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On the effects of partial copying on chain formation

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The usual approach to copy "sameness" involves assuming that some grammatical mechanism marks as non-distinct two syntactic objects related by the Copy operation. In this presentation it will be argued that Sameness does not follow from any particular derivational mechanism but it is computed post-syntactically, at the interfaces, by inspecting the featural content of syntactic objects. It will be shown that this approach offers conceptual and empirical advantages for the analysis of non-identical doubling in Dutch varieties.

1. Barbiers et al. (2010): data and analysis

Barbiers et al (2010) provide an interesting analysis of non-identical doubling in several varieties of Dutch.

(1) *Neuter and non-neuter wh-pronouns (Overijssel)*

Wat	denk	je	**wie**	ik	gezien	heb?	
What	think	you	who	I	seen	have	

'Who do you think I saw?'

(2) *Non-neuter and (non-neuter) relative pronouns (North-Holland)*

Wie	denk	je	**die**		ik	gezien	heb?
Who	think	you	rel.pron	I	seen	have	

'Who do you think I saw?'

(3) *Neuter and (non-neuter) relative pronouns (Overijssel)*

Wat	denk	je	**die**		ik	gezien	heb?
What	think	you	rel.pron	I	seen	have	

'Who do you think I saw?'

These are the only possible doublings in Dutch. Any other logical combination is unacceptable.

(4) *__Wie__ denk je __wat__ ik gezien heb?
Who think you what I seen have
'Who do you think I saw?'

(5) *__Die__ denk je __wie__ ik gezien heb?
rel.pron think you who I seen have
'Who do you think I saw?'

(6) *__Die__ denk je __wat__ ik gezien heb?
rel.pron think you what I seen have
'Who do you think I saw?'

Thus, the only possible orders are the ones sketched in (48).

(7)

a.	**wat** (neuter pronoun)	…	**wie** (non-neuter pronoun)
b.	**wie** (non-neuter pronoun)	…	**die** (non-neuter relative pronoun)
c.	**wat** (neuter pronoun)	…	**die** (non-neuter relative pronoun)

To provide an explanation, Barbiers et al. (2010) provide an analysis of these pronouns according to the following featural composition.

(8) a. ***wat*** = indefinite numeral (N)
b. ***wie*** = *wat* + φ-features (gender, G)
c. ***die*** = *wie* + definiteness (D)

But actually, they implement it in terms of layers:

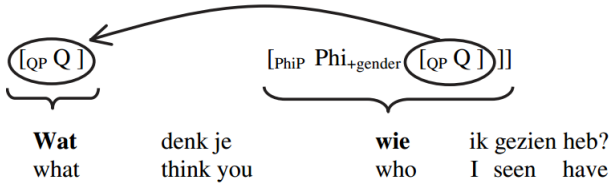
(8') $[_{DP}\ D_{+definite}\ [_{PhiP}\ Phi_{+gender}\ [_{QP}\ Q]]]$

Their analysis involves an operation they call *partial copying*, an operation that according to them follows from Copy Theory (Barbiers et al. 2010: 4):

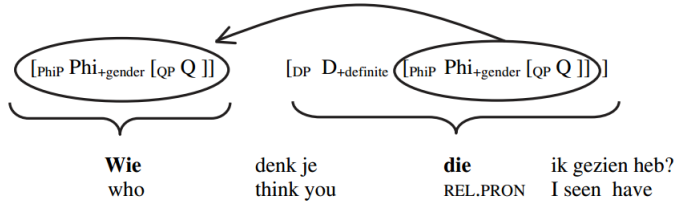
> This theory allows the syntax to copy a constituent α and remerge α higher in the structure. This will give standard movement. What syntax should also be allowed to do is to partially copy α. This is what happens with sub-extraction: trivially, an object must be able to move out of the VP, stranding the rest of the VP..

Thus, they propose an analysis based on partial copying: non-identical doubling of wh-pronouns follows from sub-extracting a low layer from a more specified pronoun.

