

The relative cycle: How grammaticalization (does not) work

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The idea in a nutshell

- Several accounts of linguistic change are based on economy (e.g. Chomsky 1995; Roberts and Roussou 2003; van Gelderen 2004, 2008, a.m.o.).
- I will show that in order to explain what looks like a typical case of a cyclic change (i.e. the renewal of a relativizer) we only need to assume that the difference lies in the type of (strong) determiner-like element used to spell out part of the internal head of the relative clause.

Economy based accounts

- Clark and Roberts (1993): economy of derivation → as few movements as possible.
- Roberts and Roussou (2003): from lexical to functional elements → only upward movement
- Van Gelderen (2011): cycles from functional to functional elements
 - a. Phrase > word/head > clitic > affix > 0
 - b. Lowering from Spec to head of the same FP

Is this all there is?

- Most analyses of linguistic change are based on economy principles.
- I will analyze the evolution of relativizers which looks like a grammaticalization cycle
- I will argue that there is evidence to treat it as a difference in the spell out which proceeds along an analogical pattern driven by structural and featural similarity.
- No economy principle is involved in this change.

The relativization cycle

- The evolution from Latin to Romance and within Italo-Romance varieties shows us the following cycle
 1. Indefinite pronoun >
 2. Wh-pronoun >
 3. Complementizer >
 4. demonstrative + complementizer >
 5. ?demonstrative

Road map

- I will first provide some general assumptions I adopt for the structure of relative clauses
- I will then zoom in onto two stages of the „cycle“
 - a. The „supposed“ change from wh-item to complementizer
 - b. The rise of the demonstrative as the new relativizer

First step: indefinite pronouns in Latin

(1) Relative system in Classical Latin

	Singular			Plural		
	Masc.	Fem.	Neuter	Masc.	Fem.	Neuter
Nom.	quī (quei)	quae	quod	quī (quei)	quae	quae
Acc	quem	quam	quod	quos	quas	quae
Gen.	cuius (quoius)			quorum	quarum	quorum
Dat.	cūī (quoi)			quibus (quis)		
Abl.	quō	quā	quō	quibus (quis)		

A merger of relatives and interrogatives

- The inflection of relative pronouns was greatly leveled already in Late Latin (Vineis 1994; Pinkster 2012).
- In Vulgar Latin the forms of interrogative and relative pronouns were interchangeable and the masculine relative *qui* took the place of the interrogative *quis* as well as of the feminine *quae* (Grandgent 1907; Pompei 2011).

A merger of relatives and interrogatives

- The coalescence of relatives and interrogatives into a single class is not expected if the cartographic framework is adopted, where relativizers and interrogatives are assumed to occupy distinct positions in the split left periphery of the clause (Rizzi 1997; Poletto 2002; Benincà & Poletto 2004; Giorgi 2010):

(1) [FrameP [ForceP [RelP] IntP [TopP [FocusP [FinP ...]]]]]]]

Second step

(2) *Quale ragione ci mostri?*

Which reason us show:2SG?

‘Which reason will you show us?’

(Novellino 7, 51-54)

(3) *Uno signore di Grecia avea uno suo giovane figliuolo*

A lord of Greece had one his young son

il quale faceva nodrire [...]

the which made nourish [...]

‘A lord of Greece had one young son, whom he made nourish [...].’

(Novellino 7, 3-5)

In Old Italian the merger between relatives and interrogatives is complete

(4) *Or, **cui** chiami tu Iddio?*

Now, who:OBJ call you God?

‘Who do you call God?’

(Novellino, 79, 7)

(5) *Così ella avea conceputo d’uccidere me e le mie*

so she had planned to kill me and the my

*sorelle **cui** ella avea ingenerato di suo corpo*

sisters, who:OBJ she had generated from her body

‘So she planned to kill me and my sisters whom she had generated from her body.’

(Brunetto Latini, Rettorica, 137, 8-10)

Third step: complementizers in Veneto dialect

(6) Go visto el fio **che** i **ghe** ga da un premio
have:1SG seen the boy that they cl.DAT have given a award
'I saw the boy to whom they gave an award.'

(7) Il giorno **che** se gavemo visto
the day that cl have:1PL seen
'The day on which we saw each other.'

- Veneto only uses complementizers in relative clauses, with or without a resumptive clitic depending on a) the case of the internal head b) the type of relative clause.

Fourth step: demonstratives in Marebbano

(8) *L seniëur **de chël che** cunësci la sor róa enco*
the man of DEM that know:1SG the sister arrives today
'The man of whom I know the sister arrives today.'

(9) *Mio pere **a chell che** mia oma à albù rajun da ti*
My father to DEM that my mum has much reason to cl

scraiè ados laura trep

scream against works too_much

'My father, whom my mum rightly reprimanded, works too much.'

- In Marebbano both restrictive and appositive PP relatives have a demonstrative doubling the „complementizer“

Discussion

- One might think that this is regular case of a cycle, where the demonstrative is the “new relativizer” after the former relativizer has been reduced to a head (the complementizer) and is reinforced by the demonstrative.
- There exist languages that use demonstrative forms as relativizers (for instance German)

A morphological clue

- Demonstratives, interrogative/relative elements and the complementizer all start out with the same morpheme **k-**, which can either be clustered with another, or not.
 - a. demonstrative **kw-ello**
 - b. wh-item: **k-i**
 - c. complex wh item: **kw-ale**
 - d. complementizer **k-e**

A morphological clue

- Wh-items and demonstratives are built on a *k*- basis plus an agglutinated element *alius* ‘other’ or *illus*, which was the Latin demonstrative.
- The *k*- morpheme alternates with the morpheme *t*- (**to*, Watkins 1994)

(10) *qu-ale* / *t-ale* ‘which/such’
qu-anto/*t-anto* ‘how much/so much’

