Pronouns and the *edge* of the clause.

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1. Introduction

The ultimate aim of the following pages is to explore the hypothesis that sentences containing a pronoun be analyzed as involving a topic - pronoun doubling relation in a way that closely parallels the one overtly realized in Clitic Left Dislocation (CLLD) and Hanging Topic (HT) structures in Italian/Romance[1]. In a nutshell: when a pronoun is present in the clause, a silent doubled non-overt topic, a pronoun as well, can be assumed to be present at the *edge* of the clause. Hence, presence of a pronoun implies presence of a silent pronominal topic. Some principle of non-pronunceability of the *edge* of the clause along the lines proposed in Kayne (2006), Rizzi (2005), accounts for lack of the overt realization of the topic. In this respect, the hypothesis shares significant similarities with the analysis proposed in Rizzi (2005) for German cases of topic-drop of the kind illustrated in (1) (Ross (1982), Cardinaletti (1990)), and is very much in the spirit of Huang (1984) analysis of Chinese zero objects:

(1) a (Ich) habe es gestern gekauft
        (I) have it yesterday bought
    b (Das) habe ich – gestern gekauft
        (That) have I yesterday bought

The proposal developed here ultimately aims at making explicit one possible mechanism through which a pronoun looks for its antecedent: reaching the CP *edge* from where, as a kind of probe, it looks for the appropriate available referential DP to which it can connect. It may be argued that one possible general impact of this proposal is that, if a mechanism of the sort is indeed at work, one of the essential requirements of classical principle B of the binding theory may follow as a direct consequence.[2] The antecedent of a pronoun is necessarily external to the CP containing the pronoun, as a pronoun, doubled, in the core cases discussed here, necessarily looks outside the CP *edge*.[3]

The proposal originates by a close consideration of two well known structures in Italian/Romance, CLLD and HT, which share some crucial similarities, but also display important differences (Cinque (1977), (1990), Benincà (1988), Benincà e Poletto (2004), Alexiadou (2006)). Examples of the two structures are given in (2) in Italian, for both direct and prepositional objects:

(2)   a *Maria*, *la* conosco da tempo
           Maria, I know her-cl for a long time
        b *A Gianni*, non (*gli*) ho ancora parlato
           to Gianni, I (to him-cl) have not spoken yet
(3)   a (Quanto a) *Maria*, *la* conosco da tempo
           (As for) Maria, I know her(cl) for a long time
        b (Quanto a) *Gianni*, non *gli* ho ancora parlato

(As for) Gianni, I to hom-cl have not spoken yet

The crucial similarity between CLLD and HT in (2) and (3) is that in both structures a topic is introduced and resumed by a clitic pronoun in the sentence following it, which predicates some of its properties.[4] The crucial difference between the two structures is that while in the case of CLLD both direct and prepositional objects are admitted as dislocated topics, in HT only DPs can function as topics. Thus, while CLLD and HT may be hard to distinguish when the topic is a direct object ((2)a, (3)a are word by word identical), they are clearly distinguished when the topic corresponds to a prepositional object: in CLLD it is a PP, (optionally) resumed by the corresponding indirect clitic ((2)b), in HT it is a DP, also resumed by the indirect clitic ((3)b). In order to make the comparison between the two structures explicit, topics corresponding to indirect objects will then be preferably considered. In general descriptive terms, the topic of CLLD structures is felt as more strictly connected to the following clause, while the hanging topic of HT structures has a somewhat more independent status.

In what follows, an explicit illustration of the main analytical assumptions will first be provided, concerning the two structures and the computations that they involve (section 2). Then, an implementation of the proposal and of its empirical basis is sketched out (sections 3, 4), followed by the presentation of some of its possible further empirical consequences (section 5).


2.   The background analysis of CLLD and HT

2.1 CLLD

The point of departure is the analysis of CLLD in terms of a doubling derivation along the lines developed in Cecchetto (2000), Belletti (2005/ chapter 8). According to this analysis, an original single DP, sometimes referred to as "big DP", contains both the dislocated phrase and the pronoun. The dislocated phrase ends up into a topic position in the CP left periphery (Rizzi (1997); according to Cecchetto (2000), the big DP passes through a clause-internal vP peripheral topic position, assumed in Belletti (2004/chapter 6). On the way into the topic position, the clitic pronoun remains stranded within the clause and then moves to the clause internal position designated for clitics.

The main steps of the assumed derivation are schematized in (4) (details omitted; see chapter8 for related discussion):

(4)
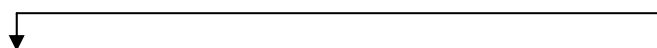
$$[_{CP} ….. [_{TopP} \text{ Maria } …… [_{TP}… \text{ cl}….. [_{vP} ….[_V \textbf{ [DP1} [_D \text{ cl]} [_{DP2} \text{ Maria]]]]]]}$$

For ease of reference, DP1 is the label for the big DP, containing both the clitic and the iterated DP projection, labelled DP2; the latter, contains the constituent which reaches the left peripheral topic position.

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[4] As is well known, in the case of HT, but not in CLLD, also a strong pronoun or an epithet may resume the topic. See footnote 5 for some considerations on this point.

The movement derivation of CLLD, assumed in (4) captures the movement properties of CLLD known from the literature since Cinque (1977). In particular, locality/island sensitivity (5), and presence of reconstruction effects (6):

- Locality/island sensitivity:

    (5)   a Gianni, temo [che lo arrestino]
          Gianni, I am afraid they will arrest him-cl
        b ??Gianni, temo [la possibilità [che lo arrestino -]]
          Gianni, I am afraid of the possibility that they will arrest him-cl

    (6)   a A Gianni, sono sicura [che gli parleranno]
          to Gianni, I am sure that they will talk to-him-cl
        b ?*A Gianni, sono sicura [del fatto [che gli parleranno -]]
          to Gianni, I am sure of the fact that they will talk to-him-cl

The better status of (5)b as opposed to (6)b can be a consequence of the fact that, as mentioned above, left dislocation of a direct DP object can be (re)interpreted as a case of HT, and, as such, it is (apparently) not sensitive to (strong) islands. The discussion of this point is taken up in 2.2 below.

