Bare checking --without probe-goal asymmetry

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1. Elegant Syntax

1. 1. Bare checking theory

It has been suggested in the mid-nineties, in the framework of elegant syntax (ES, see Brody 2003), that some central agreement processes are best treated in a fairly simple approach. This view, called bare checking theory (Brody 1997b), assumed that

(1) a. multiple instances of a syntactic feature corresponding to a single semantic value must be linked to each other at the LF interface (via spec-head and/or chain relations), and that

b. all syntactic features are semantically interpretable, more precisely, that at least one instance of a set of linked instances must be in a position where it is interpreted.

(1b) is the condition of Radical Interpretability.

1.2. Plural in English

So for example the plural feature in English subject verb agreement has at least two instances, one on the subject and one on the verb. These are linked as a consequence of the fact that the subject forms a chain with a position (spec-VP) that is the spec of the verb, satisfying (a). The plural feature is interpreted in the subject position satisfying (b). (I ignore here the question of whether the plural has an instance on all members of the subject chain.)

The assumptions in (1) correctly allow the instance of plural on the verb not to be interpreted, --an English plural verb does not denote a plurality of actions or properties. An interesting possibility would be to strengthen the above rather minimal set of assumptions by requiring that a feature (a set of linked instances) can be interpreted only in a single position, thereby making the non-interpretability of the plural feature on the verb a consequence of its interpretability on the subject.

1.3. Successive step chains

As was also noted in the nineties (Brody 1997a), the bare checking approach provides a way of handling the triggering problem of successive step chains, like for example the *wh*-construction in (2).

(2) Who did Mary say t' C Bill saw t
(3) I wonder who C Bill saw t

In derivational terms the question was the tiggering of movement to the intermediate spec-C position. The problem arose since this C apparently lacks the +WH/Q feature that was taken to trigger movement to spec-C in (3). (In representational terms it is natural to phrase the issue in terms of licensing of nodes: in (3) and in the matrix sentence of (2) the *wh*-phrase is licenced by the +WH feature, but the trace of the *wh*-phrase in the spec-C of the embedded

clause in (2) is not licensed, -- an apparent violation of an appropriately constructed principle of Full Interpretation.)

In (3), under bare checking, the +*wh*-feature of the *wh*-phrase and the +WH feature of C get linked and are interpreted as a single question. (Again, there might in fact be more than one instance of +*wh* in this structure, --one on each member of the chain of the *wh*-phrase. But this issue is tangential to the present discussion.) Under this approach it is possible to assume that the intermediate C in (2) in fact also has a +WH feature which licences the empty category in its spec. But this +WH feature also gets linked to the +WH of the matrix C via the chain of the *wh*-phrase, hence again all +*wh* and +WH features of the construction are interpreted as instances of a single feature, --the sentence contains only one question.

Notice that allowing an interpretively non-interrogative C to carry a +WH feature does not cause any immediate overgeneration problems; -- a structure like (4) is still excluded due to the fact that the matrix verb does not select a question and there is no question in the example that the +WH feature of the embedded C could legitimately link up to.

(4) I think C(+WH) Mary left

1.4. Raising

Bare checking theory provided also a simple potential reason for the impossibility of NP-raising from a tensed subject position.

(5) *John seems [t liked Mary]
(6) John seems [t to like Mary]

The ungrammaticality of (5) was attributred to tense conflict: subject raising "illegitimately establishes an (indirect) chain-relation between two independent Tenses" (Brody 1997b p. 163). The approach (necessarily) assumed that in the grammatical example (6), the embedded infinitive has no independent Tense: in other words that the the matrix interpreted T is chain-linked to the *noninterpreted* T of the embedded clause (via the chain of the nominative subject, --presumably providing another instance of noninterpreted T.

1.5. Checking in ES and in MP

The bare checking approach of ES differs from the checking theory of the minimalist program (Chomsky 1995) not only in assumptions (1a) and (1b). Bare checking dispenses also with the asymmetry of the minimalist triggering or in its later incarnation (Chomsky 2001) the 'probe-goal' mechanics where an uninterpreted (and unvalued) probe searches its c-command domain for a goal, from which it can potentially pick up a (syntactic) value and a ('semantic') interpretation. The asymetrical requirement in the probe-goal configuration that the probe is uninterpreted is immediately dubious, since it is a stipulated addition to the minimal assumption: in a set of linked instances of a feature any one may in principle be either interpreted or uninterpreted.

It is true that radical interpretability, that is assumption (1b) above is also an additional requirement, but this is naturally taken to be a consequence of full interpretation, or ultimately of some general recoverability consideration. No such natural rationale is immediately available for the condition that would require the higher node of a link to be uninterpreted. Indeed immediate cases like the wh-construction in (3) suggested that the stipulation is also empirically wrong. In (3) the +WH is clearly interpretable even though apparently a movement trigger (higher chain-member licencer). Denying this apparent fact caused various

complication in minimalist checking theories, that were unnecessary under the bare checking approach of ES.

