Rethinking the Structure of Clausal Gerunds

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Rethinking the Structure of Clausal Gerunds*

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0. Introduction

There are several types of gerundive clauses in English depending on the forms of their subjects.

(1) a. They all enjoyed **his** singing Japanese songs.
b. They all enjoyed **him** singing Japanese songs.
c. They$_i$ all enjoyed **PRO**$_i$ singing Japanese songs.
} Clausal Gerunds

The type in (1a) is called a possessive with gerund clause, while the latter two are usually referred to as Clausal Gerunds (henceforth CGs) in the literature. The basic properties of CGs are illustrated below.

(2) CGs do not appear with a nominative subject.
a. I prefer [*him*(/**he*) reading a book]. (Pires 2006: 3)
b. [*Them*(/**They*) playing the guitar] irritated me.

(3) CGs can be modified by sentential adverbs.
a. [That Mary is probably responsible for the accident] was considered by the DA.
b. [For Mary to be probably responsible for the accident] was considered by the DA.
c. [Mary(*'s) probably being responsible for the accident] was considered by the DA.

(4) CGs can appear only in the case-marked positions.
a. Mary talked about [John moving out].
b.*It was expected [Frank reading this novel]. (Pires 2006: 21)

The main goal of this paper is to explore the syntactic structure of CGs within the Minimalist framework, and thereby account for their idiosyncratic properties and distribution. More concretely, it is proposed that they should project CP, whose tense head is defective. It is also suggested that what is called PRO with gerund (=(1c)) should be viewed as a subtype of the Accusative with gerund clause(=(1b)), in that the sole difference between them is the Case feature they bear.

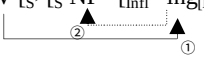
This paper is organized as follows. Section 1 reviews the previous studies and highlights some of their problems. Section 2, then, introduces Pesetsky and Torrego (henceforth P&T) (2001, 2004) and a notion of no-Case element, which plays a central role in the alternative analysis presented in this paper. Section 3 presents the unified approach to the two types of CGs and explains what is apparently problematic with CP analysis. Section 4 concludes the discussion.

1. Previous studies and their problems

1.1 Reuland (1983)

Based on the Government and Binding (GB) theory, Reuland proposes that the inflectional head of a CG, namely the suffix *-ing*, should bear a nominal feature and that it cannot assign a Case to the governed NP until it is Case-marked. This is why CGs occur only in the Case-position. Once the suffix itself has been given a Case by an element outside of CGs, it becomes capable of transmitting its Case to the governed NP. The figure below shows the mechanism of this analysis.

(5) $[_{S*}\ldots\ [_{VP}\ldots V\ [_{S'}\ [_{S}\ NP^{*}\ [_{Infl}\ -ing_{[N]}\ ]\ [_{VP}\ V\ NP\ ]]]]]$ (Reuland 1983: 116)



1.2 Pires (2001, 2006)

Reuland's line of thinking has been developed by Pires, since the GB accounts are no longer available in the recent Minimalism. According to him, CGs project up to TP whose head (named AGR) has properties summarized as follows.

(6) a. AGR (T) carries an uninterpretable Case feature, an uninterpretable defective φ-feature, and the EPP-feature that all need to be checked.

b. When DP is merged in the specifier position of AGR, its defectiveness is deleted and it becomes φ-complete via Agree.

c. Once AGR has been checked its Case by an element outside of CG, it becomes capable of transmitting its Case to the NP with which it Agreed beforehand.

Keeping these points in mind, let us consider the example below.

(7) Sue prefers John swimming. (Pires 2006: 50)

a. $[[_{T'}\ T_{[def\text{-}u\varphi,uCase]}][_{vP}\ John_{[i\varphi,uCase]}\ swimming]]$

b. $[_{TP}\ John_{[i\varphi,uCase]}\ [_{T'}\ T_{[\sout{u\varphi},uCase]}]\ [_{vP}\ \sout{John}_{[i\varphi,uCase]}\ swimming]]$

c. $[_{V'}\ prefers\ [_{TP}\ John_{[i\varphi,\sout{uCase}]}\ [_{T'}\ T_{[\sout{u\varphi},\sout{uCase}]}]\ [_{vP}\ \sout{John}_{[i\varphi,uCase]}\ swimming]]]$