- Reconstruction:

(7) ~~L'opera prima~~ di [uno scrittore]$_i$, pro$_{*i}$ la scrive sempre volentieri [l'~~opera prima di [uno~~ scrittore]]   (Cecchetto (2000))
    The first work of a writer, pro(he) writes it with pleasure

(8) a I suoi$_i$ studenti, ogni$_i$ professore li$_i$ promuoverebbe [~~i suoi studenti~~]
    His students, every professor them-cl would pass
    b Al suo$_i$ studente, ogni$_i$ professore sarà autorizzato a parlargli$_i$ [~~al suo studente~~]
    To his student, every professor will be authorized to him-cl to talk

In (7) and (8) the copy + deletion analysis of reconstruction (Chomsky (1993, 1995)) is assumed, indicating the relevant interpretation.

It is worth noting that another instance of the derivation in (4) can be found in the case of resumptive restrictive relative clauses. Assuming a raising derivation of relative clauses (Kayne (1994), Bianchi (1999)), a gap is normally present in the Merge position of the relative head in a language like standard Italian ((9)). A resumptive (clitic) pronoun, however, is admitted within the relative clause at a substandard level (10), a possibility standardly admitted in many languages and Italian dialects (Bianchi (2004), Boeckx (2003), Shlonsky (1992) Friedmann (2000)):

    (9)   a … [Il[ragazzo] [che [tutti conoscono -]]]…….
          The boy whom all of them know - …..
       b …[Il[ragazzo] [che [tutti conoscono ~~[il ragazzo]]]]~~……

    (10)   (*?)Il ragazzo che tutti lo conoscono ………
          The boy that all of them know him-cl

A resumptive relative is also available as a saving strategy, e.g. in strong island contexts (so called "intrusive resumptive pronoun", Bianchi (2002)), as revealed by the contrast between the complete ungrammaticality of (11) and the better status of (12):

(11)　　　a *L'uomo che temo [la possibilità [che arresteranno -]]
　　　　　　　The man whom I am afraid of the possibility that they will arrest -
　　　　b *L'uomo a cui sono sicura [del fatto [che parleranno -]]
　　　　　　　The man to whom I am sure of the fact that they will talk –

(12)　　　a ?L'uomo che temo [la possibilità [che lo arresteranno -]]
　　　　　　　The man whom I am afraid of the possibility that they him-cl will arrest
　　　　　b ?L'uomo che sono sicura [del fatto [che gli parleranno -]]
　　　　　　　The man that I am sure of the fact that they to-him-cl will talk

The resumptive relatives in (10) and (12) can be amenable to a derivation closely parallel to the doubling derivation of CLLD, modulo the different landing site of the relative head in the CP left periphery, distinct from the topic position of the left dislocated element.[5]

2.2 HT

Despite their similarity, CLLD and HT are to be distinguished in various respects. As pointed out above, most importantly: in HT only a DP is possible in the left peripheral position (cfr. the discussion in Benincà (1988), Benincà e Poletto(2004). In (3)b/(13), the HT corresponds to an indirect object of the following clause:

(13)　　　(Quanto a) Gianni, non gli ho ancora parlato di questo problema
　　　　　　　(As for Gianni), I to-him-cl have not yet spoken of this problem

The traditional interpretation of this property is that HT, contrary to CLLD, does not involve movement and the HT is directly merged as a DP in the left peripheral position; some interpretive rule assures that the HT and the (clitic) pronoun present in the clause be related.

A partly revised interpretation of this traditional account can be proposed along the following lines, which tries to make the close relation and similarity between CLLD and HT explicit. Suppose that in HT, the hanging topic DP is directly merged in the left periphery as currently assumed,and that a doubling derivation takes place inside the following clause, as in CLLD. Assume that the moved doubled element is an unpronounced (pronominal, section 3) constituent; some interpretive condition assures that it be interpreted as being identical to the HT. The derivation in (14) illustrates this kind of analysis, where DP2 is the moved part of the big DP, exactly as in (4). As a first approximation HT can be said to essentially include CLLD:

(14)

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[5] Both (5)b/(6)b and (12) are marginal, as they both involve an island violation. However, (12) compares to totally unacceptable structures as those in (11), whence the impression of an amelioration. In (5)b/(6)b no similar comparison is available, whence the prevalent impression of a degraded status. The amelioration effect in (12) can come as a consequence of the fact that deletion of the copy of the relative head in the Merge position may be taken not to be complete, as it is in (11), but partial. A partial copy of the raised relative head would still be present within the strong island, thus movement out of the local domain does not affect the whole original big DP in (12) (Belletti (2006) for more detailed presentation of this proposal).
A close discussion of what counts as an island configuration goes beyond the aims of the present discussion. Schematically, it can be assumed that movement always targets the closest Spec position. If Spec/NP is not an accessible Spec for the relative raising head (possibly an extended sense of "improper movement"), the Complex-NP violation of the examples in the text follows. This is close to the standard interpretation of CNPC in terms of Subjacency, where Spec/NP could not count as a possible "escape hatch" (Chomsky (1973)).