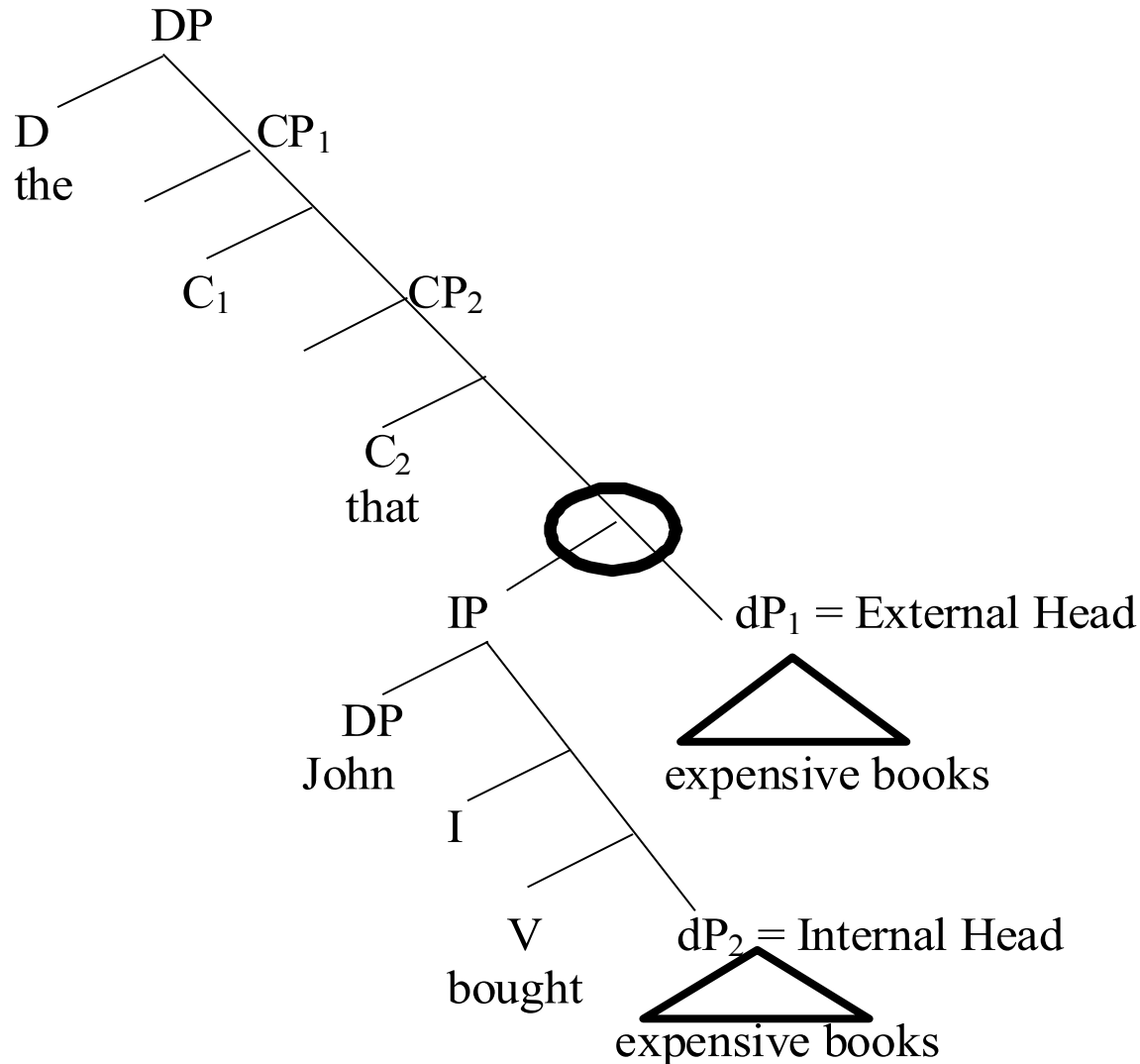
- The *k*-morpheme is found in contexts in which we have a variable of some type.

A long-standing debate

- Relative clauses have been analyzed as
 - A) having an internal head which raises out of the RC into the DP to which it is attached (**Head-internal analysis**)cf. Brame 1968; Vergnaud 1974; Kayne 1994; Bianchi 1999)
 - B) having an operator in the SpecC of the RC which matches the head noun (**Head-external analysis**; cf. Partee 1975; Chomsky 1977; Jackendoff 1977; Dermidache 1991)
 - C) having two heads, an internal and an external one which match each other (**Matching analysis**; cf. Lees 1960; Sauerland 1998, 2003)

Cinque's 2013 analysis

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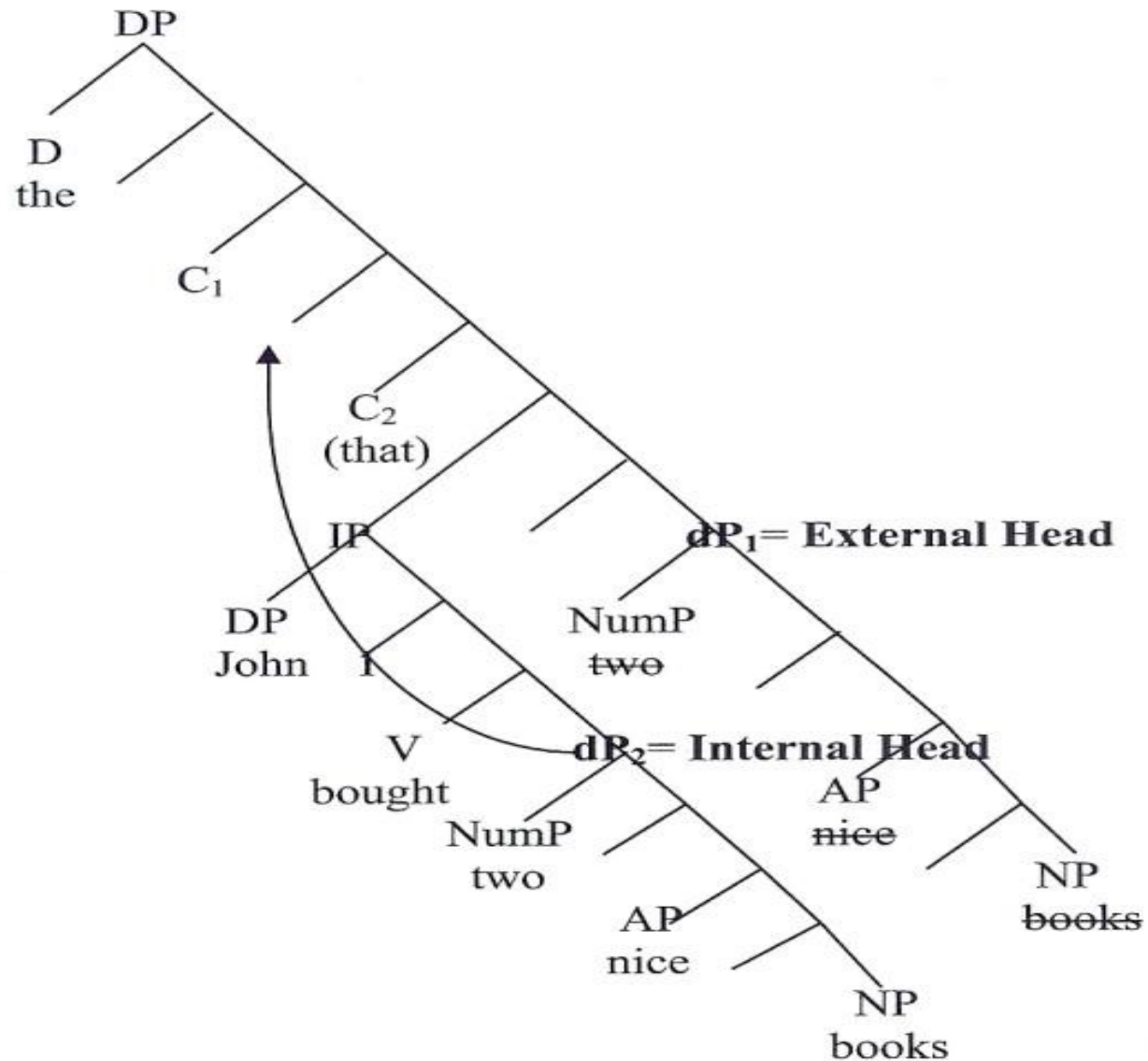


Cinque's (2013) analysis

- All relatives are matching relatives (following Sauerland 1998, 2003)
- The head internal/head external effects are due to which of the two heads raises higher in the C positions located below DP