②transmit ①value

The derivation of (7) proceeds in the following manner. First, as is illustrated in (7a), T (AGR) bearing [def-uφ] and [uCase] is merged to *v*P 'John swimming' and Agrees with *John*. The defective T is then turned into φ-complete one via this operation, but the Case features of *John* and T both remain unvalued at this stage. (7b) shows this is followed by the movement of *John* into spec-TP. Next, the main verb *prefer* is merged to the completed TP (CG) and enters into Agree relation with T. As a result, the Case feature of T is valued as accusative and it is transmitted to *John*. This is the only convergent derivation, because the Case-transmission is a one-way operation in that it allows T to transfer its Case to DP and not vice versa; for *prefer* to Agree with *John* in advance leads the derivation to crash, leaving the uCase on T untouched.

The above analysis, however, conflicts with Inclusiveness Condition[1]: according to Chomsky, the defective-φ is regarded as a subset of the complete-φ so that it is odd for it to gain its missing piece. In addition, the Case-transmission can also be problematic with the Strict Cyclicity Principle[2]: at the stage where the main VP is completed, the only possible operation should involve the V-head. In other words,

the derivation ought not to retrace any past relations, such as between T and *John* in (7c). There is one further problem that should be noted here: Pires' analysis can hardly explain why the subject of a CG in the subject position does not appear as in the nominative, despite the fact that it must have been transmitted Case by the clause-mate T, which had Agreed with the main T.

(8) Them(/*They) playing the guitar irritated me.

For reasons mentioned above, Pires' analysis now seems quite unsatisfactory. In the following subsection, let us further prove the invalidity of his background assumptions in order to explore how high CGs project as well.

1.3 What is the maximal projection of CGs?

Before presenting an alternative analysis, a few remarks should be made concerning the maximal projection of CGs. Pires insists that they should have TP projection, referring to their peculiar properties as displayed in (9), (11), and (13). There are, however, several arguments against what he suggests as illustrated in examples (10), (12), and (14) respectively.

First of all, the examples in (9) are meant to show that CGs do not have CP projection because they never allow complementizers, different from finite and infinitival CPs. One may notice, however, that these are no more than the illustration of a selectional property of each complementizer. For instance, as you can see from the examples in (10), *that* cannot take to-infinitival as its complement and *for* cannot be finite. It can also be supposed by (10c) that CGs have null C.

(9) a. Mark prefers (**that*) Mary traveling with John. (Pires 2006: 26)

b. Ann wants very much (**for*) Mike working at home. (*ibid.*)

(10) a.*Mark prefers *that* Mary to travel with him.

b.*Ann wants very much *for* Mike works at home.

c. Ann wants very much ϕ Mike working at home.

Secondly, Pires claims that CGs have a different projection from finite/infinitival CPs because the former never appear in other than Case positions; however, they do not behave differently in the subject position of a sentence (12).

(11) a. Mary talked *(about) [John moving out]. (Pires 2006: 21)
b. Mary talked (*about) [that John moved out/ John to move out]. (*ibid.*)
(12) a. [*(*That*) Dan kissed Mary] bothered her parents. (Pires 2006: 22)
b. [(*For* John) to leave] is unacceptable. (*ibid.*)
c. [Dan kissing Mary] bothered her parents. (*ibid.*)

Furthermore, he takes up the fact that CGs can never occur as indirect questions as in (13b), which is compared with (14b), in order to make sure that they do not project up to CP. According to Pires, this contrast is immediately accounted for if we consider that CGs inwardly have no landing site for *wh*-words, as opposed to infinitival clauses; the difference in their maximal projections becomes clear from here. What is more, he states that this idea is supported by (15), which demonstrates that matrix C can freely access the embedded *wh*-phrase. More specifically, the reason why (15) is acceptable is because there is no intervening phase if CGs are regarded as TP.