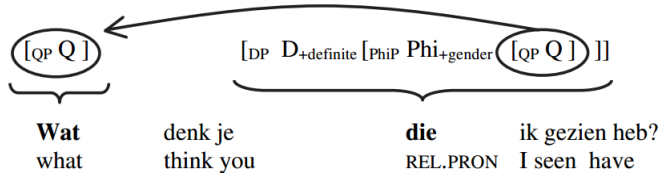
(9) *Neuter and non-neuter pronouns (cf. (1))*



(10) *Non-neuter and (non-neuter) relative pronouns (cf. (2))*

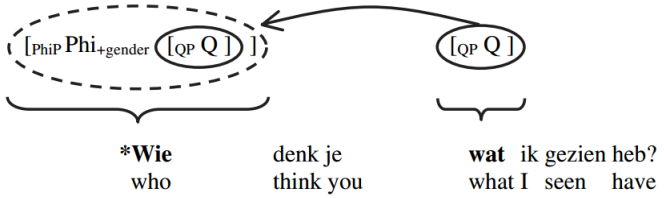


(11) *Neuter and (non-neuter) relative pronoun (cf. (3))*

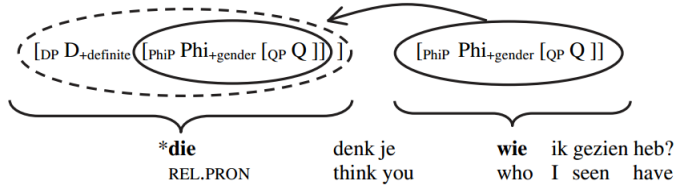


This analysis predicts successfully the unacceptability of cases as (4), (5) and (6).

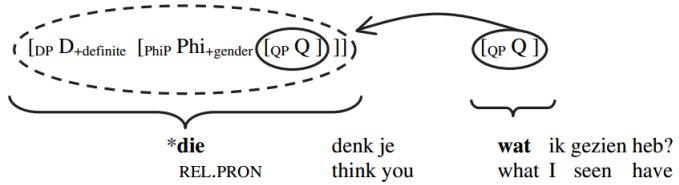
(12) *Non-neuter and neuter pronouns (cf. (4))*



(13) *(Non-neuter) relative and non-neuter pronouns (cf. (5))*



(14) *(Non-neuter) relative and neuter pronouns (cf. (6))*



This is a very elegant analysis for a very troubling pattern: it explains the restrictions on non-identical doubling straightforwardly.

2. Non-Distinctiveness

According to *Copy Theory* (Chomsky 1993) there are no movement operations in language. The displacement property is explained in terms of collections of non-distinct elements in the syntactic structure being interpreted as "the same" element.

(15) John was kissed ~~John~~.

Thus, Non-Distinctiveness is maybe the most important property of movement dependencies under Copy Theory…

The problem is positing a definition.

One prominent view assumes that Non-Distinctiveness follows somehow from the *Copy* operation (cf. Chomsky 1995, Nunes 1995, 2004). Thus, if syntactic objects are assumed to carry some kind of distinctiveness markings, their copies will also carry the same index.

(16) a. *Derivational step α*
K = [TP was [VP kissed John1]]

b. *Copy*
K = [TP was [VP kissed John1]]
L = John1

c. *Derivational step α+1*
[TP John1 [T' was [VP kissed John1]]]

Let's call this type of definition *Derivational Sameness* (DS). Basically, it involves marking as "the same" two elements through a derivational mechanism.

This solution has been object of several criticisms during the years, basically because of its violation of the *Inclusiveness Condition* (cf. Chomsky 1995).

What I am going to propose here is redefining Non-Distinctiveness. My definition is different in two aspects: (i) it is a principled definition of Non-Distinctiveness (i.e., it is based on independent grammatical principles); and (ii) it makes different predictions.