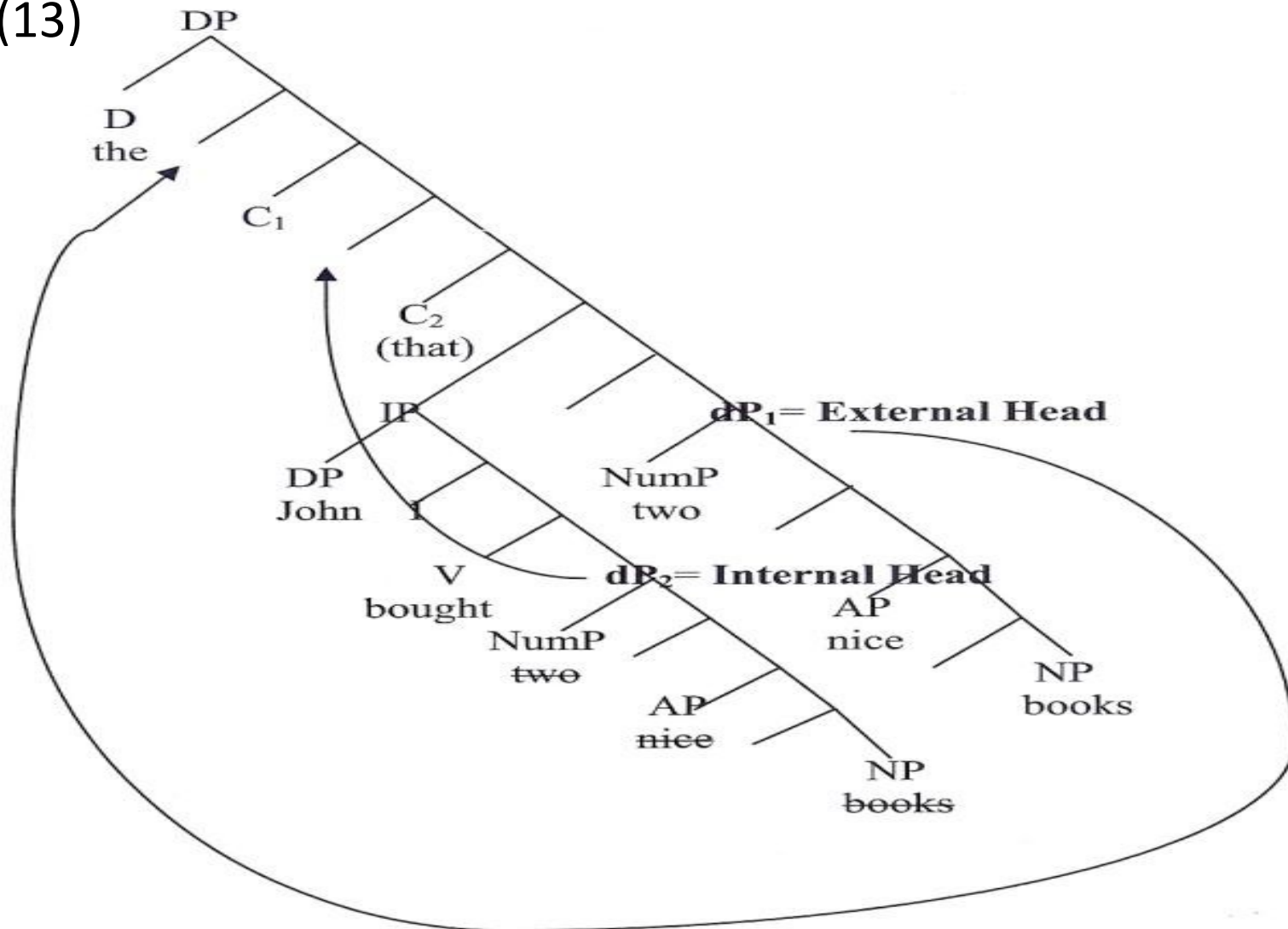
Head internal raising

(12)



Head external raising

(13)



Evidence for both heads

(14) *Loci natura erat haec quem locum nostri castris delegerant*

‘The nature of the ground which our men chose for the camp was this.’ (Caesar, *De Bello Gallico* II, 18)

(15) *volcese dare alcuno riposo in uno loco solitario, in lo quale loco potesse ben pensare de se medemi*

‘He wanted to have some rest in a solitary place, in which he could think about he himself’ (Campulu, 1, prol. - pag. 5, l. 4)

(16) *Al pütel c at cunosi anca te col pütel l'è partì*

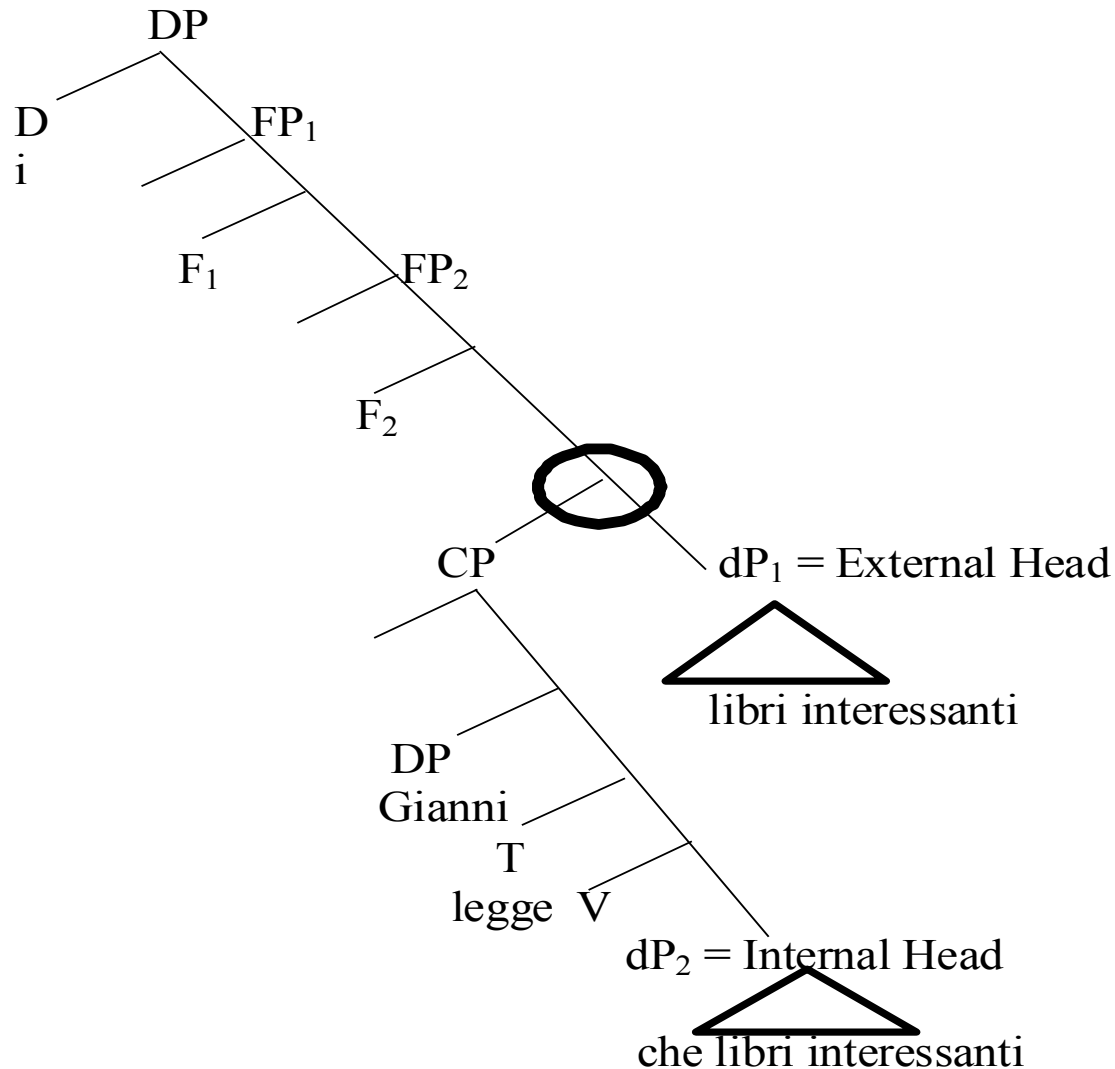
‘The boy whom you also know left.’ (Dosolo dialect)