(13) a. John didn't remember [buying groceries]. (Pires 2006: 27)
b.*John didn't remember [what$_i$ buying t_i]. (*ibid.*)
(14) a. John remembered [to buy groceries]. (Pires 2006: 27)
b. John didn't remember [what$_i$ to buy t_i]. (*ibid.*)
(15) What$_i$ did John remember [buying t_i]? (*ibid.*)

However, Pires is slurring over an important fact suggesting whether C is present in the embedded clause does not necessarily have an effect on the grammaticality in forming matrix *wh*-questions.

(16) What$_i$ did John remember [to buy t_i]?

If the same reasoning used in (13)-(15) obtained for (16), it would be wrongly excluded; it is expected from (14) that infinitival clauses have a CP projection, namely a phase, and accordingly the matrix C is thought to have difficulty accessing the embedded *wh*-word contrary to the fact. Thus, the premise of his argument is invalid. A more plausible hypothesis is that (13b) is ruled out independently of the fact that the CG is actually projecting CP, though fuller discussion will be presented later in section 3.2.

From the above argument, it is now obvious that there is no compelling reason to assume that CGs are TPs. Then, what status do they belong to? The examples below reveal attractive clues as to their nature.

(17) a. What I'll try and arrange is [$_{CP}$ for you to see a specialist]. (Radford 2004: 107)
b.*What we hadn't intended was [$_{TP}$ you to get hurt]. (*ibid.*)
c. What she prefers is [$_{XP}$ him swimming in this perilous river].

As is shown in (17a, b), Radford (2004) points out that CPs can be focalized in pseudo-cleft sentences, whereas TPs cannot. Also, (17c) is equally as acceptable as (17a), so that CGs are speculated to be a kind of CPs. Moreover, the examples in (18) will bring out that CGs indeed have a CP projection, considering that they can be coordinated with finite/infinitival CPs, while TPs cannot.

(18) a.*We didn't intend [$_{TP}$ you to get hurt] or [$_{CP}$ for him to hurt you]. (Radford 2004: 108)
b.(?)What I really expect is [$_{CP}$ for John to sing Let It Be] and [$_{XP}$ Paul composing new songs].
c.(?)[$_{XP}$ Mary baking a birthday cake] and [$_{CP}$ that John prepared for the birthday party] made Tom happy.

We therefore conclude that the analysis proposed by Pires is implausible from both theoretical and empirical viewpoints and that CGs project a CP, which is consistent with current theory that states "all canonical clauses are CPs." With these in mind, section 2 will prepare for an alternative analysis.

2. Proposal

2.1 Pesetsky and Torrego (2001, 2004)

As a beginning, let us set about developing a unified approach to all kinds of clausal structures. Recall our earlier examples in (12) in which it was shown that there is no difference between CGs, finite CPs, and infinitival CPs with respect to their behavior in the subject position. We will now extend P&T's analysis, which covers both finite and infinitival CPs, to CGs. In so far as our aim is concerned, their claims are outlined in (19), and the figure in (20) schematizes these.

(19) a. C bears uninterpretable Tense feature (uT) with the EPP property. (P&T 2001: 360)
b. *That*/*for* is not C, but a particular realization of T moved to C. (*ibid.* 2004: 499)
c. A feature may remain 'alive' for a while after being marked for deletion. (*ibid.*)
d. Nominative/accusative case is an instance of uT on D. (*ibid.*: 495, 497)

(20) $[_{CP}\ C_{[uT]}\ [_{TP}\ [DP_{[\text{u}\cancel{\text{T}},i\varphi]}]\ [T_{[iT,\text{u}\cancel{\varphi}]}]\ [_{vP}\ldots]]]$ ⓑ ⓐ

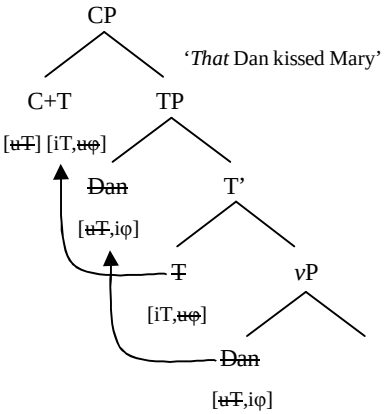
{a. T-to-C movement / b. the movement of DP to spec-CP}

The point is that the uT feature of C can be checked off either by (a) T-to-C movement, resulting in a sentence with an overt complementizer, or by (b) entering Agree relation with the subject DP whose uT has already been marked for deletion.