2. The system

Following Halle & Marantz (1993), it is assumed a *Late Insertion* model of grammar. Thus, syntactic terminals are taken to be just sets of features, each of them being a pair *attribute-value*, where the attribute denotes a *feature-class* (e.g., Category or Gender) and the value denotes a member of such a class (e.g., V, N, or MASC, FEM).

(17) *Syntactic feature*
<Att,Val>

However, it seems that this assumption is not necessary for the interfaces: features at PF and LF are interpreted as instructions based on *privative* values that make no use of attributes (e.g., the noun *dogs* is interpreted as a plurality of entities without reference to the *Number* class). Therefore, a syntactic terminal consisting on the features {<Att1,α>,<Att2,β>} will be interpreted at PF and LF simply as the set {α,β}.

(18) *Syntactic feature interpreted at the interfaces*
{Val}

As an extension of this idea, a valueless feature <Att,__> will lack a representation at the interfaces, being *uninterpretable*. Thus, a syntactic terminal with the features {<Att1,α>,<Att2,β>,<Att3,__>} will be interpreted as the set {α,β}.

Regarding valuation, it will be adopted the *Probe-Goal* system (Chomsky 2000, 2001): a *Probe* P carrying an unvalued feature <Att1,__> agrees with an *Goal* G carrying a valued version of the same feature <Att1,α> if (i) P c-commands G, (ii) there are no interveners between P and G, and (iii) the *Activity Condition* holds.

(19) *Activity Condition (Chomsky 2001)*
A goal G is accessible for Agree iff G has at least one uninterpretable feature.

It will be also assumed that Agree participates in both A and A'-dependencies.

(20) [CPWho [TP ~~who~~ seems [TP ~~who~~ to be [~~who~~ happy]]]]?

(21) Who{<κ,nom>,<ω,Q>, …}… who{<κ,nom>,<ω,_>, …} … who{<κ,_>,<ω,_>, …} … who{<κ,_>,<ω,_>, …}

(22) Who{nom,Q, …} … who{nom, …} … who {…} … who {…}

Notice that there is an *inclusion* relation between the occurrences of *who*. Such a relation will arise systematically for every new copy of a constituent (even if $XP_{\{...\}} = XP_{\{...\}}$, the general case for cyclic movement), so it may be capitalized to define an interface mechanism to recognize non-distinct elements:

(23) *Representational Sameness (RS)*
Two constituents α and β are "the same" if:
a. α c-commands β,
b. the features of β are a subset of the features of α,
c. there is no δ between α and β being a subset of α or a superset of β.

This definition is based on (i) c-command (we cannot do anything without that), (ii) the Last Resort condition (encoded in (5b)) and (iii) a Locality consideration (5c). Thus, no "weird" mechanism is invoked.

3. Partial copying: its empirical problems and some solutions

In non-identical doubling cases in Dutch, since the pronouns are related by a Copy operation, they are marked as "the same" under DS[1].

(24) [$_{CP}$ **wat**^{i} [$_{C'}$ C_Q [$_{CP}$ **wie**^{i} [$_{C'}$ C [$_{TP}$ … **wie**^{i}]]]]] (cf. 9)

Since these elements are "the same", they form a chain:

(25) CH = (wat, wie, wie)

Thus, they are predicted to behave as common movement dependency at the interfaces. However, this is not the case. since the three wh-pronouns form a chain, and chains usually assign phonological representation to only one of their members, an additional assumption is required to explain the pronunciation of the higher occurrence of *wie*. Barbiers et al. assume that a morphological reanalysis applies adjoining the intermediate wh-pronoun and the intermediate C head (cf. Nunes 2004).

PROBLEM 1:
Under DS, Partial Copying alone does not explain the phonological realization of an intermediate link in a chain

Problem 1 is a PF problem. There is also an LF problem:

(26)	Wie denk	je	niet	dat	zij	uitgenodigd	heeft?
	who think	you	not	that	she	invited	has
	'Who don't you think she has invited?'						