Our reformulation

- Problem: why do we have two CPs inside a DP?
This is not the normal structure of a DP.
- We reformulate the analysis by assuming that what looks like a complementizer is actually part of the internal head in the same way as interrogatives.

Our reformulation

(17)



Our reformulation

- There are no CPs inside the DP, *che* is not a complementizer but part of the internal head, which starts out as [che N] like in interrogative clauses.
- What look like complementizers are actually the same element as the interrogative wh-item, i.e part of the nominal structure.

Our reformulation

- If there is no distinction between relative pronouns and complementizers, then the cycle has to be restated in different terms.
- We will show that all relativizers are neither pronouns nor complementizers but functional specifiers which are part of the internal head of the relative clause, just like interrogative adjectives are part of the wh-item.

Interrogatives and Relatives

(18) ***Che ragazzo** hai visto?*

‘Which/what boy did you see?’

(19) *Il **ragazzo che** ho visto*

‘The boy that I saw...’

- Interrogatives: [che +N]
- Relatives: [N [che + N]]

I argument

- In standard Italian interrogative and relative clauses display exactly the same elements: *che* ‘what, which’ *quale* ‘which’.
 - A survey of the ASIt data base containing 150 dialects (<http://asit.maldura.unipd.it/>) has shown that the following generalizations hold:
 - (G1) If a variety does not use the form **qual-** as a wh-adjective in interrogatives, it will not display the form **qual-** as a relativizer.
 - (G2) If a variety has **che** as a relativizer, then it also has **che** as wh-determiner in interrogatives.
- The form of the relativizer and the form of wh-adjectives is the same.

An example

- In the Friulian variety spoken in Qualso, *quale* is found as relativizer in indirect object RCs (20). Interestingly, in this variety *quale* also appears as an interrogative adjective (21).

(20) *El frutat al **qual** tu volevis dà el libri al è partit*
the boy to REL you wanted give the book s.cl is left
'The boy to whom you wanted to give the book left.'

(21) ***Qual** libri ha-tu let?*
which book have-you read
'Which book have you read?'

An example

- Veneto does not have *qual* in both interrogatives and relatives:

- (22) a. **el fio **al qual** te volevi dar(**ghe**) un libro*
b. *el fio **che** te volevi dar-**ghe** un libro*

‘The boy to whom you wanted to give a book...’

- (23) a. ****qual(i)** libri ze che te ga leto?*
b. ***che** libri ze che te ga leto?*

‘Which book have you read?’

II argument

- The usual criteria (Kayne 1975; Klima 1964; Radford 1980) for distinguishing between complementizers and relative pronouns do not hold a closer scrutiny.
 - A. Complementizers do not display case
 - B. Complementizers do not display animacy
 - C. Complementizers are incompatible with prepositions
- These three criteria do not always go together

Invariable pronouns

- The agreement argument does not identify complementizers only.
- Also relativizers usually considered as pronouns and not as complementizers do not always display agreement. In Old Neapolitan *quale* is invariable, but is never treated as a complementizer.

Quale is invariable

(24) *Tutte queste parole le quale*

all:PL.FEM this:PL.FEM word:PL.FEM the:PL.FEM REL

le disse lo re Peleo

CL. said the king Peleo

'All these words which the king Peleus said'

(LTD, 51.17-18)

(25) *glora de Iesu Christo et dela Vergene matre, li*

glory of Jesus Christ and of.the Virgin mother the:PL.M

quale illumenenno lu intellectu

REL bright the mind

'Glory of Jesus Christ and of the Virgin Mother, who
bright the mind'

(SDM, 65.14-16)

Agreeing „complementizers“: gender

- Masculine Head Noun > CHI

(26) *Lo re de Cipre **chi** se clamao Eneo*

‘The king of Cyprus who was named Enea [...].’

(LTD, 153. 14-15)

- Feminine Head Noun > CHE

(27) *Questa Medea **che** desiderava tanto la soa dolce
partenza*

‘Medea, who really desired her sweet departure [...].’

(LTD, 67.24)

Agreeing „complementizers“: case

- Nominative > CHI

(28) *Lo re de Cipre **chi** se clamao Eneo*

‘The king of Cyprus who was named Enea.’

(LTD, 153. 14-15)

- Accusative > CHE

(29) *se ad omnen facto **che** ave homo a fare*

‘If at each action that a man has to do [...].’

(LDT, 92.7–8)

- In Old Neapolitan the form of the „complementizer“ is sensitive to the case and gender of the head noun, while the relative pronoun is invariable.
- Old Neapolitan displays the paradoxical situation that the relative complementizer displays agreement but the relative pronoun does not.

Agreeing complementizers: animacy

- In Old Piemontese and Old Ligurian the complementizer has a different form with respect to the animacy and case of the head noun.

(30) *questa femena **chi** m' à spanyunto questo*
this:fem woman REL to_me has spread this

inguento adosso

unguent on_me

'This woman that spread this unguent on me'

(Passione, 28)

(31) *questa cità **que** avea num Iherico*

this city REL had name Gericho

'This city that was named Gericho [...].'

(Sermoni Subalpini 9, 246, 12-13)

Old Ligurian distribution of *chi/che* in *Passione* (1356)

	CHI (N=57)		CHE (N=54)	
	[+ANIMATE]	[-ANIMATE]	[+ANIMATE]	[-ANIMATE]
NOM	54	3	0	18
ACC	0	0	23	13

A progressive loss of features

<i>Latin</i>	<i>Old Neapolitan</i>	<i>Old Piedmontese/ Ligurian</i>	<i>French</i>	<i>Old/Modern Ita</i>
Case	Case	Case	Case	
Gender	Gender	Animacy		
Number	Animacy			

II argument: summary

- What is standardly assumed to be a complementizer is not, since it can agree for animacy, case and gender with the N.
- NB: in Romance inflected complementizers are never found in complement clauses, so these cannot be treated as cases of inflected complementizers of the type found in Germanic dialects, which are typically found in all embedded clauses, not only relatives.

II argument: summary

- However, *che* does not occur with a P, so the three paradigmatic differences with relative pronouns do not always go together.
- In Old Florentine, *che* is found only with some prepositions, but not all, which shows that there is more than meets the eye.
- Furthermore, in Old Florentine P + *che* is found only when the head noun is [- animate].
- Similarly, [P [che N]] is found in interrogatives only with [- animate] N.