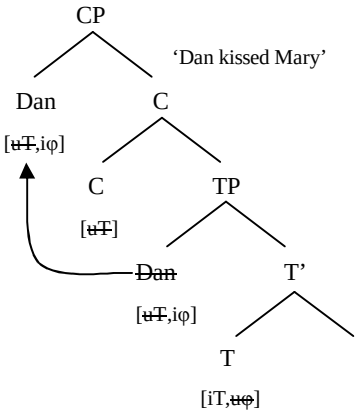
Now we reconsider the example (12a) repeated again in (21). Two types of internal structure of the subject-CP can be considered here, reflecting the way uT feature on C is checked off; more concretely, (21a) in which the complementizer shows up explicitly, and (21b) in which it does not.

(21) [*(*That*) Dan kissed Mary] bothered her parents. (= (12a))

a. subject-CP: overt *that*



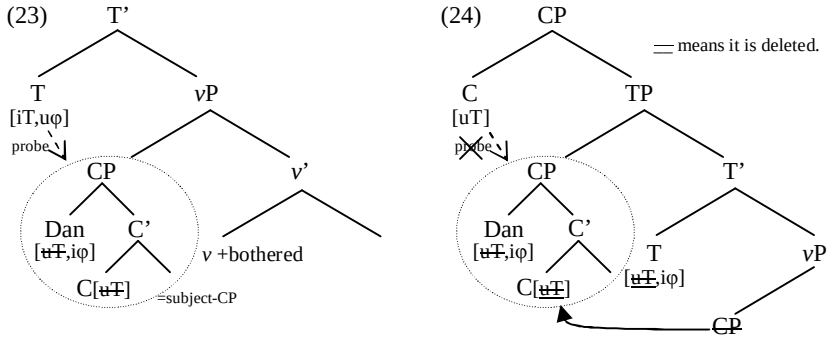
b. subject-CP: *that*-less



The derivations proceed as follows within the bracketed CP. In the first place, the subject DP *Dan* carrying [uT, iφ] is merged in spec-*v*P, and this is followed by the merger of T with the completed *v*P. After Agreeing with T, *Dan* is raised to spec-TP. When it comes to checking uT on C, there exist two possible ways that are equally economical; in (21a), T-to-C movement causes *that* to emerge, and in (21b), no such complementizer occurs because *Dan* is employed. As is clear from the above tree diagrams, the sole difference between them is the T-related feature remaining in the CP domain: iT is in the former, ~~uT~~ is in the latter. This will bring entirely different futures to the two, due to the assumption in (22) shaped to the phase theory.

(22) An uninterpretable feature uF marked for deletion ([~~uF~~]) within a complete phase Π is deleted the moment a new head σ is merged to Π.[3] (P&T 2004: 516)

Hence, the ~~uT~~ features staying throughout (21b) are to be deleted at the stage some element merges with a complete phase containing those. The iT feature on *that* in (21a), on the other hand, will never be removed since it is not uninterpretable. In this light, one can then go on to explain why the subsequent derivation of (21b) will crash.



The tree diagram in (23) shows the stage where the whole CP treated in (21b) is merged to the matrix spec-*v*P. This is immediately followed by the merger of T and it enters into Agree relation with C inside the subject CP. Notice here that the ~~uT~~ features within the subject-CP are confined to the complete phase, and therefore they cannot survive any longer once matrix T has been introduced to the derivation. In the succeeding derivation in (24), the whole CP is raised to spec-TP and matrix C bearing uT then merges. Though there must exist a certain element with ~~uT~~ or iT in order to check uT on C here, neither of them is absent in this derivation. In consequence, (24) will crash. This being so, in cases where a finite clause appears as the subject of a sentence, the derivation will be convergent iff it has iT as in (21a).

We basically agree with the approach by P&T, but a slight modification is needed. The examples in (25) and (26), both of which are taken from Carstens (2003:402), demonstrate that complementizers bear the uφ feature judging from the fact that they show agreement in some of the West Germanic languages. Let us assume this is a universal property of all languages.

