Grammatical functions: a problematic fundamental concept of LFG?

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What are (or are not) **grammatical functions** (GFs)?

- **fundamental notion** in LFG
- **primitive notion** – not derived from:
  - tree configuration
  - syntactic category
  - semantics

Problems:

- **little agreement** on the definition of particular grammatical functions
- **no cross-linguistically valid** definitions of GFs (perhaps except SUBJ)

So: great concept in theory, intuitive, but **difficult to use in practice**:

- we will show why
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General GF repertoire

Dalrymple 2001: p. 9: "LFG assumes **a universally available inventory of grammatical functions**":

- SUBJect
- OBJect
- OBJ_θ
- COMP
- XCOMP
- OBLique_θ
- ADJunct
- XADJunct

Subject

Typical tests:

- drives S-V **agreement**
- the argument **available cross-clausally** (for control and raising)
- **anaphor binder**

Fairly robust cross-linguistic definition, but **some issues**:

- control and binding may yield **conflicting results**
- agreement only with **nominative subjects**...

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Object

Dalrymple and Nikolaeva 2011: p. 24: "**diagnostics** targeting nonsubject grammatical functions, specifically objects, also **vary from language to language**"

- **passivisation**: most common, but not commonly agreed upon
- **object agreement**: only in some languages
- **accusative case**: very weak (and uninteresting) diagnostic

Families of GFs: $\textsc{obj}_\theta$, $\textsc{obl}_\theta$

$\textsc{obj}_\theta$ and $\textsc{obl}_\theta$ are not single GFs like SUBJ or OBJ:

- they "represent **families** of relations **indexed by semantic roles**, with the θ subscript representing the semantic role associated with the argument" (Dalrymple 2001: p. 9)
- $\textsc{obj}_\theta$: thematic objects
- $\textsc{obl}_\theta$: thematic obliques

The θ **index is also used for non-semantic prepositions and case**:

- since the preposition form serves as the θ index, indices are language-specific
- as a result, there is no "repertoire of universally available grammatical functions"

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COMP and XCOMP

Two types of **clausal complements**:

- COMP:
  - **sentential** (CP)
  - closed (has its own subject)
- XCOMP
  - **infinitival** (InfP)
  - open (its subject must be controlled)

But CPs and InfPs may also be:

- SUBJ
- OBJ
- ADJ
- **also other functions**, including OBL_θ?

And **do we need COMP and XCOMP** (Alsina *et al.* 2005) **at all**?

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Are GFs really primitive?

Truly **primitive GFs**:

- SUBJ (as defined above) – in particular, it does not depend on category (may be clausal, etc.)
- OBJ (if defined via passivisation)

Other GFs are **not really primitive** – a mixture of syntactic (categorial) and semantic (thematic) properties:

- some GFs **double** the category information in **c-structure**; so once SUBJ and OBJ are excluded:

XP:	NP	PP	CP	InfP
GF:	OBJ_θ	OBL_θ	COMP	XCOMP

- case indices (in OBJ_θ) **double** the information already present in **f-structure**
- preposition indices (in OBL_θ) **double** the information already present in **both c-structure and f-structure**
- semantic indices (in both) **double** the information independently present in **s-structure**

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Dependent sharing

- John washes his car in the garage.
- John polishes his car in the garage.
- John keeps his car in the garage.

Hall 1965: p. 66:

- John washes and polishes his car in the garage.
- *John washes and keeps his car in the garage.

Dalrymple 2001: p. 366:

- "two verbs can only be coordinated if they share the same syntactic argument structure"
- **the shared dependent "must bear the same grammatical function in both conjuncts"**

This would be a good test for the sameness of GFs, but it does not work...

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Problem #1: RESIDE and DIE

Prime Minister Sir Winston Churchill...

- resided in Number 28 on the street called Hyde Park Gate.
- died in Number 28 on the street called Hyde Park Gate.
- resided and died in Number 28 on the street called Hyde Park Gate.