Il argument: summary

- Examples of Old Florentine *che* +P

(32) *Uno bastone **con che** s'apogiava perch' era debole*

A stick with REL cl rested because was weak

'A stick on which he rested because he was weak'

(Fiori e vita di filosafi, 9, 4-5)

II argument: summary

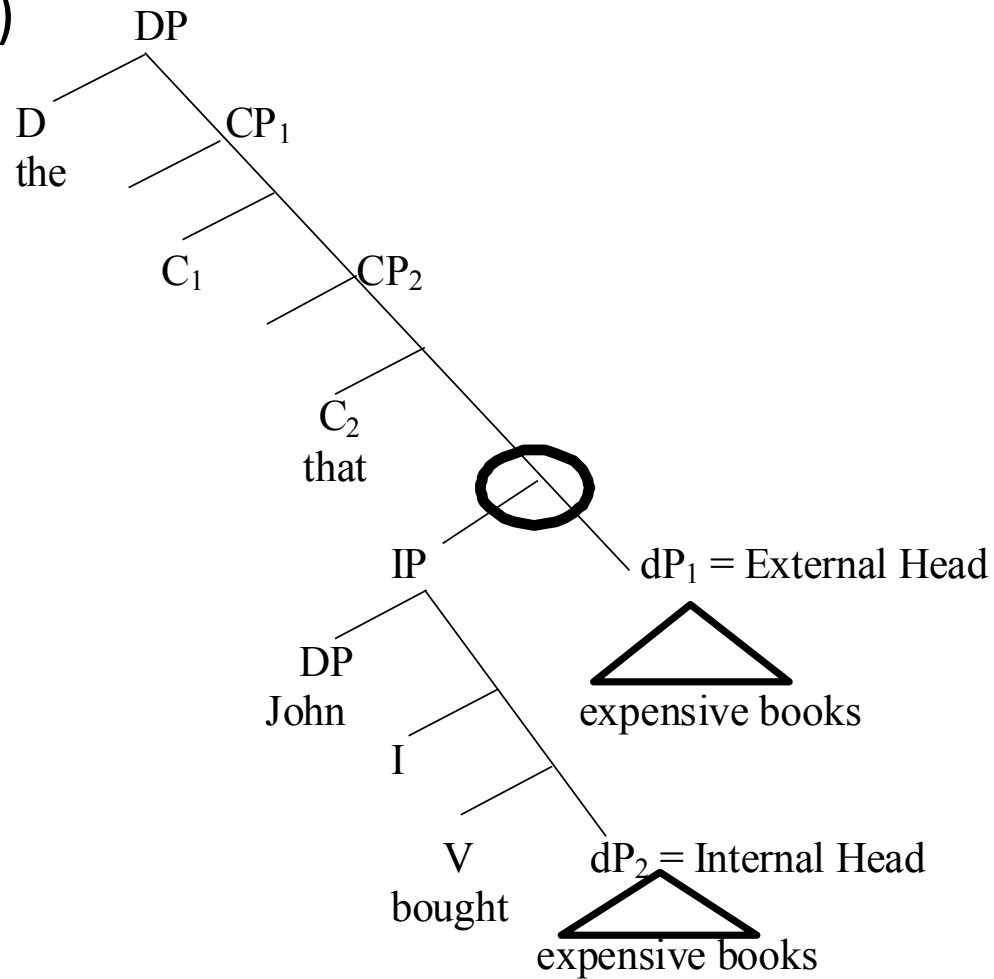
- The reason why in Italian *che* never occurs with a preposition is that there is *cui*, which is marked for oblique case.
- Spanish and Portuguese still tolerate *que* with some prepositions.
- French *que* is most probably a clitic (as already proposed by Paul Hirschbühler in the 80ties) and therefore has a different behavior.

III Argument

- Relativizers like *che* and *quale* are portion of the internal head, which is an indefinite, and spell out different functional specifiers.
- Then we can avoid postulating CPs inside the DP structure.

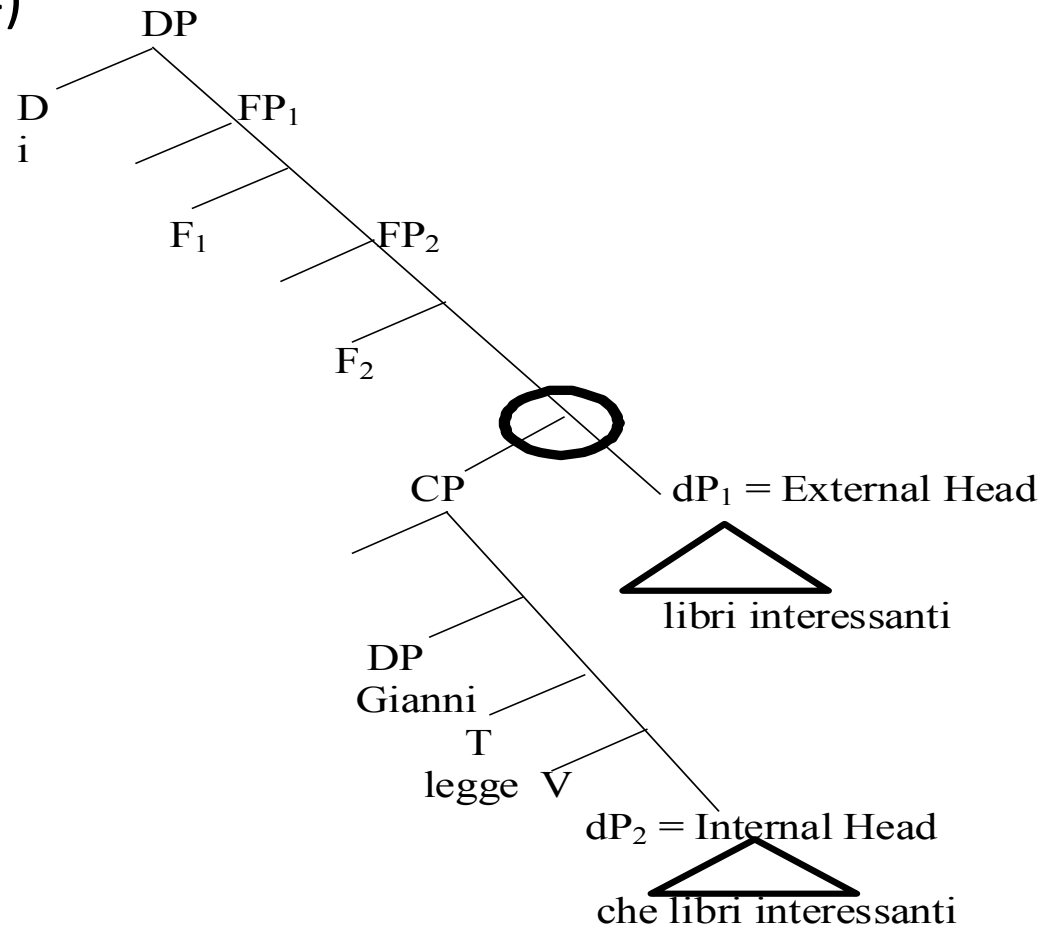
Cinque's 2013 analysis

(33)



Our reformulation

(34)



- If *che* is not a complementizer but the same element occurring in interrogatives, then there is no change from an XP to a head.