(25) Kvinden **dan** die boeken te diere zyn. <West Flemish>
I-find **that-PL** the books too expensive are
'I find those books too expensive.'

(26) …**datso** do soks net leauwe **moast** <Frisian>
…**that-2Sg** you such not believe **must-2Sg**
'…that you must not believe such things'

2.2 No Case element

In this subsection, we address the issue of the Case the subject of CGs bear. Structural Cases are basically handled within the Agree-system in the recent MP, but we must draw attention to those that cannot be – sentences in (27)-(28), for instance, employ what appears to be an accusative subject despite the absence of its possible valuer. The standard approach fails to cover this fact and a question then arises: how is the Case coped with? We propose that such an element, whose appearance coincides with the accusative form in English, actually only has φ-feature but no Case feature.[4] This can be paraphrased as lacking in uT, from the argument in the preceding section.

(27) a. What! *Her*(/**She*) call me up?! Never. (Akmajian 1984: 3)
b.*Him get**s** a job?! (*ibid.*)
c.*Her **might**(/**will**) call me up?! (*ibid.*)
(28) Her mummy smack her, cos *her* is naughty.[5] (Radford 2001: 45)

We should not overlook that, as we can see from (27b, c), these no Case elements never occur with modal auxiliaries and tense morphemes within the same clause; and more interestingly, this is true of the subjects in CGs as well (=(29)).

(29) a.*[Him getting**s** a job] was surprising.
b.*[Him **will** getting a job] was surprising.

This being so, the property of a T-head in the sentences at hand is to some extent 'defective' compared with that of finite T. The fact that the tense interpretation of a CG is not self-sufficient but dependent on the main clause is also attributed to this.

We will further develop this view on the basis of Kanno (2008), who insists that it is necessary for a CP to have both the Agree feature and the Tense feature in order to form a phase. It follows from this that CGs are non-phase, given that the present analysis is on the right track.

It may be desirable to mention briefly the main points that have been made in this section. In the first place, the maximal projection of a CG is CP whose tense feature is defective: therefore it is not a phase. As another reflection of this nature of T, CGs may not have a subject in need of Case at the end of the derivation. Finally, features that each category bears are described as follows;

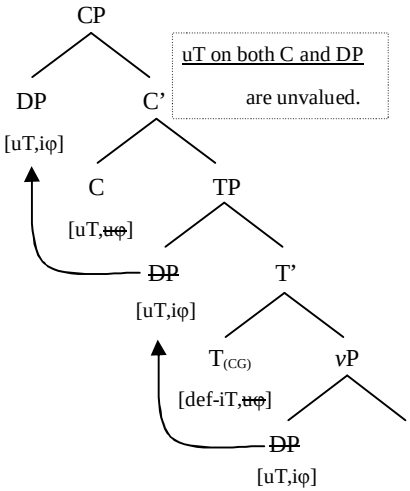
(30) $C_{[uT,u\varphi]}$, $T_{(Fin)[iT,u\varphi]}$, $T_{(CG)[def\text{-}iT,u\varphi]}$, $DP_{[uT,i\varphi]/[i\varphi]}$

3. Analysis

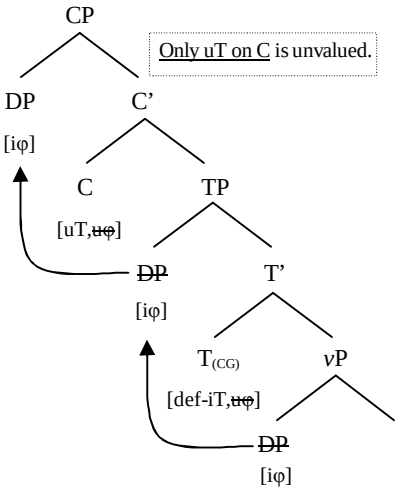
3.1 The internal structure of CGs

The argument so far will help to capture what the internal structure of CGs is like. Observe that there are two possible derivations: if a subject with uT is selected, its derivation proceeds as in (31a), and if not as in (31b).

