

On the Format for Small Clauses

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1. THE LAST X-PARTICULAR RULE

What is $R(\alpha; \beta)$ such that $\langle \alpha; \beta \rangle$ is interpreted as propositional in *Phil found the fondue _{α} too liquid _{β}* , but not in *Phil found the too liquid _{β} fondue _{α}* , and such that it is an argumental proposition in the first example, but an adjunct proposition in *Phil ate the fondue _{α} cold _{β}* ?

1.1. Small Clauses and Construction-Particular Rules

Behind R, the central issue is that of the amount of permitted variation in syntactic structure: virtually every analysis assumes that the underlying syntactic structure of the proposition associated to R differs from the underlying syntactic structure of the corresponding inflected proposition.¹

- (1) a. *Phil found* [_{AP} *the fondue* *too liquid.*] .
b. *Phil found* [_{CP} *that* [_{IP} *the fondue* [_{VP} *is* [_{AP} *too liquid*]]]] .

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¹ This needs to be qualified. Analyses of R differ along three main (orthogonal) axes: (i) $\langle \alpha; \beta \rangle$ forms a constituent (Small Clause) or not, (ii) R involves functional categories or not, and (iii) V° and β form a "complex predicate" at LF or not. Only for the " $\langle \alpha; \beta \rangle$ as constituent" view have x-particular claims been made (otherwise R is seen as structurally similar to ... *V object object* ... sequences, cf. Stowell (1983, 1991) for a survey of arguments against this type of analysis; cf. also fn. 7, fn. 13).

1.2. From Surface Idiosyncrasies to Abstract Regularities

The recurrent pattern in syntactic research of the last half-century has been a drive from surface x-particular analyses (language-, construction-, lexeme-particular) to abstract x-independent accounts.

1.2.1. This has for instance been the fate of x-bar theory:

- (i) no x-bar; initially any generable syntactic structure was a possible syntactic structure, with, by and large, unrestricted x-particular variation,
- (ii) "flexible" x-bar theory; syntactic structure is only composed of one basic type of unit, XPs, with some (limited) possibilities for x-particular settings (typically head-initial vs. head-final, varying across languages and constructions),
- (iii) "rigid" x-bar theory; basic units allow for no x-particular variation, i.e. are totally x-independent; a stage currently under investigation (Kayne, 1993b; Brody, 1994; Chomsky, 1994).

1.2.2. While x-bar constraints strongly regiment XP-internal configurations, it leaves the variation in structure above XP largely open:

- (2) Is there any constraint on possible ... $[_{XP_i} [_{XP_j} [_{XP_k} \dots$ sequences ?

1.2.3. The contemporary answer to this very much corresponds to the second, "flexible", stage of x-bar theory:

- (i) at first, non-minimal projections were allowed to stack without particular constraint,
- (ii) since the postulation of multiple "functional projections", it is uncontroversial (though largely implicit) that syntactic structure is composed of larger scale units (variously called

clause, complete functional complex, extended projection, etc.), reflecting the fact that functional projections associated to a lexical element always c-command that element, or that the complementiser is always the highest projection of the clause, etc.²

Exactly as in the second stage of x-bar theory, a limited amount of both language-particular and construction-particular variation on possible XP sequences is widely assumed. Studies such as Laka (1989), Ouhalla (1991), Zanuttini (1991) all assume *language*-particular variation in the order or number of projections associated to a particular construction (negation).

Construction-particular variation is assumed by virtually every analysis of "Small Clauses" (SC): a given proposition corresponds to two distinct syntactic structures, varying with the "construction", with the structure corresponding to SC not attested otherwise.³

1.2.4. This variation in underlying syntactic structure is (one of) the last unprincipled x-particular variation, i.e. the last x-particular rule, assumed in syntactic theory.⁴ From the historical perspective, the natural question is then: is x-particular variation in underlying syntactic structure needed?

For SC, the syntax of the particles occurring in between the subject and the predicate of the SC not only gives arguments to the effect that SC are not "bare lexical projections", §2, but explicitly suggests that the answer should be parallel to that for x-bar theory: after the second stage comes a third, x-independent stage which allows no variation in underlying syntactic structure, §3-4.

(3) a. *Phil found* [_{CP} [_{IP} *the fondue* [_{VP} [_{AP} *too liquid*]]]] .