2. Pesetsky and Torrego 2004

2.1 Interpretability and valuation

There have been various aspects where ES anticipated later developments in the minimalist framework, suggesting the correctness of the ES methodology. (cf. the introduction of Brody 2003 for some discussion). In a very interesting recent paper, Pesetsky and Torrego (2004) (The Syntax of Valuation, henceforth TSV) adopt the assumptions in (1) providing another potential candidate of such convergence. (They note also that the assumption in (1a) is shared by work in the HPSG tradition and that Frampton et al (2000) provide additional evidence for it.)

Their proposal is different however not only from the standard minimalist checking theory (in that they adopt (1)) but also from bare checking in that they assume the probe- goal asymmetry. To deal with problems of the sort exemplified in (3) above, where the probe appears to be interpretable they propose to reconstruct the asymmetry in terms of an interpretability-independent notion of valuation. While in Chomsky (2001) a non-interpretable probe receives its (redundant) value from its goal via agree, TSV rejects the assumption according to which all (and only) uninterpretable features start out unvalued (i.e. that all and only uninterpretable features need to be valued in syntax by agree). Thus in TSV an unvalued probe which may or may not be interpretable searches its c-command domain for a (goal with a)value.

2.2. Tns and the finite verb

The relevant configuration is exemplified in TSV first by the relationship between the T feature of the Tns node and the finite verb. Assuming that Tns is where tense is interpreted semantically and that Agree must link Tns and the verb since the verb may carry morphology that expresses tense distinctions, -- T in Tns will be an unvalued but interpreted probe searching its c-command domain for its valued but uninterpreted goal, the verb.

2.3. Wh-selection

As another case of this phenomenon TSV presents the selection of wh-phrases. Particular constructions allow particular types of wh-elements. For example *what* is possible in interrogatives but not in relative clauses (7), while *why* can occur both in headed relatives and interrogatives but not in free relatives as in (8).

(7) *the book what Mary bought t
(8) *John left why Mary left

According to TSV "if the matching of clause-type to *wh*-type is a variety of agreement, then C in these constructions must contain an unvalued feature that is valued when it probes and finds an appropriate *wh*-expression containing its goal." (p.6). Pesetsky and Torrego point out that in the framework of Chomsky 2000, 2001 where lack of value entails lack of interpretability the valueless probe on C cannot be responsible for differentiating the possible interpretations of CP. As they note, Chomsky needs to posit "two distinct features in C: an uninterpretable, unvalued feature *u*Wh with an EPP property (the feature that probes

for a *wh*-goal); and a distinct, interpretable, valued feature *i*Q (the feature relevant to the interpretation of the clause). Correlations between clausal semantics and *wh*-type must be captured with mechanisms other than Agree"(p.7).

The proposal in TSV to separate valuation and interpretability makes possible an different analysis. Only a single feature, interpretable but unvalued Q on C, is posited. This probe receives its value from its uninterpretable but valued goal counterpart on the wh-phrase.

2.4. Anti-asymmetry

While the TSV analysis of wh-selection appears to be an improvement over the one put forward in Chomsky 2000, 2001, we might wonder if the additional distinction introduced by the separation of valuation and interpretability is really necessary, --if the additional analytic options thereby introduced do not unnecessarily reduce the restrictiveness and hence the explanatory ability of the theory. We might wonder if the feature duplication of the earlier solution has not been simply exchanged for a different but perhaps equally unnecessary distinction. Surveying the two cases just discussed, the Tns-verb relation and *wh*-selection it is fairly conspicuous that both duplications are made necessary by the assumption of asymmetry in the probe-goal configuration: that an uninterpreted (Chomsky) or unvalued (Pesetsky and Torrego) probe searches its c-command domain for a goal that provides interpretation or value for it. The suspicion that both duplications may be redundant is reinforced by the observation that it is an apparently unnecessary additional restriction that makes it necessary to invoke them.

In the bare checking theory of ES we can simply require all instances of features with a single semantic interpretation to be linked. Thus T on Tns (in interpreted position) and the tense morphology of the finite verb (in a non-interpreted one) must be chain-linked, there is no need to invoke an interpretation-independent notion of valuation. We do not seem to need to talk about valuation at all, but if we wish to do so, we can allow the interpreted feature to value the non-interpreted one, --as expected on general grounds given the fact that valuation is semantically redundant.

Similarly the interpretable Q-feature on C and the non-interpretable *wh*-feature of the wh-phrase must be linked, but without the ad hoc proviso that the structurally higher element must be noninterpretable or unvalued, we do not need to further duplicate our featural inventory invoking two sets of features for the analysis of this construction either.