(31) a. subject: normal DP



b. subject: no-Case DP



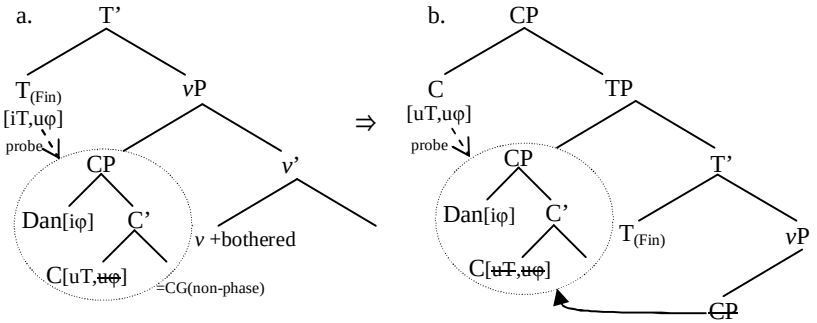
Let us explain the way they are derived. First in (31a), T Agrees with DP in spec-*v*P and raises it to spec-TP, though the uT feature of DP is not valued here, due to the defectiveness of T. Then the merger of C follows this. It is only when it probes the

subject DP that the derivation will converge, or else uT feature on it will never be valued: since elements outside of CGs cannot reach it but the closer C. Thus the subject is raised to spec-CP, resulting there to be [uT, iφ] on DP and [uT, ~~uφ~~] on C. The derivation proceeds almost in a similar manner in (31b), except that the resulting structure keeps nothing but uT on C, with respect to uninterpretable features, because the subject DP at hand does not have uT by nature.[6]

Clearly, the internal structure of CGs straightforwardly explains why they appear only in the Case positions: it is necessary for the uT on the top of the tree to be valued. Within P&T's framework, we have already seen that Structural Case is an instance of uT on D (cf.(19d)); to put it roughly, the traditional Case-valuer is interpreted as having iT in the relevant context. Besides, the above inner structure will make it possible to distinguish two types of gerundive constructions. In (31a), the subject DP has to 'escape' from CG (cf. Hornstein (2001)), so that its uT will be valued because there is no such candidate inside CG, resulting in so-called PRO with gerund construction. By contrast, since there is no need for DP to move up to a higher clause in (31b), it consequently yields the so-called Accusative with gerund construction.

We will now reconsider the example (12c) repeated again in (32), in which the subject position of the sentence is occupied by CG. Notice that this CG has a subject inwardly, thus its internal structure consists of (31b). The following tree represents the stage after the whole CG is merged in matrix spec-*v*P.

(32) [Dan kissing Mary] bothered her parents. (=(12c))



$T_{(Fin)}$ bearing [iT, uφ] is then introduced to the derivation. If it probes C inside the CG, which has [uT, ~~uφ~~], the uninterpretable features on both will be checked off, and the whole CG is raised to matrix spec-TP via Agree. This is followed by the merger of matrix C to the completed TP. Since it has [uT, uφ], the only possible goal is thought to be C bearing [~~uT~~, ~~uφ~~] within the CG. It maybe worth pointing out here why there arises a difference between a CG and a finite clause (see also section 2.1). The feature lifespan defined as (22) in the previous section has an effect on features that are marked for deletion within the complete phase, but such features in non-phase are of irrelevant. This is why the derivation in (32) converges.

We will next turn to the example in (33), where the CG is in the complement position of the main verb. The way this is derived is briefly described in (33a-d).

(33) John prefers swimming. (Pires 2006: 45)

a. $[_{CP}$ John$_{[uT,i\varphi]}[_{C'}$ C$_{[uT,u\varphi]}[_{TP}$ ~~John~~$_{[uT,i\varphi]}[_{T'}$ T$_{[def\text{-}iT,u\varphi]}[_{vP}$ ~~John~~$_{[uT,i\varphi]}]$ $[_{v'}$ swimming]]]]] (cf. (31a))

b. $[_{VP}[_{V}$ prefer$_{[iT,u\varphi]}]$ $[_{CP}$ John$_{[uT,i\varphi]}$ $[_{C'}$ C$_{[uT,u\varphi]}]\ldots]]$

