceded by a minus symbol and in capital letters.

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3.3. SUBCONCEPTS

- Subconcepts are not really visible in the ontology.
- In other words, they don't 'hang' in the hierarchical organization of concepts because they are **conceptual specifications** of one of the participants of an already existing concept.

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3.3. SUBCONCEPTS

- Within the domain of **POSSESSION**:
 - WIELD**: a conceptual specification of the terminal concept \$GRASP_00 and lexicalized as *wield*, *carry*, *bear* and *empuñar*.
 - MISPLACE**: linked to the basic concept +LOSE_00 and lexicalized in Spanish as *traspapelar* (lit. 'misplace a paper').
 - SAVE**: associated to the basic concept +STORE_00, which English and Spanish express as *save* and *ahorrar*.
 - TAKE**: a specification of the basic concept +WEAR_00 and expressed in Spanish with the verb 'calzar' ('wear shoes or boots').

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FunGramKB Editor

Ontology

299 events

- #EXISTENCE
- #RELATIONAL
- #CONSTITUTION
- #IDENTIFICATION
- #LOCATION
- #POSSESSION
 - +HAVE_00
 - +SABOUND_00
 - +BREED_00
 - +HOLD_00
 - +SGRASP_00**
 - +LACK_00
 - +STORE_00
 - +WEAR_00

Entities Events Qualities

Edit structure Edit properties

Conceptual Information:

CONCEPT:	\$GRASP_00 [-WIELD]
SUPERORDINATE(S):	+HOLD_00
THEMATIC FRAME:	(x1: +HUMAN_00)Theme (x2: +WEAPON_00)Referent
MEANING POSTULATE:	+{e1: +HOLD_00 (w1)Theme (w2)Referent (f1: +TIGHT_00)Manner}
DESCRIPTION:	to take and hold something firmly

English: bear, carry, **wield**

Spanish: empuñar

Italian:

French: German: Bulgarian:

FunGramKB Editor

Ontology

299 events

- EXISTENCE
- RELATIONAL
- CONSTITUTION
- IDENTIFICATION
- LOCATION
- POSSESSION
 - HAVE_00
 - SABOUND_00
 - BREED_00
 - HOLD_00
 - GRASP_00**
 - LACK_00
 - STORE_00
 - WEAR_00

Conceptual Information:

CONCEPT:	\$GRASP_00
SUPERORDINATE(S):	+HOLD_00
THEMATIC FRAME:	(x1: +HUMAN_00)Theme (x2: +CORPUSCULAR_00)Referent
MEANING POSTULATE:	+ (e1: +HOLD_00 (x1)Theme (x2)Referent (f1: +TIGHT_00)Manner)
DESCRIPTION:	to take and hold something firmly

WIELD
\$GRASP_00

Entities Events Qualities

Edit structure Edit properties

English Spanish Italian

bear carry clasp clutch grasp

aferarr agarrar asir empuñar

French German Bulgarian²¹

3.4. ELABORATION OF SELECTIONAL PREFERENCES

English data:

- MULTIWORDNET
- WORDREFERENCE
- COLLINS THESAURUS
- WOXICON
- LONGMAN
- CAMBRIDGE
- BBI, LTP, OCD
- The Corpus Concordance and Collocation Sampler from The Collins Wordbanks *Online* English corpus.

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3.4. ELABORATION OF SELECTIONAL PREFERENCES

Spanish data:

- MARÍA MOLINER
- CASARES
- CLAVE
- DRAE
- REDES
- ADESSE
- CREA

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3.4. ELABORATION OF SELECTIONAL PREFERENCES

- a) Look up every single word belonging in POSSESSION in the English and Spanish resources mentioned above;
- b) Note down all the lexical information given for their selection restrictions, collocations, words that typically occur as subjects, objects, etc.;

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3.4. ELABORATION OF SELECTIONAL PREFERENCES

- c) Look for abstract labels or 'umbrella' patterns that could work for every word linked to a particular concept and in every language we are working with,
→ **abstracting** away from specific words;
- d) Find the appropriate concepts to codify them: +HUMAN_00, +GARMENT_00 ...

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3.5. WHERE ARE COLLOCATIONS?

- Collocations are **word-oriented** so they are stored in their appropriate lexica, depending on the language they are connected to.
- EXAMPLES:** *atesorar* and *hoard*, which lexicalize the basic concept +STORE_00 in the ontology.

