The cartography of the left periphery.

- Elements of the map of the LP
- The criterial approach to scope-discourse constructions
- The status of criterial markers.

LUIGI RIZZI

TG2
The cartographic projects

- Syntactic structures are complex objects. It is worthwhile to devote a line of research to focus on the shape of structures and their internal articulation.

- This can be done by drawing maps as detailed as possible of syntactic configurations, disentangling invariant and variable properties.

- Under the cartographic magnifier, each zone of more traditional syntactic trees is split into a configuration of finer components characterized by rich functional sequences.

- The complexity arises from the recursive application of very simple computational mechanisms (primarily merge and move), operating on a very rich functional lexicon and constrained by principles of the language faculty (locality, interface constraints, etc.).
Splitting the IP

Splitting the CP

Cross-linguistic impact of cartographic studies

https://www.unige.ch/lettres/linguistique-syncart/home/  G. Bocci, G. Samo, UNIGE


Types of complementizers

Functional elements introducing embedded clauses are traditionally analyzed as complementizers occupying the same C position:

(1) Credo **che** partirò
   ‘I believe that I will leave’
(2) Ho deciso **di** partire
   ‘I decided to leave’
(3) Non so **se** partirò
   ‘I don’t know if I will leave’
Status of *di* as a C (Kayne 1983)

Could *di* be a head of the inflectional system, akin to *to*?

(1) John decided [ [ PRO to leave ] ]
(2) Gianni decise [ di [ PRO partire ] ]

Order with respect to negation:

(3) John decided [ [ PRO not to leave ] ]
(4) Gianni decise [ di [ PRO non partire ] ]
Interference with Raising (Rizzi 1982, Kayne 1983)

(1) John seems [ __ to have left ]

(2)a Gianni sembra [ __ essere partito ]
   b * Gianni sembra [ di [ __ essere partito ]

(3) A Gianni sembra [ di [ PRO essere partito ]
   ‘To Gianni it seems PRO to have left = that he has left’
A transitivity argument based on Topic – Comment structures with Clitic Left Dislocation

(1) Il libro, Gianni lo leggerà domani

‘The book, Gianni will read it tomorrow’
Ordering of the sequence: Force – Int – Fin

Different kinds of complementizers *che, di, se* are ordered differently with respect to Topics:

(1) Credo *che* il tuo libro, lo leggerò domani  
‘I believe *that* your book, I *it*–will read tomorrow’

(2) Ho deciso, il tuo libro, *di* leggerlo domani  
‘I decided *your book, to* read–it tomorrow’

(3) Non so, il tuo libro, *se* a Gianni, glielo leggerò domani  
‘I don’t know *if* to Gianni *to*–him–it will read tomorrow’

(4) ... Force ... Top ... Int ... Top ... Fin ...  
*a transitivity argument*

che se di
In some languages, such elements can co-occur in the same structure

“Reported questions” in Spanish:

(1) María preguntó que el lunes si había periódicos
   ‘Maria asked that the Monday if there were newspapers’ (Spanish: Plann 1982)

(2) Le pregunté que Juan Top como Foc cocinaba
   ‘I asked him/her that Juan how cooked’

NB: in Italian in such cases the higher head would not be lexicalized
Hungarian *hogy*

(1) Kiváncsi vagyok, **hogy** elmentek-e\textsubscript{int} a vendégek.

- I-am-curious that part-left-3pl-E the guests-nom
- I wonder if the guests have left

(2) Kiváncsi vagyot **hogy** kit Foc keresett Zeta

- Curious be-PRES-1p that who-ACC looked for Zeta-NOM
- ‘I wonder whom Zeta looked for’

(3) Kiváncsi vagyot **hogy** Zeta Top kit Foc keresett

- Curious be-PRES-1p that Zeta-NOM who-ACC looked for
- ‘I wonder whom Zeta looked for’

(Puskas 2000:226)
Hungarian yes-no and wh embedded questions

(1) ... hogy Int [ .... V .... ]

(2) ... hogy Int Foc [ ... wh ... ]
Van Craenenbroek (2009) on transitivity

In certain Northern Italian Dialects we find

i. ... that Top ...

ii. ... Top Wh ...

iii. ... Wh that ...