Agree

c. $[_{vP}$ John$_{[uT,i\varphi]}[_{v}$ *v*+prefer $[_{VP}[_{V}$ ~~prefer~~$_{[iT,u\varphi]}]$ $[_{CP}$ ~~John~~$_{[uT,i\varphi]}[_{C'}$ C$_{[uT,u\varphi]}]\ldots]]]]$

d. $[_{CP}$ John$_{[uT,i\varphi]}[_{C'}$ C$_{[uT,u\varphi]}[_{TP}$ ~~John~~$_{[uT,i\varphi]}[_{T'}$ T$_{[iT,u\varphi]}[_{vP}$ ~~John~~$_{[uT,i\varphi]}\ldots]]]]]

Here CG has a (31a) type of the internal structure, which is illustrated here in (33a), because it has no explicit subject. After CP (=CG) is formed, this is followed by the merger of main V (=(33b)). If it Agrees with *John*, the derivation will crash due to the fact that the uninterpretable features of C will not be deleted. Thus in the convergent derivation, the main verb enters into Agree relation with C and the whole CG is raised to spec-VP. Subsequently, the main *v* attracts *prefer*, forming *v*P. There being no available element in the numeration, *John* is raised to spec-*v*P in order to receive the external θ-role of *v*. The main T afterwards merges with *v*P and it probes *John*. As a result, the uT feature of *John* is valued. Finally, it checks off the [uT,uφ] features of the main C that is merged with the completed TP.

The derivation proceeds in almost the same manner in the following sentence.

(34) Sue prefers John swimming. (= (5))

a. [$_{CP}$ John$_{[i\varphi]}$[$_{C'}$ C$_{[uT,u\varphi]}$[$_{TP}$ ~~John~~$_{[i\varphi]}$[$_{T'}$ T$_{[def\text{-}iT,u\varphi]}$[$_{vP}$ ~~John~~$_{[i\varphi]}$][$_{v'}$ swimming]]]]] (cf. (31b))

b. [$_{VP}$[$_{V'}$ prefer$_{[iT,u\varphi]}$] [$_{CP}$ John$_{[i\varphi]}$[$_{C'}$ C$_{[uT,u\varphi]}$]…]]

Agree

c. [$_{vP}$ Sue$_{[uT,i\varphi]}$[$_{v'}$ *v*+prefer [$_{VP}$[$_{V'}$ ~~prefer~~$_{[iT,u\varphi]}$] [$_{CP}$ John$_{[i\varphi]}$[$_{C'}$ C$_{[uT,u\varphi]}$]…]]]]

d. [$_{CP}$ Sue$_{[uT,i\varphi]}$[$_{C'}$ C$_{[uT,u\varphi]}$[$_{TP}$ ~~Sue~~$_{[uT,i\varphi]}$[$_{T'}$ T$_{[iT,u\varphi]}$[$_{vP}$ ~~Sue~~$_{[uT,i\varphi]}$…]]]]]

Since there exists an explicit subject within CG, the (31b) type of the internal structure is taken for CG, which is shown as in (34a). After the main V is merged with CG in (34b), it Agrees with C, with the result that the uninterpretable features of both are all valued as one would expect. The whole CG is then moved to spec-VP, and the matrix *v* merges to the completed VP. In this case, *Sue*, which can receive the external θ-role of *v*, still remains in the numeration. It is therefore merged in spec-*v*P from the economical viewpoint (Merge over Move). This is shown in (34c), and the subsequent derivation (=(34d)) is identical to that of (33d).

3.2 Why CGs do not allow indirect questions?

Looking back to our earlier example, we will give an explanation for why CGs can never appear as indirect questions. It is noteworthy to mention, before turning to this, that Standard English exhibits an interesting property in the relevant construction, which is pointed out by P&T (2001). Note, in particular, the unacceptable examples in (35), where T-to-C movement is banned.