The fourth step of the cycle

- Some Italian varieties have developed a new form of the relativizer based on the form of the demonstrative adjective.
- We now analyze the progressive widening of this form across relative types.

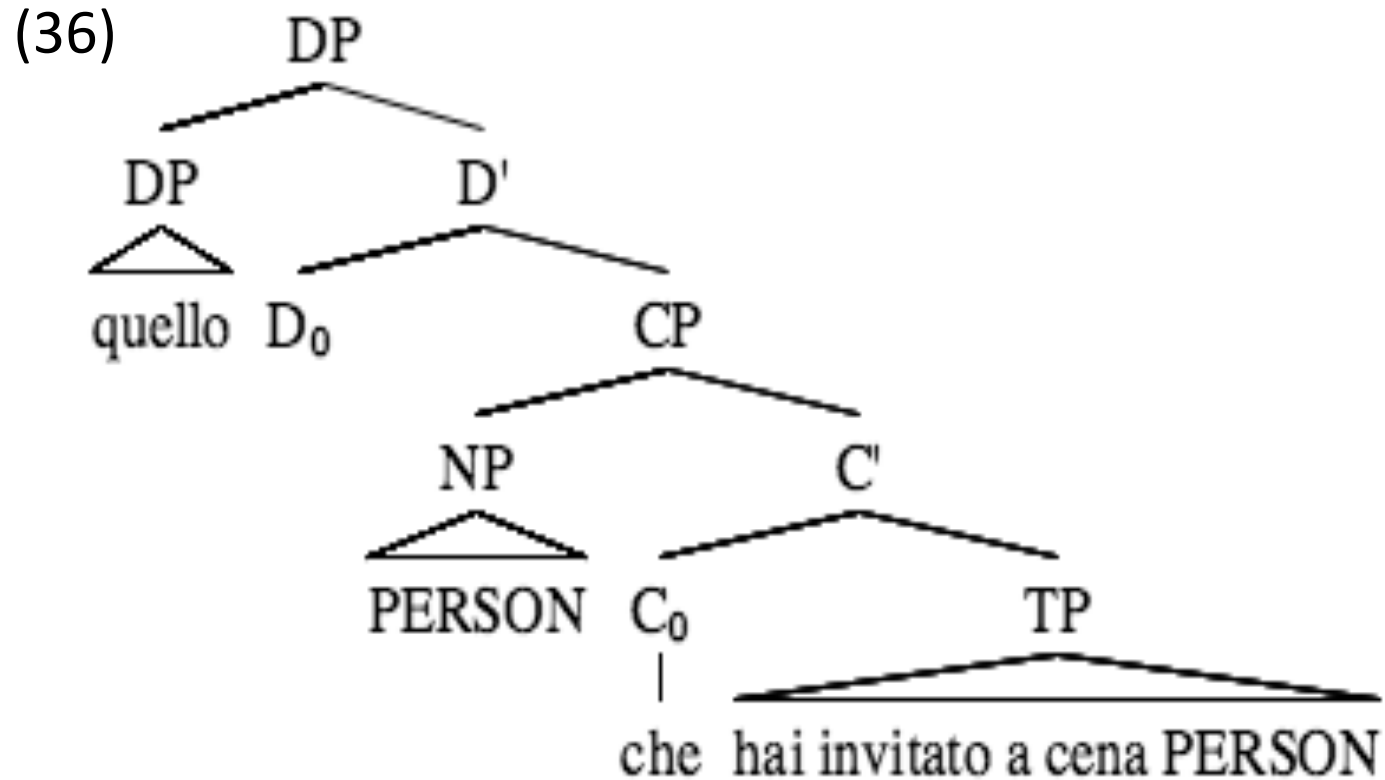
Standard Italian relatives

- In standard Italian demonstratives are generally used in free relatives:

(35) *Fai quello che vuoi*
do that REL want:2SG
'Do what you want'

- We adopt the hypothesis that free relatives have an external empty head, of the form THING, PERSON etc. and the demonstrative is the lexicalized part of the empty external head (along the lines of Benincà 2010, 2012).

External head



Fourth Step: demonstratives in Venosino

(37) *Aier ajj nguntrat a ppant, cor ca jè stat ign carcər*
'Yesterday I met your father, who was in jail'

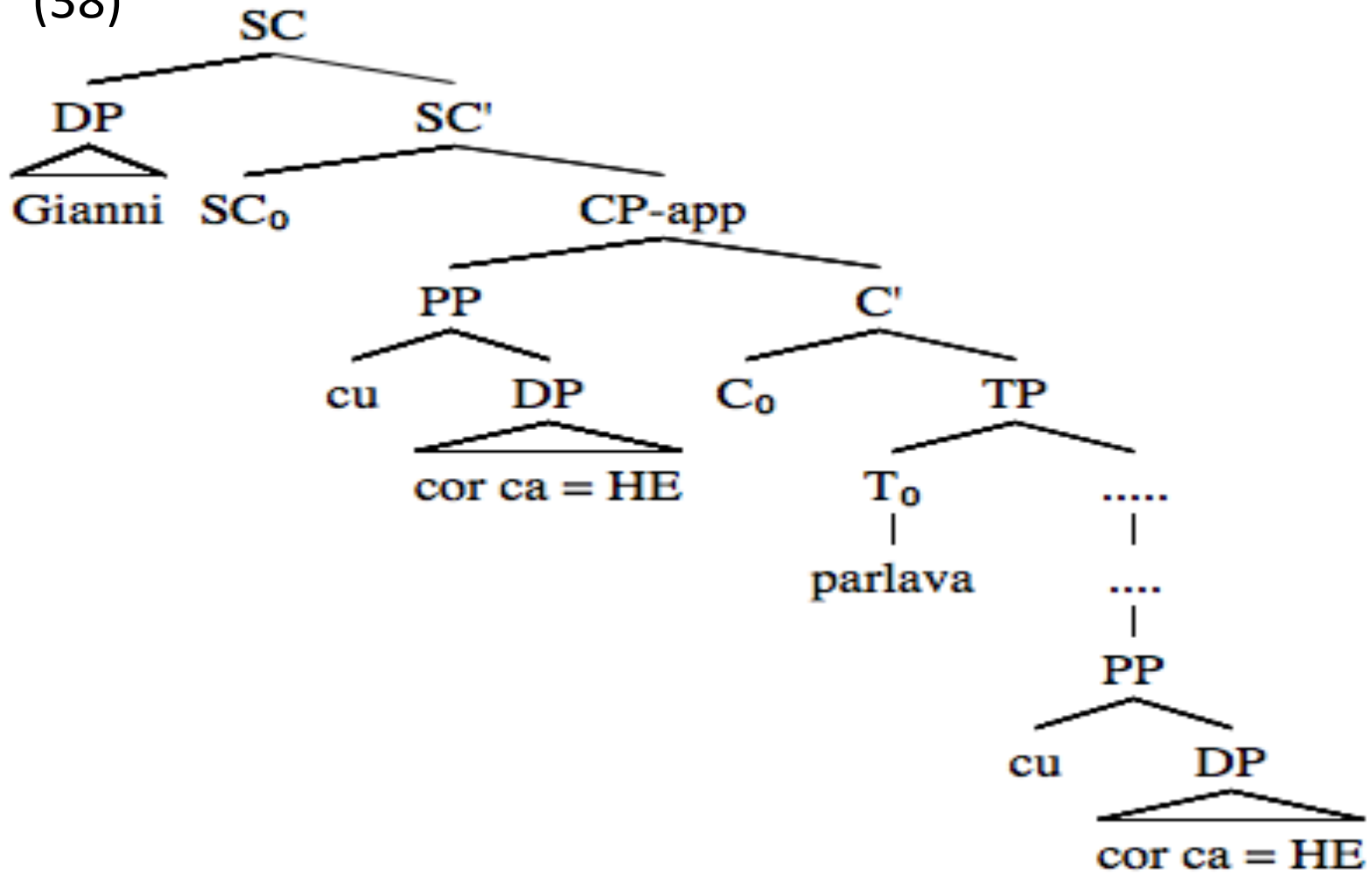
- Here the demonstrative can refer back to a unique referent and the case is the one internal to the relative clause.
- Contrary to Standard Italian, Venosino allows demonstratives also in appositive relative clauses (37).