So, *that* should be both higher then Top and lower than Top (by transitivity) $\rightarrow$ transitivity arguments give rise to paradoxes.

BUT: the argument overlooks the fact that the same functional morpheme may occupy distinct positions (think of *to, for* in English). *That*, and its equivalents, is a versatile morpheme which may lexicalize distinct positions in the LP.
(3) **CHE > TOP**
Me dispiace che a Marco i ghe gavia ditto cussi.
me is.sorry that to Marco they to.him have.SUBJ told so
‘I am sorry that they said so to Marco.’ (Venetian)

(7) **TOP > WH**
Me domando el premio Nobel a chi che i ghe lo podaria dar.
me I.ask the prize Nobel to who that they to.him it could give
‘I wonder to whom they could give the Nobel Prize.’ (Venetian)

(1) **WH > CHE**
Me domando chi che Nane ga visto al marcà.
me I.ask who that Nane has seen at.the market
‘I wonder who Nane saw at the market.’ (Venetian)
Multiple occurrences of *that* in distinct positions

(1) a. I think *that*, if they arrive on time, *that* they will be greeted  (McCloskey 1992, Radford 2011)

    b. Le mandò a dire *che* tutte quille dinare *che* le voleva dare re de Franza per l’armata

        ‘He sent (someone) to tell him that all this money that the king of France wanted to give him for the army’ (Old Southern Italian varieties, Ledgeway 2003, 131)

    c. A chërdo *che*, col liber, *ch’* a l’ abia già lesulo

        ‘They believe that, that book, that s/he has already read’ (Turinese, Paoli 2003)
Spanish vs Brazilian Portuguese

(1) a. Dice que con tu hermana que no se puede contar
   ‘He says that on your sister that we cannot count’
   (Spanish: Villa-Garcia 2015)

b. A Joana acha que A MARIA que o João encontrou no cinema
   ‘Joana thinks that MARIA that João met in the cinema’
   (Brazilian Portuguese, Mioto 1999)

In Spanish only the topic licenses the second que, in BP only the focus does.
Does the second que lexicalize Fin, or Top/Foc? The selectivity suggests that it may directly lexicalize Top/Foc.
Reported questions in Japanese

(1) Taroo-wa Ziroo-ni  [CP dare-ga  kare-no ie-ni  kuru  no  ka  to]  tazuneta

T.-TOP  Z.-DAT  who-NOM  he-GEN house-to come  no  ka  to  asked

‘Taroo asked Ziroo *that* who is coming to his house’

(Japanese: Saito 2012)
Invariance and variation: mirror image of the complementizer sequence in Romance and Japanese

**Romance** (Rizzi 1997, 2013):

\[
[ \text{Force/Report} \ [ \text{Int} \ [ \text{Fin} \ [_{IP} \cdots \cdots \cdots] ] ] ]]
\]

\[
\text{che} \quad \text{se} \quad \text{di}
\]

**Japanese** (Saito 2012):

\[
[ \cdots \ [ \cdots \ [ \cdots_{IP} \cdots \cdots \cdots] \text{Fin} \ ] \text{Int} \ ] \text{Force/Report}]
\]

\[
\text{no} \quad \text{ka} \quad \text{to}
\]
The criterial approach to scope-discourse constructions

The LP is populated by a system of functional heads related to the expression of scope-discourse properties (Top, Foc, Q), which form a functional sequence and have a dual function:

I. In syntax, they attract movement of a phrase with matching features.

II. At the interfaces with sound and meaning they activate procedures for the assignment of the intonational contour (PF) and of the interpretation (LF), also determining conditions for appropriate use in discourse.
Structure building and movement

Traditionally, generative grammar assumed two distinct computational devices:

- **structure building** (e.g., phrase structure rules, X-bar theory), and
- **movement**

But movement is « structure preserving » (J. Emonds): it gives rise to structures which could be independently generated by the structure building mechanism.