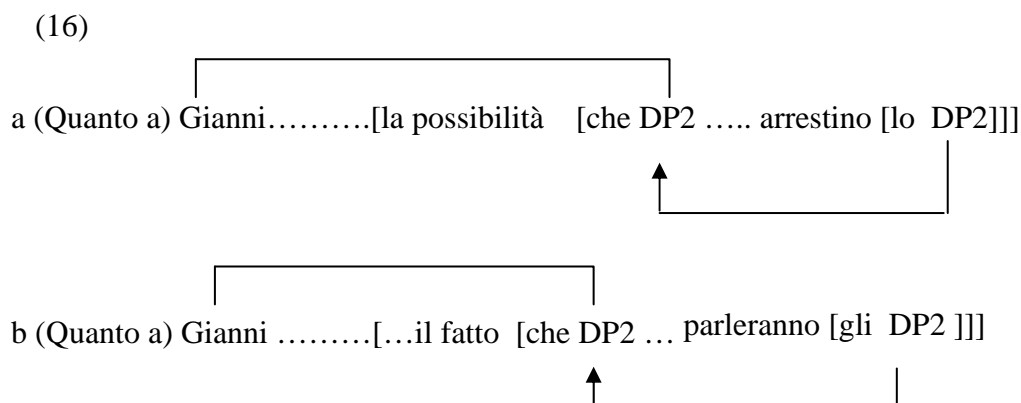(Quanto a) Gianni, [$_{CP}$ [….DP2…[$_{TP}$…cl   [$_{vP}$ ….[V P [$_{DP1}$ [D cl]   [$_{DP}$ DP2]]]]]]
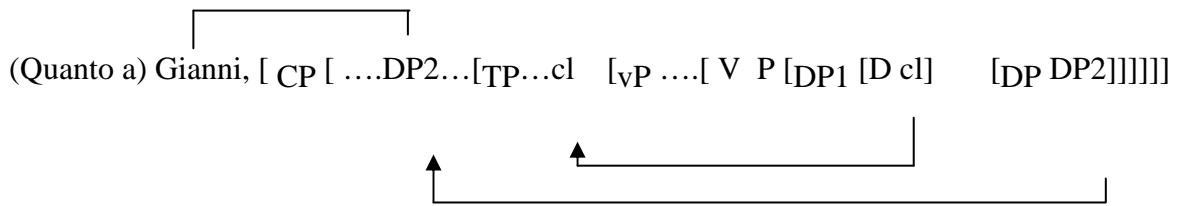
The peculiarity of HT is that of requiring the discourse identification of the unpronounced element, DP2 in (14), with the HT itself. In this proposal the relation between the HT and the clitic in the following clause is thus mediated by the silent DP2. An explicit detailed proposal on the position filled by HT in (14) is delayed until the following section (specifically 3.1), as is the characterization of the moved unpronounced DP2 as itself pronominal in nature.

Before developing these aspects, let us first look at the way in which the proposed analysis interprets the well known lack of locality/island sensitivity of HT illustrated in (15), which distinguishes it from CLLD, while maintaining that CLLD is contained in HT. Consider first locality/island insensitivity of HT.

(15)   a (Quanto a) Gianni, temo la possibilità che lo arrestino
          (As for) Gianni, I am afraid of the possibility that they him-cl will arrest
        b (Quanto a) Gianni, sono certo del fatto che gli parleranno
          (As for) Gianni, I am sure of the fact that they to-him-cl will talk

Lack of locality/island sensitivity of HT can be a consequence of the fact that the movement part of the derivation takes place within the island with no extraction from the island. On the other hand, the discourse relation which assures the identification of HT and DP2 is not sensitive to the (same) locality restrictions which, following a traditional distinction, crucially concern steps of a movement computation. (16) schematically summarizes the proposal:

(16)

a (Quanto a) Gianni……….[la possibilità   [che DP2 ….. arrestino [lo DP2]]]

b (Quanto a) Gianni ………[…il fatto [che DP2 … parleranno [gli DP2]]]

As far as reconstruction is concerned, it is generally assumed that it is not available as no movement is assumed in HT, contrary to CLLD. Since the analysis in (16) assumes movement, as it includes CLLD within HT, the question may arise whether reconstruction might actually be possible in HT as well. Although the data are not clear cut, for some speakers the following instances of quantifier binding under reconstruction are marginally acceptable in HT:

(17)   a ?(?) (Quanto a)I suoi$_i$ studenti, ogni$_i$ professore li$_i$ promuoverebbe
               (As for) His students, every professor would them-cl pass

b ?(?) Quanto al suo¡ studente, ogni¡ professore sarà autorizzato a parlargli¡

(As for) His student, every professor will be authorized to-him-cl to talk

However, since the HT itself has never been actually moved from the clause internal position under the assumed analysis, the unavailability of reconstruction, or its anyway uncertain availability, is not unexpected.[6] The issue of HT and reconstruction may thus be left at this fairly uncertain stage, which reflects the empirical findings.

3. The silent pronoun at the edge

Let us first consider the case of HT in non-embedded contexts, for many speakers the only available instance of the phenomenon.[7] A detectable contrast emerges in (18):

(18)   a Gianni, Maria ne parla sempre
            Gianni, Maria of-him-cl always talks
       b ?* Lui, Maria ne parla sempre
            him, Maria of-him-cl always talks

(18)a sounds much more natural than (18)b, for which speakers manifest varying degrees of uneasiness[8]. The only difference between the two is that the HT is a lexical noun phrase in the former and a pronoun in the latter. Thus, a pronoun does not sound as a felicitous HT. The marginality of (18)b can be made even clearer if the sentence is minimally contrasted with the perfect status of (19), a CLLD structure where the pronoun is contained in a prepositional phrase:

(19)   Di lui, Maria ne parla sempre
           of him, Maria of-him-cl always talks

The contrast between (18)b and (19) unambiguously emerges since the pronominal topic corresponds to a prepositional complement in both cases, as revealed by the presence of the indirect clitic *ne*, but only in the CLLD case it is realized as a prepositional phrase. Recall that HT and