(27)	*Wat	denk	je	niet	wie	zij	uitgenodigd	heeft?
	What	think	you	not	who	she	invited	has

Here, both constructions generate a single chain.

(28) a. CH = (wie, wie, wie)
b. CH = (wat, wie, wie)

[1] I am simplifying somewhat Barbiers et al.'s proposal for the sake of clarity. Actually, they propose that the "sameness" relation holds between *wat* and a constituent inside *wie* (i.e., QP), forming an ATB-like dependency. The argument I am presenting here holds anyway.

Negation intervenes between *wat* and *wie* in (27), but such a phenomenon does not occur in regular movement. This is a mysterious fact if we assume that chains and copy operations go together. Therefore…

PROBLEM 2
Under DS, there seems to be no principled way of explaining the asymmetry between "normal" copying and partial copying regarding negative interventors.

These two problems find a simple explanation if RS (cf. 23) is assumed.

(29) [$_{CP}$ **wat**$_{\{N, Q, Acc, ...\}}$ [$_{C'}$ C_Q [$_{CP}$ **wie**$_{\{\varphi, N, Acc, ...\}}$ [$_{C'}$ C [$_{TP}$ … **wie**$_{\{\varphi, N, Acc, ...\}}$]]]]]

According to (23), we have two chains here both at PF and LF.

(30) CH_1 = (wat); CH_2 = (wie, wie)

At PF, both chains receive phonological representation independently. So, *Problem 1* is solved.

At LF, since there is no direct syntactic "connection" between the interrogative complementizer and the copy of *wie* in the thematic position (i.e., there is no occurrence of an identical element to *wie* in Spec,C), they must be "linked" by some other type of dependency. If it is a semantic dependency, it is expected that some scope-bearing element may intervene between them.

Proposal: since there is no movement dependency relating the wh-pronoun in the thematic position and the interrogative complementizer, these Dutch varieties apply a wh-in-situ kind of strategy. In other words, wh-doubling in Dutch is similar to French wh-in-situ questions:

(31)	*Jean	ne	mange	pas	quoi?		
	Jean	Neg	eat	not	what		
	'What doesn't John eat?'						

(32)	Qui'est-ce	que	Jean	ne	mange	pas	t_i?
	What	that	Jean	NEG	eat	not	
	'What doesn't John eat?'						

This proposal, of course, requires further elaboration.

4. Conclusions

In this presentation:

- A principled definition of Copy Sameness was offered.
- It was shown that this definition allows for an improvement of the analysis offered by Barbiers et al. (2010) for doubling phenomena in Dutch.

References

Barbiers, S., Koeneman, O., & Lekakou, M. (2010). Syntactic doubling and the structure of wh-chains. *Journal of Linguistics* 46. **Chomsky, N. 1993.** A minimalist program for linguistic theory. In K. Hale & S.J. Keyser (eds.), *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*. Cambridge: MIT Press. **Chomsky, N. 1995.** *The Minimalist Program*. Cambridge, MA: MIT Press. **Chomsky, N. 2000.** Minimalist inquiries: The framework. In R. Martin, D. Michaels & J. Uriagereka (eds), *Step by step: Essays on minimalist syntax in honor of Howard Lasnik*: 89–155. Cambridge, Mass.: MIT Press. **Chomsky, N. 2001.** Derivation by Phase. M. Kenstowicz (ed.), *Ken Hale. A Life in Language*. Cambridge, MA: MIT Press. **Halle, M, & Marantz, A. 1993.** Distributed Morphology and the pieces of inflection. In K. Hale & S.J. Keyser (eds.), *The view from Building 20: Essays in linguistics in honor of Sylvain Bromberger*. Cambridge: MIT Press. **Nunes, J. 1995.** *The copy theory of movement and the linearization of chains in the minimalist program*. Doctoral Dissertation, University of Maryland. **Nunes, J. 2004.** *Linearization of chains and sideward movement*. Cambridge, MA: MIT Press.