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FunGramKB Editor

Ontology

299 events

- #EXISTENCE
- #RELATIONAL
- #CONSTITUTION
- #IDENTIFICATION
- #LOCATION
- #POSSESSION
 - +HAVE_00
 - +SABOUND_00
 - +BREED_00
 - +HOLD_00
 - +SGRASP_00
 - +LACK_00
 - +STORE_00
 - +WEAR_00

-SAVE
+STORE_00

Entities Events Qualities

Edit structure Edit properties

Conceptual Information:

CONCEPT:	+STORE_00
SUPERORDINATE(S):	+HAVE_00
THEMATIC FRAME:	(x1: +HUMAN_00 ^ +ANIMAL_00 ^ +ORGANIZATION_00)Theme (x2: +ARTEFACT_00 ^ +CORPUSCULAR_00 ^ +SUBSTANCE_00)Referent
MEANING POSTULATE:	+(e1: +HAVE_00 (s1)Theme (s2)Referent (f1) Location (f2: +LONG_01)Duration)
DESCRIPTION:	provide storage for or keep in storage

English Spanish Italian

accumulate Y N X
bond Y N X
garner Y N X
hoard Y N X
keep Y N X

acaparar Y N X
acumular Y N X
aborrar Y N X
almacenar Y N X
atesorar Y N X

French German Bulgarian

FunGramKB Editor

Spanish Lexicon

atesorar OK

a menudo
a salvo
a veces
abajo
abatido
abatimiento
abdomen
abeced

259 / 2294 lexical units (2481 senses)

Part of Speech:
N V A [no filter]

atesorar [+STORE_00] OK

Conceptual Information:

LEXICAL UNIT:	atesorar
CONCEPT:	+STORE_00
SEMANTIC TYPE:	-dynamic, -telic, -control
THEMATIC FRAME:	(x1: +HUMAN_00 ^ +ANIMAL_00 ^ +ORGANIZATION_00)Theme (x2: +ARTEFACT_00 ^ +CORPUSCULAR_00 ^ +SUBSTANCE_00)Referent
MEANING POSTULATE:	+(e1: +HAVE_00 (x1)Theme (x2)Referent (f1)Location (f2: +LONG_01)Duration)
DESCRIPTION:	provide storage for or keep in storage

Headword: atesorar
Index: 01
Language: Spanish

MORPHOSYNTAX:

Graphical Variants:
You store graphical variants of the headword (e.g. hierba-yerba).

Graphical Variants:
You store graphical variants of the headword (e.g. hierba-yerba).

Abbreviations:
You store abbreviations of the headword (e.g. televisión-TV).

Phrase Constituents (Head):
In the case of idioms, you state which word within the headword serves as the head of the phrase.

Category: verb

Verb Paradigm:
Regular
You state whether the inflectional paradigm of a verb is regular or irregular.
 Constraints in Verb Paradigm
You state whether there is any constraint on voice or tense in the verb paradigm.

Pronominalization: <-- no value selected -->
You state whether the verb is never cliticised (e.g. parir), always cliticised (e.g. jactarse), optionally cliticised (e.g. ir-inse) or grammatically cliticised (e.g. mirar-mirarse).

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LCM CORE GRAMMAR:

AktionsArt:
 State
 Activity
 Accomplishment
 Achievement
You determine the canonical lexical class(es) of the verb.

Variables: <-- no functions -->

Idiosyncratic features:
[MR <-- no value selected -->], [U = <-- no value selected -->]

Thematic frame mapping:
X = [no function] , Y = [no function] , Z = [no function]

A REMINDER OF FUNGRAMKB PARTICIPANTS:
THEME: Entity that owns another entity.
REFERENT: Entity that is owned.

Lexical Template:
Prepositions:
X = a Y N Y = a Y N Z = a

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Lexical Template:
Prepositions:
X = a Y N Y = a Y N Z = a

Collocations:
X = Y N Y = Y N Z =
victoria
éxito
información
secreto
recuerdo

AFFECTING TRANSITIVITY:
alternations involving a change in the verb's transitivity
 Middle construction
 Causative/inchoative alternation
 Induced action alternation
 Substance/source alternation

PHRASE SHIFT:
alternations involving the shift of some phrase found with the verb but without a change in transitivity
 Benefactive alternation
 Locative alternation
 Reciprocal alternation (transitive)
 Reciprocal alternation (intransitive)