² Cf. Grimshaw (1991) for an attempt at an explicit formulation of such a constraint.

³ *Lexeme*-particular variation is the most widespread of all: it is unanimously assumed that distinct lexical categories are associated to a different number and type of functional projections.

⁴ Assuming a research program viewing all "parameters" as lexical (Borer, 1984, and many after her).

- b. *Phil found* [_{CP} *that* [_{IP} *the fondue* [_{VP} *is* [_{AP} *too liquid*]]]] .

2. PARTICLES

In several cases, R is associated to a particular morphology. In a propositional complement to *regard*, for instance, α and β must be separated by the morpheme AS, *Phil regarded the fondue as too liquid* but not **Phil regarded the fondue too liquid*. In absence of R, no such morpheme is possible *Phil is regarding the (*as) big (*as) wall*.

2.1. Particles are Selected by the Verb

2.1.1. In German, the interaction between v and the particle is both productive and semantically minimal.

- (4) a. *Ich betrachte es { als | *für | *ø } gut.*
 b. *Ich halte es { *als | für | *ø } gut.*
 c. *Ich finde es { *als | *für | ø } gut.*
 I consider it { as | for | ø } good

Similar paradigms obtain across languages. French and Italian: ⁵

⁵ Other PRTs occur, but in quasi-idiomatic turns. Example with *take* include, *à: prendre X à parti* 'quarrel with x' (French), *prendre X à coeur* 'take x to heart' (French), *prendere X a testimonio* 'take x to witness' (Italian), or *en/ in: prendre X en horreur* 'take x in disgust' (French), *prendere X in moglie* 'marry x' (Italian), ...

The fact that (5c-d) have nominal predicates is not relevant to the particle variation. Some verbs select these particles with adjectival predicates also, such as *tenir X pour Adj* 'hold x for Adj'.

(5) a.	<i>A</i>	<i>traite</i>	<i>B</i>	<i>de</i>	<i>lâche.</i>
	<i>A</i>	<i>tratta</i>	<i>B</i>	<i>da</i>	<i>codardo.</i>
	<i>A</i>	calls	<i>B</i>	DE	coward
b.	<i>A</i>	<i>trouve</i>	<i>B</i>	<i>ø</i>	<i>lâche.</i>
	<i>A</i>	<i>trova</i>	<i>B</i>	<i>ø</i>	<i>codardo.</i>
	<i>A</i>	finds	<i>B</i>	Ø	coward
c.	<i>A</i>	<i>prends</i>	<i>B</i>	<i>pour</i>	<i>un lâche.</i>
	<i>A</i>	<i>prende</i>	<i>B</i>	<i>per</i>	<i>un codardo.</i>
	<i>A</i>	holds	<i>B</i>	FOR	a coward
d.	<i>Ça</i>	<i>se présente</i>	<i>t</i>	<i>comme</i>	<i>un cauchemar.</i>
	<i>Questo</i>	<i>si presenta</i>	<i>t</i>	<i>come</i>	<i>un incubo.</i>
	this	presents itself		as	a nightmare

Although less productively, and subject to some caution, the same paradigm obtains in English, given **take** *x* **for** *y* as in *he takes you for a fool* ; **regard** *x* **as** *y* as in *Phil regarded the fondue as too liquid* and finally **find** *x* **ø** *y*, as in *he finds you very brave*.

To take a non Indo-European language, the pattern is reproduced in Hebrew: *hem mac/u /et Dani ø /as'em* 'they judged Dani ø guilty' versus *hem xas'vu /et Dani le xaxam* 'they considered ACC Dani LE smart'.⁶

2.1.2. If predicative adjective (/noun-phrase) constructions are small clauses, and clauses divide into argumental and adjunct, all examples (4-5) feature argumental SCs.⁷

⁶ Hebrew data courtesy of Ur Shlonsky.