Fourth Step: demonstratives in Venosino

- We assume that the structure of an appositive relative clause is a small clause containing the head noun in the Spec and the relative clause in the complement.
- Here the demonstrative is the spell out of the internal head, not of the external one (as in standard Italian)

Structure

(38)



Fourth step: demonstratives in Marebbano

(39) *L seniëur **de chël che** cunësci la sor röa enco*
the man of DEM that know:1SG the sister arrives today
'The man of whom I know the sister arrives today.'

(40) *Mio pere **a chell che** mia oma à albù rajun da ti*
My father to DEM that my mum has much reason to cl
scraiè ados laura trep
scream against works too_much
'My father, whom my mum rightly reprimanded,
works too much.'

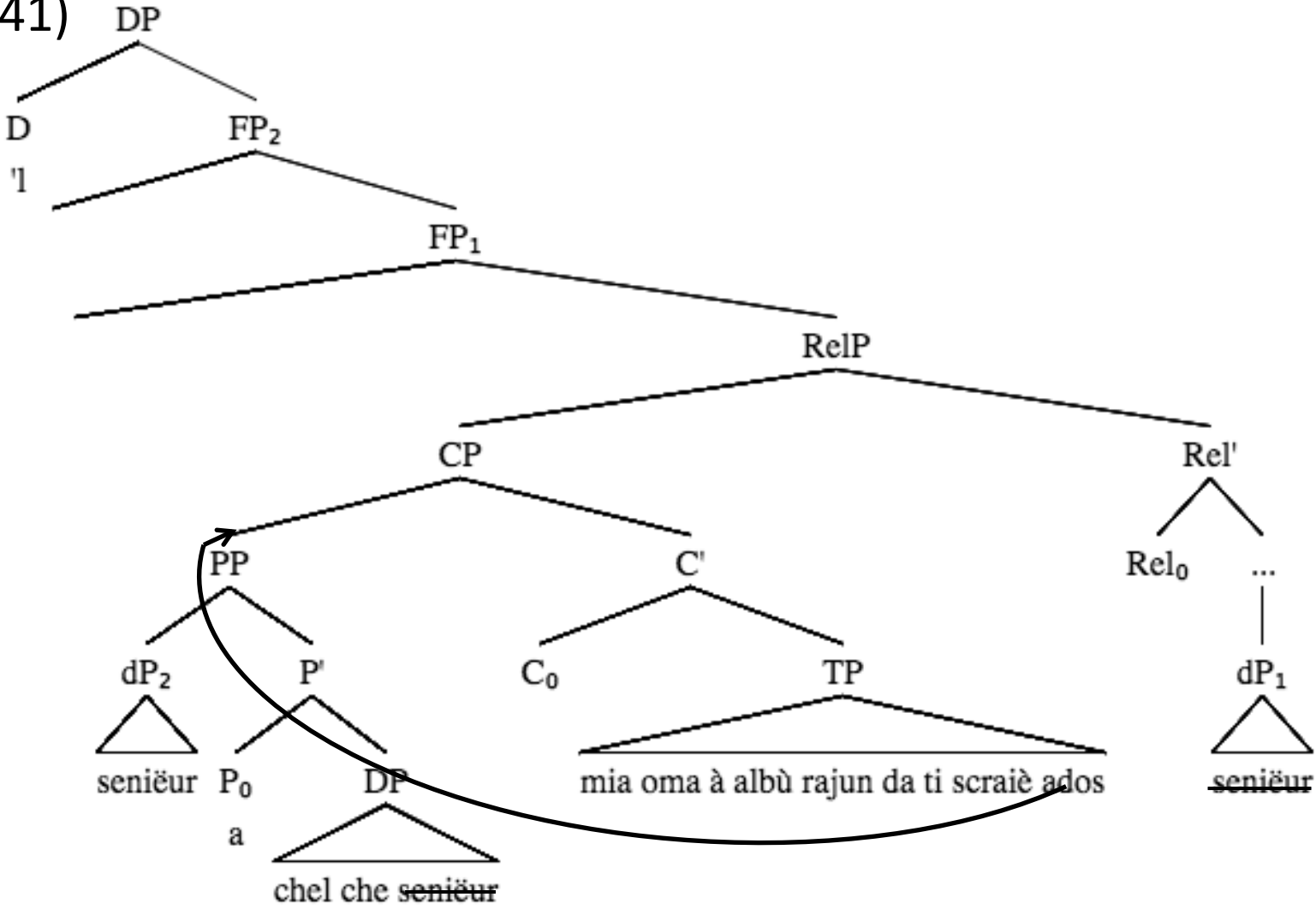
- In Marebbano both restrictive and appositive PP relatives have a demonstrative, i.e the demonstrative can also be an indefinite.

Fourth step: demonstratives in Marebbano

- Marebbano displays the last step before the complete extension of the demonstrative, which only occurs with oblique case.
- In the case of direct cases, Marebbano has agreeing *k*-forms (cf. Sanfelici, Caloi, Poletto 2014).
- From the small clause structure of the appositives the demonstrative has extended to restrictive relative clauses.

Structure

(41)



- The renewal of the relativizer occurs through a reanalysis of a portion of the external head to the internal head, which goes from free relatives (as in Standard Italian) to appositives (Venosino) to restrictives (Marebbano).
- The other step of the cycle only involves the progressive extension of a pattern originally found only in free relatives, i.e. the change of an element that was originally the external head and becomes the internal head.

To conclude

- There is no economy principle at work in the various passages of the cycle.
- This does not mean that economy is never at work in language change, but that we need an additional mechanism: i.e. extension (or in traditional terms analogy) of a pattern provided by:
 - A) the already existing structure.
 - B) the possibility to leave parts of the structure unspelled, i.e. the decision of which part of the structure the elements pronounced correspond to.

To conclude

- Summing up the results from the two steps of the “cycle” we have investigated in detail:
 - A) Relative clauses never have a complementizer head as a relativizer in Italian (and possibly Romance).
 - B) The element that looks like a complementizer is actually always a wh-item.
 - C) The only differences are given by the +/- spell out of agreement features.

Thank you for your
attention!