In the minimalist program (Chomsky 1995): there is a single computational mechanism, merge.
External and internal merge

Merge: \[ ... \text{A} ... \text{B} ... \rightarrow \text{A} \quad \text{B} \]

Merge comes out in two varieties, depending on whether A and B are independent elements, external to each other (for instance, both taken from the lexicon), or one can come from inside the other. So we have:

- External merge (A and B are external to each other)
- Internal merge (A and B are both in the structure already built: A comes from inside B and is merged with B)
The steps of “Movement” as Internal Merge

(1) Which girl will the boy see ___?

i.  [Q [the boy] [will [see [which_Q girl]]] ➔ Search (Agree) ➔

ii. [Q [the boy] [will [see [which_Q girl]]] ➔ Phrase identif. ➔

iii. [Q [the boy] [will [see [which_Q girl]]] ] ➔ Internal Merge ➔

iv. [Which_Q girl] [Q [the boy] [will [see <[which_Q girl]> ]]]
A useful guideline

(1) One property, one feature, one head

This maxim naturally leads to the splitting approach, decomposing arbitrary porte-manteau heads like C or I into finer, featurally simple components (favoring local simplicity at the price of a higher global complexity).

But the guideline must be qualified: a single head cannot literally contain just one featural specification.
The featural specification of a head

A head must specify:

I. its *categorial feature*

II. Formal features specifying the head’s capacity to trigger *syntactic actions*; these specifications can vary across languages, and characterize the parametrization of the system:

   a. *Merge features* (the capacity to select a complement and a specifier)
   
   b. *Move features* (the capacity to trigger phrasal or head movement)
   
   c. *Spell-out features* (the possibility of leaving the head and/or its dependents unpronounced)
An example: Subj AgrS

Category: AgrS

Merge features: selects TP

Phrasal movement features: attracts nominal element to Spec

Head movement features: attracts +V (Italian, French, but not English)

Spell-out features: licenses *pro* in Spec (Italian, Spanish, but not English, French).
The criterial approach to scope-discourse semantics

The left periphery is populated by a system of functional heads (Q, Top, Foc,...) which attract phrases with matching features:

(1)a Which book should you read ___ ?
   b This book, you should read ___ tomorrow
   c THIS BOOK you should read ___ (, not that one)

(2)a Which book Q should you read ___ ?
   b This book, Top you should read ___ tomorrow
   c THIS BOOK Foc you should read ___ (, not that one)
Languages which overtly express Criterial heads

(5)a Ik weet niet [ wie of [ Jan ___ gezien heeft ]]

‘I know not who Q Jan seen has’

(Dutch varieties, Haegeman 1994)

b Un sè [ do [ dan lo yà [ Kofi hu i ]]]

‘I heard that snake the Top Kofi killed it’

(Gungbe, Aboh 2004)

c Un sè [ do [ dan lo wè [ Kofi hu ___ ]]]

‘I heard that snake the Foc Kofi killed’

(Gungbe, Aboh 2004)
The Uniformity Principle

« In the absence of compelling evidence to the contrary, assume languages to be uniform, with variety restricted to easily detectable properties of utterances ». 

N. Chomsky (2001) Derivation by Phase, p.2

This guideline favors a transparent view of the syntax-discourse interface, in which discourse-relevant articulations are expressed by uniform Spec – head – complement schemata, with parametrisation restricted to the spell-out of the criterial head, over alternatives requiring language-specific catalogues of interpretive routines.
On the “syntacticization” of semantics-pragmatics of scope-discourse: Topic - Comment

The configurations created by merge and move are interpreted at the LF interface following the instructions associated to the criterial heads (Cinque & Rizzi 2010). E.g., for topics,

Interpretation of topics

A topic picks out a referent and makes a comment about it.