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[6] Moreover, movement is not the only factor determining the existence of reconstruction. So, the overall issue is more complex. Since it is not central to the present discussion, it will not be developed any further (see Sportiche (2007) for a recent approach to reconstruction; Aoun et al (2001) for related discussion).
A further difference between CLLD and HT is that in HT, but not in CLLD, the topic can be resumed by a strong/tonic pronoun or an epithet, rather than a clitic:
      i.   a Di Giorgio, ne hanno parlato bene/*hanno parlato bene di lui
               Of Giorgio, of-him-cl they have spoken well/ have spoken well of him
             b Giorgio, hanno parlato bene di lui/ di quel furbacchione   (Benincà (1988; 60 a, b)
          Giorgio, they have spoken well of him/ of that artful guy
             c (Quanto a) Gianni, ho parlato con lui, (e mi è parso convinto)
               (As for) Gianni, I have spoken with him (and he looked convinced)
             d (Quanto a) Gianni, ho parlato con lui, in persona
               (As for) Gianni, I have spoken with him, personally
Both resumption with a strong pronoun and with an epithet may be compatible with the doubling analysis assuming an original big DP containing the epithet [DP quel furbacchione di [DP]], or the stron pronoun [DP lui [DP]] (see chapter 8 for the analysis of strong pronoun doubling involving structures of the latter type). It may be somewhat tentatively proposed that both an epithet and a strong pronoun seem to imply a deictic feature (of contrast ?) which is incompatible with the pure topic status of a left dislocated constituent but not with a hanging topic; whence the impossibility of a resumptive epithet or strong pronoun in CLLD. This could in turn be related to the more independent status of a hanging topic in contrast to a left dislocated constituent mentioned in the introduction and to be formally expressed through the analysis in (25) below.
[7] But see Benincà & Poletto (2004) and section 4 below.
[8] Possibly, speakers may try to accept (18)b on the basis of the possibility of CLLD closely related structures to be discussed momentarily in (19) and (20). Whence the "?*" diacritics as a way to charcaterize uneasiness.

CLLD are best distinguished precisely in this condition. Thus, a pronoun can be a felicitous left dislocated topic, but not a felicitous hanging topic. In consequence, the perfect status of (20)a following, where the pronominal topic corresponds to the direct object of the following sentence, suggests that this case should be interpreted as an instance of CLLD; notice that no similar contrast to the one manifested in (18) arises in (20), where either a pronoun or a lexical noun phrase can be the left dislocated peripheral topic:

(20)   a Lui, Maria lo conosce da tempo
              him, Maria him-cl knows for a while
       b Gianni, Maria lo conosce da tempo
              Gianni, Maria him-cl knows for a while

The following question must then be asked: Why should a pronoun be an infelicitous HT? The question can be answered by making the following core proposal, which will be phrased in terms of phase theory (Chomsky (1995), (2005)). Suppose that the impossibility of a hanging topic pronoun is due to the fact that the pronoun in HT necessarily fills the *edge* of the CP containing it. Suppose further that in the transfer of the relevant CP phase to spell out, a principle of pronunciation operates to the effect that the *edge* of the phase is not seen by the system. The operation of a principle of this kind has been independently proposed by Kayne (2006) and Rizzi (2005), in the way indicated by the following quotes in (21), (22):

(21)
"… Spell out systematically and automatically "fails to see" phrases in the Spec of a phase…"   (Kayne (2006)) (i.e. the highest Spec = the *edge*)
(22)
"As soon as you hit a phase head (CP, vP), send its complement to spell out; ……….The Spell out principle also has the consequence that the *edge* of the root phase is not sent to Spell out at all" (Rizzi (2005)).

Rizzi's principle refers to the root phase in privilege, Kayne's principle does not exclude its application in embedded contexts as well. Rizzi's principle is sufficient to account for the contrasts above which all concern root contexts. The case of embedded clauses will be taken up in section 4, for which the more general principle formulated by Kayne may be at stake. Thus, (18)b is ruled out because the relevant spell out principle is not satisfied. If this is the reason of the impossibility of (18)b, then it must be the case that the same principle of pronunciation is satisfied both in (18)a, where a lexical noun phrase is present, and in (19), where a pronoun is a left dislocated topic. If, by assumption, the pronoun in HT is at the *edge* of the CP containing it, as the pronunciation principle solely concerns this position, then it must be case that the lexical noun phrase in (18)a and the left dislocated pronoun in (19) (and (20)) do not fill the *edge* position of the CP, but a lower position in the articulated CP (Rizzi (1997) and subsequent work). Let us look at the two cases in turn, in point a. and b. below.

a.   The lexical HT.

If the account just sketched out suggests a possible straightforward explanation of the contrast in (18), the main question which arises is: why should a lexical HT fill a position lower than the *edge* position in the CP? The answer to this question can be provided by the following core idea: this is so, since a pronoun has to satisfy a further requirement that a lexical noun phrase does not have to; only a pronoun must reach the *edge* of the CP phase containing it as it is from this *edge* position that it looks for an antecedent. Thus, the HT position may very well be high in the CP, but it is not the highest position at the *edge*; only a pronoun is forced to ultimately fill this position for the

interpretive reason just mentioned. As noted, the interpretive requirement that a pronoun has to meet necessarily interacts in a crucial way with the pronunciation principle(s) in (21), (22): the pronoun at the *edge* must remain silent. It cannot be pronounced in compliance with the principle(s) of pronunciation.

b.   The left dislocated pronoun in CLLD.

Along similar lines to those seen in a., it can be proposed that the topic position of left dislocated elements in the CP is lower than the CP *edge*, an assumption perfectly in line with current analyses of the CP map.[9] Hence, as far as the pronunciation principle(s) is concerned, a left dislocated phrase is pronounced. If the left dislocated phrase is a pronoun, it should be no exception. However, this type of account immediately opens up the following obvious question: why is it that a pronoun is allowed not to reach the *edge* of the CP phase in CLLD? It is reasonable to propose that this is only apparently so. In fact, it can be assumed that CLLD structures as those in (19) and (20)a, beside the overt left dislocated pronoun, also contain a further silent pronoun at the *edge*, which fulfils the interpretive requirement of personal pronouns. This latter pronoun is left unpronounced, following the principle(s) of pronunciation. The further assumed silent pronoun should originate within the same big DP where the left dislocated pronoun and the clitic in the following clause also originate, under the reasonable assumption that iteration of pronominal D positions within the big DP is an available option.[10]