For some discussion of particles, cf. Emonds (1985, section 6.3), and also Aarts (1992), Bowers (1993:596) and Chung & McKloskey (1987)

⁷ The strongest test to the effect that SC are syntactic units comes from the fact that they may be subjects: both with copulas [*men nude on the street*] *appears to be the puritan's worst nightmare* (Safir, 1983; Stowell, 1983, 1991), and with comparatives [*Mandela free*] *would pose a bigger threat than [Mandela behind bars]* (Aarts, 1992). This test is reinforced by pronominalisation: (singular) pronouns only refer to a constituent, and

Although tests for argument vs. adjunct SC are rather scarce, the following two seem to be valid one-way implications: (i) a shift in the meaning of V between ... *V object* ... (*I will consider this offer*) and ... *V object Adj_{pred}* ... (*I consider this offer illegal*) entails a complement SC, (ii) an ambiguity of the type ... *NP_i V NP_k Adj_{pred-i/k}* ... (*John_i observed Mary_k drunk_{i/k}*) entails an adjunct SC, the ambiguity stemming from different controllers of the null subject of the adjunct SC.

In all of the above examples there is a sharp difference in the meaning of verb with or without the predicative adjective. Cf. for instance the German pair *er hält diesen Apfel in seinem Hand* 'he holds this apple in his hand' versus *er hält diesen Apfel für sehr schlecht* 'he holds this apple for very bad'.⁸

On the other hand, none of the above examples is ambiguous: the predicative adjective / noun cannot be understood as predicated of the root subject.

the subject SC can be referred to by a pronoun: [*Girardet malade*]_i, *ça_i semble être le pire cauchemar des élus locaux* 'G. sick, it seems to be the worst nightmare of the local politicians'. A similar, though more delicate, argument can be constructed for complement SCs.

Further, it is often claimed that the one major misprediction of the SC theory is that: there should be SCs with a PRO subject interpreted as arbitrary, but this is not found. In fact PRO_{arb} as subject of SC *is* found, contrary to claim, exactly where it is expected: in adjunct SCs with no structural antecedent, [*PRO drunk*], *maths are wonderful*; or [*PRO amoureux*], *le monde est enfin supportable* (in.love.[adj], the world is finally bearable).

Finally a note of caution: with postnominal adjectives, ... *V object* ... and ... *V SC* ... correspond to the same string, as is often the case in French or Italian. This does not entail that there are no SC, although tests are rare. Contrastive focus and displacement disambiguate: contrastive stress on a predicative adjective cross-linguistically triggers a determinerless constituent negation while contrastive stress on the non-predicative counterpart requires a determiner:

- [i] *Phil a trouvé la fondue CHAUDE, pas froide.*
Phil a trouvé la fondue CHAUDE, pas la froide.
 P. found the fondue hot, not the cold

Similarly, displacement of the SC-subject allows only the predicative reading:

- [ii] *Phil les_α a trouvé t_α trop liquides_β.*
Qu_α 'est-ce que Phil a trouvé t_α trop liquides_β?
 What did P. them found too liquid

And finally, the two tests interact as expected:

- [iii] *What did Phil find ugly, not nice?*
 * *What did Phil find ugly, not the nice one?*

⁸ Cf. also minimal pairs such as *Philippe traite Jean [comme un millionnaire déchu]* 'P. treats J. as a has-been millionaire' (direct object semantics) vs. *Philippe traite [Jean de millionnaire déchu]* 'P. calls J a has-been millionaire' (small clause semantics): only the first, non Small Clause example has the meaning corresponding to the simple transitive verb.

2.1.3. The configuration to derive is thus apparently (the arrow indicates selection): ⁹

(6) ... V [_{argument} Su PRT Pred]

where SC is an argument of V, V selects the particle (PRT), and SC-Su is θ -dependent on Pred.

2.1.4. The fact that PRT is selected by V, and thus an independent syntactic unit, entails that SC contains more than one XP.

2.2. PRT in Bare Lexical Projections

2.2.1. The hypothesis that SC is a bare lexical projection (bare LP), rests on three basic tenets:

- (a) The predicate is the head of SC (Pred = L°)
- (b) The subject is in the specifier of the lexical projection (Su = specLP)
- (c) There are no functional projections in Small Clauses (no FP in SC)

The conjunction of these three assumptions, [_{LP=SC} [_{spec} Subject] [_{L'} [_{L°} Pred]]], is incoherent with the fact that SC contains (an independent) PRT, selected by V°. There is no representational space for PRT between the subject (specLP) and the predicate (L°). By *reductio ad absurdum*, some of the three hypotheses have to be abandoned. ¹⁰

2.2.2. Still keeping with the construction-particular hypothesis ("no FP in SC"), how can the bare LP approach be adapted? Either the first (Pred = L°) or the second (Su = specLP) hypothesis need to be rejected.