2.5. Raising and successive step movement

TSV raises convincing objections also to Chomsky's 2001 analysis of raising in terms of a defective fi-bundle and provides a different solution in terms of its interpretation independent valuation approach. As noted above, in a finite clause the interpretable but for Pesetsky and Torrego unvalued T on Tns agrees with uninterpretable unvalued T (nominative Case) on the subject and with the uninterpretable but valued T on the finite verb. If the infinitival verb of a raising construction bears unvalued T then no valuation occurs within the infinitival: infinitival T on Tns, nominative Case and T on the infinitival verb are all unvalued. Raising of the subject makes it possible for this element to be probed by the matrix T in Tns and ultimately the whole set of linked T features are valued by the valued T on the finite matrix verb.

Here again, invoking the probe-goal asymmetry and the attendant interpretation-valuation distinction does not seem to have any descriptive advantage over the more restricted and therefore more explanatory alternative that dispenses both with the additional ad hoc asymmetry restriction and the conceptual enrichment of interpretation independent valuation.

As we have seen in section 1.4. above the ES analysis of raising is essentially like the TSV analysis except that no probe-goal asymmetry is assumed and instead of valuation of features the approach relies solely on interpretability. The assumption of bare checking theory that none of the T features within the infinitival is interpreted, hence these need to be linked to the interpreted T on the Tns of the finite clause (just like the T features on the tensed verb and subject) provides an obvious and apparently preferable alternative. Note that on both approaches the T feature of the matrix and the embedded clauses will be linked reflecting the semantic dependence of the tense interpretation of the infinitive on that of the matrix.

Similarly, TSV suggests that an unvalued uninterpretable Q feature triggers successive cyclic *wh*-movement. Again, we might view the proposal as a restatement in a less restrictive approach of the bare checking theory analysis, where the relevant feature was simply an uninterpreted Q/Wh (see section 1.3. above).

2.6. Complementizer omission

TSV uses the concept of interpretation independent valuation in yet another domain, in the explanation of the ungrammaticality of complementizer omission in sentential subjects, and related phenomena. The analysis, based on earlier work by the authors (Pesetsky and Torrego 2001), assumes the following structures for a declarative embedded *that*-initial and subject initial CP respectively:

(9)
a. Move Tns to C (*that*)...

[CP [Tns *i*T +fut[5]]+[C, *u*T[5]] [IP [Sue, *u*T[5]] __ buy the book.]]
that *Sue* *will buy the book*

b. Move the nominative subject to Spec,CP:

[CP [Sue, *u*T[5]] [C, *u*T[5]] [IP __ [Tns *i*T +fut[5]] buy the book].
Sue *will buy the book*

In (9a) *i*T, (interpretable Tense) has undergone head movement to C (from the position indicated by underline) and constitutes a morpheme of C yielding a clause introduced by *that*. In (9b) C contains the uninterpretable Tense feature (*u*T), the lexical specification of C, valued in agreement with T of Tns, T (Case) of the subject and with the valued T of the finite verb. TSV assumes further that at the end of the CP phase valued uninterpretable features delete. If so, then after such deletion the IP-external domain in (9b) will not contain any instance of T as opposed to (9a) where C contains an interpretable T feature.

The proposal in TSV is that this entails that the *that*-clause in (9a) will be able to serve as a goal for the interpretable Tense of the matrix clause but the subject initial CP in (9b) cannot serve as such a goal since no instance of T remains in the IP-external domain. In TSV it appears to be taken to be a consequence of this, that a *that*-clause may become the subject of a higher clause, but a finite CP not introduced by *that* may not.

There are various potential problems with the TSV account of this phenomenon. It is not immediately clear why the fact that the clause cannot serve as a goal for the T feature in the higher Tns should matter: this feature will be valued by the finite verb in the matrix clause in any case. As Pesetsky and Torrego note the assumption that the T features of the embedded subject sentence and the matrix clause are linked entails that T-agreement must be construed weakly as "sensitive to positive vs. negative value, but not to fine-grained distinctions among

the actual tenses" (p.17). They point out that this weaker construal of agree does not prevent the embedded infinitival in the raising case to pick up more than just the positive or negative value of T from the matrix clause, as reflected in the tense semantics of the construction. The question that appears to arise however, is what forces now this stronger tense dependence of the infinitival on the matrix clause in the raising case if agree is construed only weakly. In other words what prevents raising from a tensed clause (in weak T-agreement with the matrix)? Furthermore, as Pesetsky and Torrego note, in a raising construction where a sentential subject is raised some further stipulation (which they provide) is necessary to ensure that the infinitival tense does not become dependent on the tense of the sentential subject instead of that of the matrix clause. In the framework of ES yet further problems would arise from the fact that the proposal employs the stipulative and derivational cyclical feature deletion mechanism.

But putting aside the problems and assuming the analysis essentially within its own framework for the sake of discussion, it is clear that probe-goal asymmetry and the attendant interpretation independent valuation concept are unnecessary here too. The analysis would need to change little if we dispensed with reference to valuation and just required uninterpreted features that are linked to an interpreted counterpart to delete at the end of the CP cycle.

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