Let us now look in more detail at the status of a CP containing a HT. In order to do so, let us consider a sentence like (23), where HT and CLLD are combined:

(23)   Gianni, di lui, Maria ne parla sempre
           Gianni, of him, Maria of-him-cl always talks

(23) combines a HT structure like (18)a and a CLLD structure like (19). We have proposed in section 2.2 that in HT the topic phrase is directly merged in the peripheral position where it is pronounced; a CLLD structure follows it, containing a silent left dislocated phrase (DP2 of derivation (14)/(16)). We have hinted in few occasions at the pronominal nature of the silent DP. We can now claim that indeed the silent DP is a pronoun at the *edge* of the CP phase which contains the overt pronominal prepositional phrase in the left dislocated position. The silent pronoun will be a DP3 of the iterated original pronominal big DP. A reason is now provided as to why the pronominal DP is silent, the reason is the pronunciation principle(s) in (21), (22). Similarly, a simpler sentence like (18)a, repeated as (24) for convenience, will have a silent pronoun at the *edge*, the only difference between (23) and (18)a/(24) is that, in the latter, no overt left dislocated pronoun is present; the original big DP is less iterated in (24) than in (23).

(24)   Gianni, Maria ne parla sempre
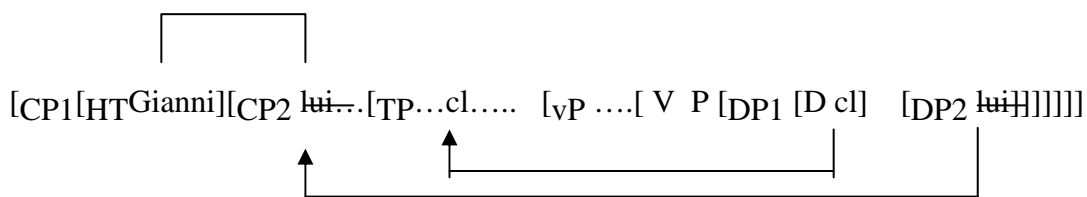   Gianni, Maria of-him-cl always talks

3.1 The HT CP

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[9] For relevant cartographic analyses in this connection: Rizzi (1997), Roussou (2000), Benincà & Poletto (2004) , Haegeman (2004), Bocci (2005).

[10] On the possibility of iteration see chapter 8; but see current work by V.Bianchi for critical discussion. CLLD structures like those in (2) and (20)b, where the left dislocated phrase is a lexical noun phrase, can still be analyzed as in (4). When the pronoun and its lexical antecedent are components of the same original big DP, there should be no need of a further silent pronoun at the CP *edge*. The interpretive requirement can be satisfied by the pronoun DP internally, given the very nature of the big DP.

We now have to make explicit where in the CP the overt lexical HT is located exactly. If the assumption that the silent pronoun connected to the lexical HT fills the CP *edge* of the CP following the HT is correct, then the lexical HT must be located in an independent CP phase. Let us assume that this is indeed the case. In more general terms, let us propose that an HT constitutes a phase on its own which solely contains the HT itself; as such, a defective CP phase. The HT position[11] is dominated, and as such in a sense protected, by an unpronounced projection, in whose *edge* Spec a HT pronoun is forced to move for the interpretive requirement of pronouns discussed in b of the preceding section 3. The defective CP/HT phase is followed by the full non defective CP containing the CLLD derivation with the discussed silent pronoun reaching its *edge*. The derivation of (18)a/(24) and the assumed interpretative relation between the HT and the silent pronoun is schematically represented in (25):

(25)

$[_{CP1}[_{HT}\text{Gianni}][_{CP2} \text{lui...}.[_{TP}...\text{cl}..... \quad [_{vP} ....[\text{ V P } [_{DP1} [\text{D cl}] \quad [_{DP2} \text{lui}]]]]]]$

For ease of reference, in (25) the CP/HT defective phase is labeled CP1 and the full CP independent phase is labeled CP2. (23) should be analyzed exactly as (18)a/(24), modulo presence of the overt pronoun in the left dislocation, non *edge* position in the full CP2. The difference between (23) and (19) should be in turn uniquely identified in the lack of an explicit lexical HT in the latter. In this case, the silent pronoun looks for and finds its antecedent in the discourse context.

3.2 HT and Full Interpretation

If the proposal that a silent pronoun is present at the *edge* of the independent CP following a lexical HT is assumed, contrasts like the one in (26) may find a suitable explanation.

(26)   a   Quella ragazza$_i$…, Maria$_j$ dice che tutti la$_{i/*j}$ conoscono

                that girl…., Maria claims that everybody knows her

        b   Maria$_j$ dice che tutti la$_{j/k}$ conoscono

                Maria claims that everybody knows her

In (26)a, differently from (26)b, the antecedent of the pronoun present in the embedded clause cannot be the subject of the main clause "Maria", but must be the lexical HT "Quella ragazza" and no ambiguity arises. The reason for this unambiguous interpretation may be found in the presence of the silent pronoun at the *edge* of the CP following the HT: from there the HT is the only available antecedent for the silent pronoun, hence for the pronoun which it doubles, according to the proposed derivation. It can be assumed that the silent pronoun reaches the main clause *edge* in (26)a as a natural application of the principle of Full Interpretation which requires integration of the hanging constituent. As there is no such need in (26)b, the option of selecting the main clause subject as the antecedent for the pronoun is available, depending on discourse conditions. This interpretation may be obtained by moving a doubled pronoun to the *edge* of the subordinate CP clause; from this position it can look for its antecedent in the main clause. In this position the pronoun remains silent, for the familiar reason due the operation of the pronunciation principle, in particular in Kayne's version (21). The option of moving to the *edge* of the main clause is clearly

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[11] Spec of a zero topic head, in a language like Italian.

also available in (26)b as it is in (26)a. Through this derivation, the second interpretation of (26)b is obtained in which the pronoun selects it antecedent from the discourse context.[12]