The referent must be somehow connected to the discourse context (Discourse-linking, partitivity): An out of the blue, all-new context does not license a topic-comment structure:

Q1: Che cosa è successo? (what happened?)
A: Un camion ha tamponato un autobus (a truck bumped into a bus)
A': # Un autobus, un camion lo ha tamponato (a bus, a truck bumped into it)

Q2: Che cosa è successo all’autobus per Roma? (what happened to the bus to Rome?)
A: L’autobus per Roma, un camion lo ha tamponato (the bus to Rome, a truck bumped into it)
(1) A: Secondo me non avranno mai il coraggio di partire da soli per le Maldive...
‘According to me, they will never have the courage of traveling alone to the Maldives…’

B: Beh, alle Maldive, ci sono andati in viaggio di nozze.
‘Well, to the Maldives, they went (there) on honeymoon.’
On the “syntacticization” of scope-discourse semantics-pragmatics: Focus\textsubscript{corrective} - Presupposition

NB: on the different types of peripheral focus: Belletti 2009, Bianchi, Bocci & Cruschina (2016)

IL TUO LIBRO  
YOUR BOOK  
\textit{Foc}_\text{corr}  
dovremmo leggere ___(non quello di G)

“Focus\textsubscript{corr}” - “Presupposition”  
we should read ___ (not Gianni’s)
Context of corrective focus

A: Dovreste leggere il libro di Gianni...
   ‘You should read Gianni’s book…’

B: No, IL TUO LIBRO dovremmo leggere, non quello di Gianni
   ‘No, YOUR BOOK we should read, not Gianni’s book’
Focus\textsubscript{corrective} – Presupposition (Italian)


(2) A: Se ho capito bene, sono andati alle isole Vergini.

‘If I understood correctly, they went to the Virgin Islands.’

B: Ti sbagli! ALLE MALDIVE sono andati in viaggio di nozze!

‘You are wrong! TO THE MALDIVES they went on honeymoon!’
Another kind of left-peripheral focus in Italian: Mirative focus (Cruschina 2012)

(1) ...E io che credevo che fossero dei poveracci! Figurati un po’...
    ‘...and I believed they were poor people! Can you imagine...

    ALLE MALDIVE sono andati in viaggio di nozze!
    ‘TO THE MALDIVES they went on honeymoon!

Here the value of the focus variable falls outside natural expectations given the speaker’s previous beliefs.
Mirative focus (Bianchi, Bocci & Cruschina 2016): intonational contour
New information focus does not target the LP in Italian

New information focus does not allow movement to the LP in standard Italian (and many regional varieties), unless it can be contextually salvaged as a corrective or mirative focus:

(1)Q  Che libro hai comprato?
    ‘What book did you buy?’

    A  Ho comprato il libro di Gianni
        ‘I bought Gianni’s book’

    A’ # Il libro di Gianni, ho comprato
        ‘Gianni’s book, I bought’

Belletti (2001, 2004): new information focus targets a low focus position in the vP periphery in standard Italian (but it may target a LP position in regional varieties such as Sicilian and Sardinian: Cruschina 2012).
...but it does in certain regional varieties

The Sicilian dialect (and the regional variety of Italian spoken in Sicily and other southern regions) uses a clause initial position also for new information focus:

(1) Q: Chi scrivisti? (Sicilian)
   ‘What did you write?’

   B: N’articulu scrissi
   ‘An article I wrote’

Cruschina (2012) argues that Sicilian specifies a left peripheral new information focus position distinct from and lower than the left peripheral contrastive focus position, which is prosodically more marked and does not require T to C movement.
Two hypotheses on scope-discourse markers
(discussions with K. Abels, cartographic workshops Oslo, Nov 2017, Barcelona, May 2018)

A

```
XP
  M
wè
```

The marker M is part of the clausal spine, in a Spec-head relation with XP

B

```
XP
  M
wè
```

The marker M is a case-like specification attached to XP, not part of the clausal spine
Does a marker appears only in the LP element, or also on the \textit{in situ element}? Foc marking in Gungbe:

(1) a. \ fíté \textsc{wè} \  \é \ ñí?