(35) a. Bill asked what Mary bought. (P&T 2001: 378)

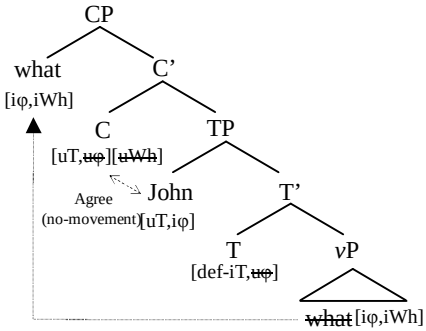
b.*Bill asked what did Mary buy. (*ibid.*)

c.*Bill asked what that Mary bought. (*ibid.*)

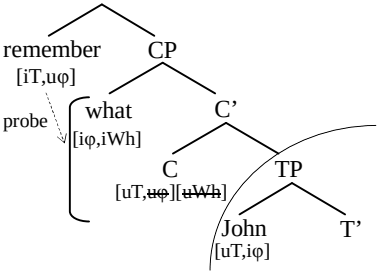
P&T claim that this is suggestive evidence that uT on the embedded C is lacking in EPP property in indirect questions. Let us now reconsider the example in (16b),

repeated here in (36). Since this sentence does not have its subject within CG, its internal structure is like (31a) except that C is bearing [uWh] and [uT, uφ] with no EPP property. As shown below, this C Agrees with *John* in spec-TP, with the result that uφ on C is valued and that uT on both are unvalued. Crucially, this Agree relation does not trigger the raising of *John* due to the absence of EPP, and therefore it stays in spec-TP. Then uWh on C is checked off by *what* and the latter is raised to spec-CP.

(36) *John didn't remember [what$_i$ buying t_i]. (= (13b))



(37) represents the stage where main V is merged with the CP (=CG). Clearly, the possible candidates for *remember* to probe are *what* and C, which are equidistant from the verb, but the Economy Principle keeps it from accessing *John* (cf. Minimal Link Condition proposed by Chomsky (2001)). It is necessary for the DP to move up to the matrix clause regardless of this violation in order to produce (37), hence the ungrammaticality of it.



4. Conclusion

This paper has explored the internal structure of CGs, and thereby their unique syntactic behavior is immediately accounted for within the phase theory.

It has been argued both theoretically and empirically that the maximal projection of them is CP as well as other canonical clauses, which makes their 'clausehood'. What is peculiar to this construction is the defectiveness of Tense head, and this leads us to assume that there can arise no-Case subject within CGs. We therefore propose two types of internal structure: the one which produces what is called PRO with gerund, and the other which yields so-called Accusative with gerund. Since they both keep uT on C, they are restricted to appear only in the Case-marked positions. Finally, the fact that CGs do not occur as indirect questions is attributed to the general property of standard English.

Notes

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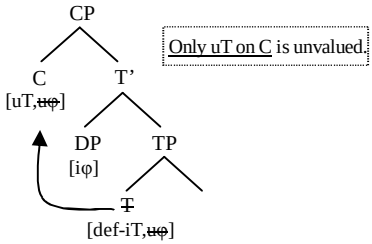
1. … *Inclusiveness Condition*, which bars the introduction of new elements (features) in the course of computation…. (Chomsky 2001 :2)
2. Strict Cyclicity Principle: At a stage of derivation where a given projection HP is being cycled/proceeded, only operations involving the head H of HP and some other constituent c-commanded by H can apply. (Radford 2009: 167)
3. P&T (2004: 516) assume that Merge is an operation which is a part of Agree and that ~~uF~~ is available at the moment Agree is applied. The movement to satisfy EPP, however, is thought to be another one. Therefore, for instance, ~~uF~~ in the subject-CP in (23) are all deleted by the moment the whole CP is raised in matrix spec-TP.
4. What form the no-Case element takes differs from language to language. For example in Icelandic and Korean, it surfaces as if it were a nominative. See Progovac (2006) and Schütze and Wexler (1996) for more detailed discussion.

5. Radford (2001) suggests that children with Specific Language Impairment fail to mark tense or agreement (or both) in obligatory contexts, which yields sentences like (28).
6. In fact, there is another way to check uT on C in (31b), that is, T-to-C movement. This is illustrated below.

(i) subject: no-Case DP



The features remaining through derivation are the same as in (31b), therefore this T-to-C version is omitted in the following argument so as not to complicate matters. In this connection, the reason we cannot explicitly have a complementizer in CGs is supposed to be related to the defectiveness of the tense, different from that of finite clauses.

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