4. **Embedded HT**

The following paradigm in (27) is discussed in Benincà & Poletto (2004) who conclude, on its basis, that the position for a hanging topic (HT, (27)a) and the position for a left dislocated (LD, (27)c vs b) topic in CLLD is not the same in the articulated CP (Bocci (2005), Haegeman (2004) for similar conclusions). Their proposal is schematized in (28): the HT position is higher and thus precedes the complementizer, the LD position is lower and follows it. The "%" symbol on (27)a indicates the relatively marginal status of HT in a subordinate clause, which, as already mentioned, may be very strong for some speakers (up to pure unacceptability; Alexiadou (2006)). Let us make abstraction from the marginality issue for a moment, and just consider how the analysis developed here may integrate Benincà & Poletto (2004) proposal:

(27)   HT: a. %Sono certa questo libro <u>che</u> non ne abbia mai parlato nessuno
                        I am sure this book that nobody of-it-cl has spoken

    CLLD: b. *Sono certa di questo libro <u>che</u> non ne abbia mai parlato nessuno
                    I am sure of this book that nobody of-it-cl has spoken

                    c. Sono certa <u>che</u> di questo libro non ne abbia mai parlato nessuno
                        I am sure that of this book nobody of-it-cl has spoken

(28)   [$_{CP}$ **HT** [che [$_{TopP}$ **LD** [$_{TopP}$ LD [$_{FocP}$ [$_{TopP}$ …. [$_{TP}$ ……..]]]]]]]

Consider further the contrast in (29):

(29)   a   %I professori hanno detto, quello studente che ne parleranno domani in consiglio
                    Professors said, that student that they of-him(cl) will speak tomorrow at the
                     meeting

           b   * I professori hanno detto, lui che ne parleranno domani in consiglio
                    professors said, him that they of-him(cl) will speak tomorrow at the meeting

The stronger marginality of (29)b as compared to (29)a indicates that a pronoun is not felicitous as the HT of the subordinate clause; much less so than a lexical DP. Exactly the same conclusion reached in the root instances of HT, from which the discussion of section 3 started out. In terms of the proposed analysis, the reason for the contrast in (29) can be identified in the fact that the pronoun should be silent in (29)b, since it should fill the *edge* of the CP containing it, or alternatively, the *edge* of the main CP (as in the discussion on (26)). In either case, in the *edge* position it could not be pronounced, due the operation of the pronunciation principle (in particular including Kayne's version (21), as anticipated in 3.2 above). The perfect status of the minimally

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[12] I do not address here the interesting issue as to how the antecedent can be selected by the pronoun in discourse where some locality-type principle regulating is likely to be operative. Frascarelli (2007) for relevant considerations concerning the selection of the antecendent for a null subject.
The proposed account is close to the spirit of Huang's (1984) analysis of zero objects in Chinese, in terms of an *ec* bound by a (possibly silent) topic; cfr. the similarity of (26)a and i. following:

    i.   a.   Zhangsan shuo [Lisi bu renshi *ec*]
                    Zhangsan says [Lisi not know (him)]
          b   neige ren$_i$, Zhangsan shuo [Lisi bu renshi *ec$_i$*]
                    that man, Zhangsan says [Lisi not know (him)]

different (30) can precisely be interpreted as the result of leaving the pronoun unpronounced at the *edge*[13]:

(30)   I professori hanno detto, che ne parleranno domani in consiglio
         professors said, that they of-him(cl) will speak tomorrow at the meeting

That the offending element in (29)b is the overt pronoun is confirmed by the paradigm in (31), which excludes that a possibly relevant factor modulating acceptability be the availability of an overt explicit antecedent for the pronoun, as the illformedness of (31)c clearly indicates. A fact that the perfect status of (30) has already also implicitly indicated as well.

(31)   a (Quanto a)   Gianni, Maria dice [che .. [ne parlano tutti]]
            (As for)   Gianni, Maria says that they all of him-cl talk
         b   Gianni, Maria dice [che .. di lui.. [ne parlano tutti]]
                              Gianni, Maria says that him they all of him-cl talk
         c   * Gianni, Maria dice [lui ..che..[ne parlano tutti]]
                      Gianni, Maria says him that they of him-cl talk

A silent pronoun at the CP *edge* is responsible for the perfect status of (31)a and (31)b, where the latter also contains an overt left dislocated pronoun, as in the non embedded sentence(23), discussed in section 3.

Let us now look at structure (28) in more detail. (28) closely resembles the essence of the representation given in (25): the only difference between the two is that one single CP phase is assumed in (28), while two independent CP phases are present in (25). Suppose now that (28) is in fact no different from (25) in that the HT defines an independent CP phase in (28) as well. A new CP should start out at the complementizer "che" of (28), as (32) illustrates, omitting irrelevant details:

(32)   [$_{CP1}$ **HT** [$_{CP2}$ che [$_{TopP}$ **LD** …. …….. [$_{TP}$ ……..]]]]]]]

This reinterpretation of (28) allows us to reconsider the marginality issue related to cases of embedded HT. Specifically, if such a reinterpretation is plausible, it may provide a reason as to why a subordinate HT is felt as marginal by all speakers and as quasi impossible by some of them, as noted. The marginality/impossibility could be a consequence of the intrinsic difficulty arising in the integration of the defective CP within subordination. This should be so since the C expressing the Force of the subordinate clause is further away from the selecting matrix verb, precisely due to the presence of the defective HT/CP phase; an unusual situation.[14]

5. **General consequences and questions**

This last section is devoted to present some general consequences which can be derived from aspects of the proposed analyses and some questions they raise. I will give them in the form of a list,

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[13] I assume that a big DP cannot be freely generated. In particular, it is not available in the HT position with the effect that a silent doubler at the *edge* cannot be available in this case; hence it is the HT pronoun itself that must reach the *edge*, where it remains silent An iterated big DP is solely merged clause internally, to ultimately serve discourse or licensing requirements. None is needed in the peripheral HT position. Hence the DP does not need to be iterated; it is consequently not iterated.