‘Where Foc he went?’

b. \ é \ ñí \ fíté \(*\textsc{wè})*? \quad \text{Echo questions}

‘he went where (foc)’

NB: wh-elements when in LP position systematically occur with the Foc marker \textsc{wè}. So \textsc{wè} expresses both Q and Foc.
French /esk/ cooccurs with moved wh, not with wh in situ.

(1)a Qui tu as vu?
‘Who you have seen?’

   b Tu as vu qui?
‘You have seen who?’

(2)a Qui est-ce que tu as vu?
‘Who /esk/ you have seen?’

   b * Tu as vu qui est-ce que?
‘You have seen who /esk/?’

NB: est-ce que, derived from the cleft construction (« who is it that you saw ?» is plausibly reanalized in contemporary French as a simple Q marker, pronounced /esk/ (Cheng & Rooryk 2000)
Multiple questions

Many languages permit multiple questions with just one wh-element moving to the LP:

(1) What did you give __ to whom?

Does the special Q marker occur only on the left-peripheral element (as predicted by A) or on all wh-elements in multiple questions (as expected under B)?

(2) What Q did you give to whom?

(3) What Q did you give to whom Q?
Multiple questions in Dutch varieties

(2) Ik vraag me af [ wie of wat (*of) gezegd heeft ]
   ‘I ask myself off who Q what (*Q) said has’

The marker appears adjacent to the moved wh-phrase, not on the wh-elements in situ. This is expected if the marker is a left-peripheral head (approach A).

(thanks to L. Haegeman)
Does the markers appear once or twice in coordinations of topics or foci?

(1) John and Bill  M ....

(2) John  M  and  Bill  M ....

Approach A (clausal spine) predicts only (1) to be possible.
Approach B (DP-internal) is consistent with both (1) and (2)
(See also the “clausal spine” view of wa-marking and (double) ga-marking in Japanese: Paul & Whitman 2017)
Focus marker in coordinate structures in Gungbe (thanks to Enoch Aboh)

(1) [xwé kpó mótò kpó] wè Súrù xò
    house COORD car coord FOC Suru buy

    ‘Suru bought A HOUSE AND A CAR’.

(2) * [xwé wè kpó mótò wè kpó] Súrù xò
    house FOC COORD car FOC COORD Suru buy

(3) * [xwé `kpó wè mótò `kpó wè ] Súrù xò
    house COORD FOC car coord FOC Suru buy
Topic marker in a coordinate structure in Gungbe (thanks to Enoch Aboh)

(1) [xwé ló kpó mótò ló kpó] yà Súrù xò yè
house DET COORD car DET COORD TOP Suru buy 3PL

‘As for the house and the car, Suru bought them’.

(2) *[xwé yà kpó mótò yà kpó] Súrù xò yé
house TOP COORD car TOP COORD Suru buy 3PL
-ra marking in Persian  (thanks to Bahareh Samimi)

(1) [maqale o ketab]-o xund-am.
    article and book RA read-1SG
  ‘I read the article and the book.’

(2) ?? [maqala]-ro o [ketab]-o xund-am.
    article RA and book RA read-1SG
  ‘I read the article and the book.’
Che marking exclamatives in Italian

(1) Che macchina (che) hai comprato!
   ‘What a car (that) you bought!’

(2) Quante ragazze (*che) e quanti ragazzi (che) sono venuti alla festa!
   ‘How many girls and how many boys (that) came to the party!’