Problem:

- DIE does not take a locative argument (it is an ADJunct)
- RESIDE does take a locative argument (OBLique)
- so **why can the locative dependent be shared?**
- (this shouldn't be possible, given the different GFs)

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(WASH and KEEP) vs. (RESIDE and DIE)

Whence the contrast:

- somebody resided and died somewhere
- *somebody washes and keeps something somewhere

Key observation:

- the locative bears the same *semantic* relation to RESIDE and DIE
- but different *semantic* relations to WASH and KEEP

The **semantic distinction**:

- event location vs. participant location (Koenig *et al.* 2003)
- event-external vs. event-internal modification (Maienborn and Schäfer 2011 and references to Maienborn's work therein)

So, for **sharing a dependent** what counts is:

- the **sameness of semantic relation** of the dependent to the head
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- I will devour the carrot cake my mother baked yesterday.
  - CAKE is OBJ
- I will give Mary the carrot cake my mother baked yesterday.
  - MARY is OBJ (it passivises: Mary will be given the cake...)
  - so CAKE is OBJ_θ – the result of dative shift
- I will [either [devour] or [give Mary]] the carrot cake my mother baked yesterday.

Again:

- different grammatical functions
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Problem #3: Polish OBJ

- Marek manipuluje i wysługuje się Marysią.
  Marek.NOM manipulates and lackey REFL Marysia.INST
  'Marek manipulates and lackeys Marysia.'
- Marysia lubi ale też boi się Marka.
  Marysia.NOM likes but also be afraid REFL Marek.ACC/GEN
  'Marysia likes but at the same time is afraid of Marek.'

If OBJ is defined via **passivisation** (reasonable):

- the shared argument is an OBJ of only the first verb of each pair (*manipuluje* and *lubi*, respectively).

If OBJ is defined as the **accusative** dependent (not reasonable, but it has been done):

- the shared argument of the second example is an OBJ of only the first verb (*lubi*).

Again, the shared dependent bears **two different GFs**. Etc.

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Maintaining the claim that the shared dependent must have the same GF with respect to coordinated predicates only **at the cost** of:

- manipulating the list of arguments (adding/reducing) in coordination
- abandoning the standard dative shift analysis
- abandoning passive as the criterion for OBJ in Polish
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So, **this claim should be rejected**:

- **allow** shared dependents with **distinct GFs**
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- **not a** technical **problem** in LFG / XLE;
- achieved using functional uncertainty: $(\uparrow \{\text{GF1}|\text{GF2}\})=\downarrow$
- the equation is distributed and then evaluated

Coordination of unlikes: COMP vs. SUBJ or OBJ

Subjects may be sentential, cf. unlike category coordination:

- That Himmler appointed Heydrich frightened many observers.
- The implications frightened many observers.
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Similarly for **objects**:

- Pat remembered the appointment.
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But **the problem is much more general**:

- it arises for every combination of categories
- it may be possible to coordinate 2, 3 or more different categories
- for **example**:

  Gola dedykuję dla rodziców i sympatii lwonie.
  goal.ACC dedicate.1.SG to parents.GEN and girlfriend.DAT lwona.DAT
  'I dedicate this goal to my parents and my girlfriend lwona.'

- **the problem**:
  - which GF to choose e.g. in case of coordination of an (apparent) OBJ_θ with an (apparent) OBL_θ?
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Coordination of unlikes: closed vs. open GF 1

- Nie chciał kanapki.
  NEG wanted sandwich.GEN
  'He didn't want a sandwich.'
- Nie chciał pić.
  NEG wanted drink.INF
  'He didn't want to drink.'
- Nie chciał pić ani kanapki.
  NEG wanted drink.INF nor sandwich.GEN
  'He didn't want to drink nor (did he want) a sandwich.'

(Kallas 1993)

The **closed/open GF distinction** is **problematic**:

- OBJ as the common GF seems more sensible here (control is doable; Patejuk and Przepiórkowski 2014)
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Other examples of the same problem:

- Chce skakać i żeby było głośniej.
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  '(S)he wants to jump and that it is louder.'
- Musimy to zmienić, jeśli chcemy być konkurencyjni na tamtejszych rynkach i aby rósł nasz eksport.
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Thank you for your attention!

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