Database

- *ASIt Atlante sintattico d'Italia*. University of Padua:
<http://asit.maldura.unipd.it/>
- *OVI Opera del vocabolario italiano*. University of Chicago:
<http://artfl-project.uchicago.edu/>

References

- Áfarli Tor (1986). Some Syntactic Structures in a Dialect of Norwegian. *Trondheim Working Papers in Linguistics* 3. 93-111.
- Bianchi Valentina (1999). *Consequences of Antisymmetry: Headed Relative Clauses*. Berlin/New York: Mouton de Gruyter.
- Brame, M. K. (1968) “A new analysis of the relative clause: evidence for an interpretive theory,” unpublished manuscript, MIT.
- Chomsky, N. (1965) *Aspects of the Theory of Syntax*, MIT Press, Cambridge, MA.
- Chomsky, N. (1977) “On *wh*-movement,” in P. Culicover, T. Wasow, and A. Akmajian,
- Chomsky, N. (1995) *The minimalist program*, Studies in Linguistics 28, MIT Press, Cambridge, Massachusetts.
- Cinque Guglielmo (2013). *Typological Studies. Word Order and Relative Clauses*. New York/London: Routledge.
- Clark, R. and Roberts, I, (1993) A Computational Model of Language Learnability and Language Change. *Linguistic Inquiry*, 24:299--345.

References

- Demirdache, H. (1991) *Resumptive Chains in Restrictive Relatives, Appositives, and Dislocation Structures*, Doctoral dissertation, Massachusetts Institute of Technology, Cambridge, Massachusetts. Distributed by MIT Working Papers in Linguistics.
- Gelderen Elly van (2004). *Grammaticalization as economy*. Amsterdam: John Benjamins.
- Gelderen Elly van (2009a). Renewal in the left periphery: economy and the complementiser layer. *Transactions of the Philological Society* 107. 131–195.
- Gelderen, Elly van. 2009b. Feature economy in the Linguistic Cycle. In: Crisma Paola &
- Giuseppe Longobardi (eds.). *Historical Syntax and Linguistic Theory*. Oxford: Oxford University Press. 93–109.
- Gelderen Elly van (2011). *The linguistic cycle: language change and the language faculty*. Oxford: Oxford University Press.
- Kayne Richard (1975). *French Syntax*. Cambridge (Mass.): MIT Press.

References

- Kayne Richard (1994). *The Antisymmetry of Syntax*. Cambridge (Mass.): MIT Press.
- Kayne Richard (2008). Antisymmetry and the lexicon. *Linguistic Variation Yearbook*. 8: 1-31.
- Kayne Richard (2010). Why isn't This a complementizer?. In: Kayne Richard (ed.). *Comparison and contrasts*. Oxford: Oxford University Press. 190-227.
- Lees, R. B. (1960) *The Grammar of English Nominalizations*, Mouton, The Hague.
- Lees, R. B. (1961) "The Constituent Structure of Noun Phrases," *American Speech* 36, 159–168.
- Pinkster, Harm (2012). Relative clauses in Latin: Some problems of description. In: Da Cunha Corrêa, Paula, Martinho Marcos, Macedo José M. & Alexandre P. Hasegawa (eds). *Hyperboreans: Essays in Greek and Latin Poetry, Philosophy, Rhetoric and Linguistics*. São Paulo: Humanitas CAPES. 377–393.

References

- Pompei, Anna (2011). Relative clauses. In: Baldi Philip & Pierluigi Cuzzolin (eds.). *New perspectives on historical Latin syntax*. Berlin/ New York: de Gruyter. Vol. 3. 427–547.
- Roberts Ian and Anna Roussou (2003). *Syntactic change: A minimalist approach to grammaticalization*. Cambridge: Cambridge University Press.
- Sanfelici Emanuela, Caloi Irene & Cecilia Poletto (2014). Subject Object asymmetries in relative clause: an investigation into three new empirical domains. *Quaderni di lavoro ASIt, Atti della XIX Giornata di dialettologia*, Padova.
- Sauerland Uli (2003). Unpronounced Heads in relative Clauses. In: Schwabe Kerstin & Susanne Winkler (eds.). *The Interfaces*. Amsterdam/Philadelphia: John Benjamins. 205–226.
- Vergnaud, J.-R. (1974) *French Relative Clauses*, Doctoral dissertation, Massachusetts Institute of Technology, Cambridge, Massachusetts.
- Vineis, Edoardo (1994). Latino. In: Giacalone Ramat Anna & Paolo Ramat (eds.). *Le lingue indoeuropee*. Bologna: 289–348.

Slide for questions

- In Standard Italian, demonstratives are found also in what look like appositives, but actually are masked free relatives

(1) *Maria, **quella che** conosci anche tu, è partita per Roma*
Maria **that that-REL** know-2SG also you is left for Rome
'Mary whom you also know left for Rome.'

(2) *#Ho incontrato tuo padre, **quello che** è stato in prigione*
Have-1SG met your dad **that that-REL** is been in jail
'I met your dad, who was in jail.'

Fourth step: demonstratives in Campobellese

- (1) ***Cu** dissi chistu, nun canusciva la situazioni*
'Who said this did not know the situation.'
 - (2) ***Chidru ca** dissi chistu, nun canusciva la situazioni*
'The one that said this did not know the situation.'
 - (3) *Gianni, **cu chidru ca** parlavu aieri, mi telefona stamtina*
'Gianni, with whom I spoke yesterday, phoned me this morning'
- Demonstratives are possible in free relatives and in appositives.

Motivating *che* and *quale* as determiners

Theoretical arguments

- If we assume that *che/quale* are determiner-like wh-elements, we account for the movement of the internal head to the Comp domain without further stipulations
- The internal head is not a bare nominal to be exceptionally licensed, but has an internal structure similar to the one of a wh-interrogative expression of the type *che ragazza* ‘what girl’. Hence, the internal head can be licensed as the argument of the RC-internal predicate without further stipulations

Empirical arguments

- *Che* displays nominal properties.
- (1) *Ieri sono stato bocciato all'esame. **Il che** mi ha ferito nel profondo.*
'Yesterday I failed the exam. Which hurts me deeply.'
 - (2) *Gianni ha **un che di** suo padre/di Mario/di strano*
'Gianni has something of his father/strange.'
 - (3) a. ***Che ragazzo** hai visto ieri?*
'Which boy did you see yesterday?'
b. ***Che** hai fatto ieri?*
'What did you do yesterday?'
- We suggest that when it behaves as a bare pronoun, *che* is paired to a null element, THING/PERSON/PLACE (along the lines of Kayne 2008): indeed, the meaning is *che* COSA.
- (4) [un [*che* [THING] [_{GenP} di suo padre]]]

- On the contrary, when it behaves as a determiner-like element, *che* is paired to a lexical element and no genitive appears since *che* is directly located in the functional spine of the N which was in the previous case realized as the null THING.

(5) [*che* [_{NP} ragazzo]]

- In relative clauses (5) is the structure of the internal head

- **Arguments:**

- (a) **Resumption** inside the RCs: direct case and not genitive

- (1) Il bambino che l'/*ne ho visto ieri
the child that-REL CL.ACC/CL.GEN I saw yesterday

- (b) **Form of the relativizer:** cf. generalizations drawn from the ASIt database