NB: this instance of che could be an Excl marker, or a lower Fin marker: in both cases it is part of the clausal spine, hence the unique occurrence is expected. On the other hand, the first che of (1) is a DP-internal exclamative operator, hence it occurs twice in coordination:

(3) Che macchina e che moto (che) hai comprato!
   ‘What a car and what a motorcycle that you bought!’
The markers interfere with other processes like V2

(1)  a. Ik weet niet [ wie (of) ] [ Jan gezien heeft ]]
    ‘I know not who Q Jan seen has’

b. Wie (*of) heeft Jan gezien?
    ‘Who has Jan seen?’
Criterial markers and V2

Under an approach to V2 like Samo (2018), the inflected verb moves to create a Spec-head configuration with the relevant criterial phrase. So, it competes with a criterial particle:

Wie of Jan gezien I heeft

who of seen has
Scandinavian *som* also interferes with V2

(1) a. *Hun spurte hvem *(som)* kom.*
   
   she asked who SOM came
   
   “She asked who came.”

   b. *Hun spurte hvem *(som)* Johan møtte.*
   
   she asked who SOM Johan met
   
   “She asked who John met.”

(2) *Hvem *(som)* kom?*

   Who came?
Prenominal Focus marker *a* in Jamaican Creole

Some languages use prenominal, rather than post-nominal markers for focus, as in Jamaican Creole

(13) A di bami Piita nyam (...nutn muor)
    Foc the bammy Peter eats (...nothing more) (Durrleman 2008: 74)

Durrlemann analyses this as involving *a* in Foc head attracting the focused phrase to its Spec, and then moving up via head movement to the next higher head (see also Durrleman & Shlonsky 2015).

NB: similarities/differences with initial *shi* focus construction in Chinese?
Durrelman’s (2008) analysis
Head movement and criterial freezing

Criterial configurations give rise to freezing effect. So, isn’t further movement of Foc a violation of freezing?

No: In the criterial configuration, freezing effects involve the phrase (the « criterial goal »), not the head, which remains a « free agent ». Eg, the subject DP cannot move further (under the subject criterion), but the Subj head can, e.g. in I to C movement:

(1) * Who do you think [ that [ __ Subj came ]?]

(2) What did [ John __ buy ]?

The question remains open, though, of what attracts Foc to a higher head.
Maori has both topic and focus markers (in that order) preceding topic and focus, analysed by Pearce along similar lines:

(14) Ko te hipi nā Pita I fihore

\begin{align*}
Ko & \text{ the sheep} & nā & \text{ Pita} & \text{T/A} & \text{ fleece} \\
\end{align*}

‘As for the sheep, it was Pita who fleeced it’ (Pearce 1999)

Pierce proposes, in essence, the analysis we just reviewed for JC.
Two hypotheses on pre-nominal markers

A

The criterial view+movement: the marker M is part of the clausal spine, in a Spec-head relation with XP; then it moves to a higher head.

B

The marker M is a P-like specification attached to DP, not part of the clausal spine.
Prenominal markers are part of the clausal spine in JC (Durrleman 2008)

(16)a  A  di bwai  an  di gyal  mi si  lass nait
    ‘Foc the boy and the girl  I saw last night’

b  *A  di bwai  an  a  di gyal  mi si  laas nait
    ‘Foc the boy and Foc the girl  I saw last night’
Two views on scope-discourse markers
(discussions with K. Abels, cartographic workshops Oslo, Nov 2017, Barcelona, May 2018)

A

XP
  M
     wè

The criterial view: the marker M is part of the clausal spine, in a Spec-head relation with XP

B

XP
  M
     wè

The marker M is a case-like specification attached to XP, not part of the clausal spine
The XP-internal options is motivated in some cases

For instance, Durrleman argues that the topic marker in JC is expressed by the particle *de* (there), and that it is DP internal.

(18) [da bwaai de], mi laik im
    that boy [Top]  I  like him
    ‘A for that boy, I like him’

And in fact, in this case, the marker is replicated with conjoined topics:

(19) Da pikni de, da buk de, dem piipl de, mi no wahn ha notn muo fi du wid dem!
    ‘As for that child, that book and those people, I don’t want to have anything more to do with them!’

In conclusion, one should look at the language internal evidence to adjudicate between the two options, head of the clausal spine or DP-internal marker.