[14] As there is no further intervening Force head, due to the defective nature of the HT/CP, no formal locality RM-type principle is violated. This might explain why the structure is not simply ruled by everybody.

starting from the possibly most general consequence, from which the introduction of this chapter started.

        I.   The approach to HT developed in the preceding sections includes as a crucial step the activation of a doubling derivation, with a pronominal topic remaining silent and unpronounced at the *edge* of the CP from which it integrates the HT as its antecedent. A natural proposal to make, somewhat implicit in particular in the discussion surrounding example (26)b, is that in all cases where a pronoun is present a pronominal doubling topic is also present, which remains silent at the CP *edge*.

Thus, the sentences in (33) A, A' would informally correspond to those in (34), where the unpronounced pronominal topic is indicated in italics for the sake of clarity (and the lexical HT may or may not be overtly expressed):

(33)   Q: Hai incontrato Gianni?
              Have you met Gianni
     A: Sì, l'ho incontrato
       Yes, I him-cl met
     Q'. Hai parlato con Gianni?
        Have you spoken with Gianni
     A'. Sì, ci ho parlato
        Yes, I with-him-cl have spoken
(34)   A. Sì, *(Gianni) #~~lui~~*, l'ho incontrato
           Yes, Gianni/him, I him-cl have met
        A'. Sì, *(Gianni) #/~~lui~~*, ci ho parlato (/ho parlato con lui)
          Yes, Gianni/him I with-him-cl have sopken (/have spoken with him)

This idea is ideed very close to Kayne's (2005) proposal according to which sentences like (35)a (Hankamer & Sag (1976)) should correspond, at some level, to (35)b:

(35)   a Watch out! He's got a knife
       b Watch out! That man, he's got a knife

In conclusion, independently of the overt presence of a lexical HT or of an overt left dislocated topic, presence of a pronoun should imply presence of a silent doubling pronoun at the CP *edge*. From this position, the silent pronoun relates to an antecedent. The overt pronoun within the clause to which it is related by virtue of the doubling relation is thus interpreted in turn.

As mentioned at the outset, if a mechanism of the type just described is assumed, the way in which a pronoun relates to its (discourse) antecedent is made explicit and from this mechanism, one crucial requirement of classical principle B of the binding theory module directly follows: the antencedent must be outside the CP containing the (silent) pronoun.[15]

        II.   Instances of topic-drop in German clauses of the type mentioned in (3) of the

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[15] If a similar mechanism is involved at the DP *edge* , by considering DP an independent phase, it would be responsible for DP related binding conditions (Gianni apprezza [sua sorella])/Jouhn likes his sister). As mentioned in footnote 1, the precise extension of the proposal to DPs is left open for further future development.

introduction are typically considered a root phenomenon. Following Rizzi (2005), this is attributed to the fact that (colloquial) German, possibly more readily than other languages, allows for a reduced/truncated analysis of root clauses[16]. This has the consequence that, in (colloquial) German root clauses, HT, or even lower left dislocated topics in a possibly even more reduced portion of the CP, can be found at the CP *edge*, and hence left unpronounced, leading to the topic-drop phenomenon. Essentially, the condition in which the silent pronoun is found in the structures discussed throughout is precisely the condition in which the silent topic is found in German topic drop clauses. The essential same mechanism is involved in the different cases, all ultimately triggering application of the pronunciation principle(s): a constituent at the CP *edge* is a silent constituent.

The following question naturally arises: why should the silent pronoun assumed in the Italian examples require presence of a (further, doubled) clitic in the clause, if these cases are essentially assimilated to instances of topic-drop, as for the derivational and interpretive mechanisms they involve? In other words, why could a pronoun just be dropped in German (cfr. (3) which contains no explicit pronoun; and, similarly, the case of zero objects in Chinese, footnote 12) while a clitic is anyway necessary in Italian, as witnessed by the impossibility of (36)a, an equivalent sentence to the German (3), in contrast with (36)b ?

(36)   a *Ho comprato ieri
               I bought – yesterday
         b   L'ho comprato ieri
               I it(cl) bought yesterday

It can be suggested that, possibly given the different nature of the pronominal system of German, a doubling derivation is not necessarily implied in this language, in contrast to what has been assumed for Italian sentences containing a clitic pronoun. Hence, a (weak or strong, Cardinaletti & Starke (1999)) pronoun can directly reach the *edge* of the clause in the position of non pronounceability in German but not in Italian, giving rise to a complete drop in the former language but not in the latter.

The non referential non D-linked Italian operator *qualcosa* (masculine in gender) cannot be doubled by a clitic, if left dislocated, in contrast to referential *qualcosa* (feminine in gender). The following contrast from Cinque (1990) holds:

(37)   a Qualcosa prima o poi *la* farò
               something sooner or later I it (cl) will do
         b *Qualcosa prima o poi *lo* farò
               anything sooner or later I it (cl) will do
         c Qualcosa farò
            anything I will do

If doubling is exclusively compatible with referential DPs, no big DP is possible in presence of non referential *qualcosa*, whence the ungrammaticality of (37)b and its contrast with the possibility of(37)c; (37)a is a regular instance of CLLD originating from a big DP containing both referential *qualcosa* and the clitic, following the general analysis assumed in (4). It is tempting to analyze the following exchange in (38), where neither *qualcosa* nor a clitic pronoun is present in the answer to the preceding question, as involving an unpronounced *qualcosa* at the *edge*; ultimately, as a

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[16] Similarly to the attested developmental stage in acquisition which leads to the Root Infinitive and Child Null Subject phenomena; see Rizzi (2005), Hamann (2002) and references cited there.