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FunGramKB Editor
English Lexicon

hoard
a great deal of
a lot of
abbreviate
abhor
ability
abode
abominate
abridge

Conceptual Information:
LEXICAL UNIT: hoard
CONCEPT: +STORE_00
SEMANTIC TYPE: -dynamic, -telic, -control
THEMATIC FRAME: (x1: +HUMAN_00 ^ +ANIMAL_00 ^ +ORGANIZATION_00)Theme (x2: +ARTEFACT_00 ^ +CORPUSCULAR_00 ^ +SUBSTANCE_00)Referent
MEANING POSTULATE: +(e1: +HAVE_00 (x1)Theme (x2)Referent (f1)Location (f2: +LONG_01)Duration)
DESCRIPTION: provide storage for or keep in storage

169 / 2948 lexical units (3313 senses)
Part of Speech: N V A [no filter]
hoard [+STORE_00]

Headword: hoard
Index: 01
Language: English

MORPHOSYNTAX:

Graphical Variants:
You store graphical variants of the headword (e.g. colour-color).

FunGramKB Editor: English Lexicon - Windows Internet Explorer

http://www.fungramkb.com/edit/lexicon_en.aspx

DESCARGAS

English to French, Italian, ...

Abbreviations:

You store abbreviations of the headword (e.g. television-TV).

Phrase Constituents (Head):

In the case of idioms, you state which word within the headword serves as the head of the phrase.

(Particle):

Detachable
In the case of phrasal verbs, you state the particle(s).
Moreover, you state if the phrasal verb allows syntactic objects to be embedded.

Category: verb

Verb Paradigm:

<- no value selected ->
You state whether the inflectional paradigm of a verb is regular or irregular.

Constraints in Verb Paradigm
You state whether there is any constraint on voice or tense in the verb paradigm.

Diagonalization:

<- no value selected ->

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FunGramKB Editor: English Lexicon - Windows Internet Explorer

http://www.fungramkb.com/edit/lexicon_en.aspx

DESCARGAS

English to French, Italian, ...

<- no value selected ->
You state whether the verb is never reciprocal (e.g. live) or grammatically reciprocal (e.g. divorce).

LCM CORE GRAMMAR:

State
 Activity
 Accomplishment
 Achievement

AktionArt:

You determine the canonical lexical class(es) of the verb.

Variables: <- no functions ->

Idiosyncratic features:

[MR <- no value selected ->], [U <- no value selected ->]

Thematic frame mapping:

X = [no function] , Y = [no function] , Z = [no function]

A REMINDER OF FUNGRAMKB PARTICIPANTS:
THEM: Entity that owns another entity.
REFERENT: Entity that is owned.

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FunGramKB Editor: English Lexicon - Windows Internet Explorer

http://www.fungramkb.com/edit/lexicon_en.aspx

DESCARGAS

English to French, Italian, ...

Lexical Template:

Prepositions:

X = aboard Y N Y = aboard Z = aboard

Collocations:

X = information Y N Y = time Z = flaw N Z = misery N Z = nostalgia

AFFECTING TRANSITIVITY:
alternations involving a change in the verb's transitivity

Causative/inchoative alternation
 Conative alternation
 Induced action alternation

PHRASE SHIFT:
alternations involving the shift of some phrase found with the verb but without a change in transitivity

Apart-reciprocal alternation (intransitive)
 Apart-reciprocal alternation (transitive)

FunGramKB Editor: English Lexicon - Windows Internet Explorer

http://www.fungramkb.com/edit/lexicon_en.aspx

DESCARGAS

English to French, Italian, ...

MISCELLANEOUS:

Dialect:

<- no value selected ->
You choose the dialect to which the lexical unit belongs.

Style:

<- no value selected ->
You choose the style of use of the lexical unit.

Domain:

DOCTRINES
 archaeology
 astrology
 history
You choose the domain(s) to which the lexical unit belongs.

Examples:

You write down two representative examples from the British National Corpus (BNC) in order to

4. CONCLUSIONS

⦿ Advantages:

A. By posing **two information levels**, that is, the ontology and the different lexicons, RRG semantic representations can be deeply enriched, including all types of information that go well beyond those aspects of meaning with an impact on syntax: selection preferences.

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4. CONCLUSIONS

B. This theoretical move is done at a very **low cost**, because the ontology is based on a **hierarchical inference system**, which means that information can be placed in and retrieved from all the different ontological properties: TFs, MPs, subconcepts, etc.

- “redundancy is minimized while informativeness is maximized” (Periñán and Mairal, 2009)

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4. CONCLUSIONS

C. Since **ontological concepts are universal**, in principle every single language could be implemented in FunGramKB.

Thank you for your attention!!!

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“An account of selection restrictions within a conceptual framework”. R. Jiménez-Briones & M.B Pérez-Cabello de Alba. *RRG 2009 International Conference*. Berkeley, 7-9 August.

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