German type topic-drop, whose availability would be limited in Italian to sentences containing non referential *qualcosa*.[17]

(38)   Q: Hai deciso qualcosa? /Hai comprato qualcosa?
              Have you decided anything/ Have you bought anything
     A Sì, ho deciso / (?) Sì ho comprato
              Yes, I have decided/Yes I have bought

          III. Consider the following often discussed contrast in German (Haider (1984), Travis (1984), Tomaselli (1990), Haider (2005)):

(39)   a *Ihn habe ich gesehen
              Him have I seen
     b IHN habe ich gesehen

While the stressed object pronoun is possible in clause initial position the unstressed version of the same pronoun in apparently the same position is not possible. The assumed articulated CP combined with the idea that topic pronouns move to the *edge* of CP provides a natural interpretation of this contrast. While the unstressed, topic pronoun would fill the *edge* position, and hence should be left unpronounced, the stressed pronoun would fill a lower position which can be identified with the Spec of the focus projection in the CP and it should consequently be pronounced. It can be further suggested that the quasi-deictic value of the of the left peripheral focus, typically associated with contrast/correction, is what opens up the possibility for the focussed pronoun not to move to the *egde* of the CP phase, an otherwise necessary move given the assumed interpretive principle. [18] The focussed pronoun thus remains in the focus position where it is pronounced.

Note that the pronunceability of a clause initial focalized pronoun is a generally available option, across languages. (40) provides an example in Italian, to which the same analysis proposed for the German example in (39)b can be directly extended:

(40)   LUI tutti conoscono (non lei)
         HIM everybody knows (not her)

Considering German again, in a similar fashion to what has just been suggested for the contrast in (39),   if a (stressed) demonstrative object is taken to fill the left peripheral focus position differently from the unstressed weak object pronoun *es* which should fill the highest *edge* position, the following contrast originally discussed in Tomaselli (1990), finds a natural account. *Es* should be unpronounceable in this position.

(41)   a *Es (das Gras) hat das Pferd gefressen
              It (the grass) has the horse eaten
     b Das (das Gras) hat das Pferd gefressen
              That (the grass) has the horse eaten

As for those cases of subject *es*, which is possible in clause initial position:

(42)   Es (da Pferd) hat das Gras gefressen

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[17] At this suggestive level, the reasons for this limitation will not be explored further here, nor its precise scope.
[18] The quasi-deictic value of the contrast/correction involved in left peripheral focalization should constitute an alternative mechanism through which the pronoun gets connected to its antecedent. A proposal that certainly needs further development, but which I tentatively assume here.

It (the horse) has the grass eaten

it can be proposed that nominative *es* is analyzed as a clitic rather than as a weak pronoun (Cardinaletti & Starke (1999)), in contrast with (41)a (Tomaselli (1990)). Subject *es* then cliticizes onto the Verb (in the relevant V2 position in the articulated CP), thus voiding the *edge* of the CP phase and allowing for satisfaction of the principle of pronunciation.

Possibly, object *es* can be attributed an intermediate status between a weak and a clitic pronoun in general; if it is analyzed as a weak pronoun, it should be left unpronounced, whence the discussed impossibility of (41)a. If it is analyzed as a clitic, no difference in distribution is expected between object and subject *es* since also object *es* would ultimately void the *edge* of the CP through cliticization into the verb, in the V2 position within CP. Indeed, unstressed object *es* can appear in clause initial position for many German speakers, if appropriately contextualized as in the following examples from Haider (2005). The tentative but natural proposal is that these could be analyzed as cases of clitic *es*, of the same kind as nominative *es* in (42).[19]

(43)   a   Ihr Geld is nicht verloren. *Es* hat jetzt nur jemand anderer
             Your money is not lost. It has now only someone else
         b   Dieses Schild können Sie genauso gut weglassen. *Es* hat ohnehin keener beachtet
             This sign could you just-as-well remove. It has anyway nobody observed

IV.   Saito (1985), quoting an observation by Kuno, observes that the Case/Topic marker *–wa* can be left unpronounced in Japanese. Thus, a subject which is also a topic can have its Case marker *–wa* dropped, in contrast with the nominative Case marker *–ga* which must be necessarily pronounced. The Kuno/Saito's analysis of (44), assumes presence of an unpronounced *–wa*:

(44)   John kita-no?
         John came-Q

Somewhat partly similar facts appear to hold in Korean, as recently discussed in Ahn & Cho (2006), who note that Case-less bare wh-phrases are possible in Korean when they are ante posed into the left periphery. Ahn & Cho (2006) point out that in these cases the ante posed wh-word requires a D-linked interpretation, as illustrated by their example repeated in (45):

(45)   Nwukwu Yenghi-ka manna-ss-ni?
         who   Yenghi-Nom meet-Past-Q
             "who is such that Yenghi meet (him)"

It is tempting to interpret the lack of an overt the Case/Topic marker in Japanese and the lack of the Case marker in the ante posed D-linked wh word of Korean as the manifestation of the same kind of *edge* phenomenon under the assumption that the highest indicator of topicality could fill the *edge* (as a head) of the left periphery in both cases and for this reason it is left unpronounced. [20]

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[19]See also Meinunger(2007) for further examples and the identification of the relevant discourse and structural conditions permitting clause initial object *es*.

[20]Whenever the topic marker is pronounced, it should then be taken to fill a lower position than the edge position. That several topic position may be present in the Japanese left periphery is a plausible assumption to make (Saito,p.c.). The detection of different conditions associated to the different positions (as has been done for the distinction between HT and CLLD in Italian) cannot be addressed in adequate detail here.

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According to Ahn & Cho (2006) analysis, the wh word in Korean can be moved into the LD position in the left periphery through a doubling derivation, stranding a silent pronoun in the clause internal position. Adapting their proposal, it could be assumed that the relation between the high silent topic marker of the wh word and the (also silent) clause internal pronoun, is responsible for the D-linked interpretation in a way closely parallel to what has been assumed for CLLD in Italian in (19) above; the silent pronoun at the *edge* in Italian and the silent topic head marker at the *edge* in Korean would assure the relevant discourse connected, hence D-linked interpretation.

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