⁹ The choice of PRT is strictly function of V: one and the same Su-Pred pair occurs with distinct PRT, cf. (4-5); and one and the same PRT occurs with distinct types of Su-Pred pairs, and also with distinct Vs.

¹⁰ Of course, it is logically possible that PRT be adjoined to X'. Apart from the fact that this would be to revert to a loose version of x-bar theory, the theory of selection would also pose a problem: it would have to be seriously loosened to allow for the matrix verb to select an adjunct to L'.

In the first case, the analysis of SC becomes (7a) with $PRT = L^\circ$. In the second case, x-bar theory has to be slightly stretched, to host multiple elements to the left of the head, (7b).¹¹

- (7) a. $[_{LP} [_{Spec} Subject] [_{L'} [_{L^\circ} PRT] Pred]]$
 b. $[_{LP} [_{Spec/adjunct} Subject] [_{Spec} PRT] [_{L'} [_{L^\circ} Pred]]]$

2.2.3. Among the multiple problems of assuming that $PRT = L^\circ$ in SC, (7a), the most immediate is probably that of adjacency. If Pred is the sister complement of PRT, strict adjacency should hold between the two elements. This is a false consequence.

To take one example, Cardinaletti and Guasti (1993) conclude that negation in SC is not constituent negation, but rather that *neg* is an independent XP in ... *su PRT neg pred* ..., an unrepresentable fact if (7a) was correct. Similar but maybe less controversial arguments hold of adverbs.

Thus keeping only the second and the third hypothesis of the bare LP approach again leads to incoherence with facts. To keep the "no FP in SC" assumption, the only remaining possibility is to reject the second assumption, "Su = specLP".

2.2.4. Stretching the x-bar unit, XP, to accomodate both PRT and Su in pre- X° positions, (7b), leads to several types of problems.

First, this would leave the selection relations, (6), and the concomitant strict ordering, as mysteries: V° would have to select PRT in specLP across Su, and L° in turn should select Su across PRT. As a byproduct, this scenario would also force the abandonment of the otherwise fruitful hypothesis that subjects always originate as specifiers of lexical categories.

¹¹ Alternatively, x-bar could be stretched by allowing non-binary branching (flat) structures. This is excluded by displacement, which shows that PRT and Pred form a constituent to the exclusion of the subject, §2.2.6.

Second, this scenario is not compatible with extraction possibilities, it forces movement of an XP such that XP has leftover segments *in situ*, §2.2.6. Finally, and maybe most importantly, such a scenario necessarily entails that PRT is a maximal projection in specLP (it cannot be adjoined, given the minimal assumption that adjoined categories cannot be selected): but PRT does not behave as a specifier in SC, but rather as a head, §3.

2.2.5. In short, keeping the "no FP in SC" hypothesis while taking PRT into account at best necessitates undesirable changes in several parts of syntax (movement-theory, x-bar theory, theta-theory), and, at worst, is unimplementable.

If SC do contain FPs, e.g. $[_{SC} Su_i \dots [_{F^\circ} PRT] [_{XP} t_i \text{ delicious}]]$, all the problems disappear: there is no need to stretch x-bar theory, selection relations remain local, PRT may be represented as a head, etc.

2.2.6. Constituency tests uniformly indicate that PRT forms a constituent with Pred. Clefting: *it was [as a total failure], (not as a mere accident), that Phil regarded the fondue*; wh-movement: *[pour qui] est-ce que tu me prends?* 'for who is-it that you take me?', cf. §3.1.2 on P-stranding) and also coordination: *Phil regards the fondue not only [as a total disaster] but also [as the worst thing he ever ate] or ... [as a total disaster] and [as the worst thing he ever ate]*.

It has often been noted that displacement of Pred is difficult to reconcile with the bare LP approach (Williams, 1983; Kitagawa, 1985), but the concomitant displacement of PRT renders the problem all the more acute: the displaced constituent must be a larger unit, comprising at least two independent entities.

Such a displacement is compatible with neither of the two above scenarios (PRT=L° and x-bar stretching): both would imply displacement of a projection of X (X' or XP), leaving stranded segments of the projection of X behind (the segment dominating the spec or the adjoined position hosting Su), $[_{LP_i} PRT Pred] \dots [_{LP} Su \ t_i]$. Such stranding is ruled out.

On the other hand, no such problem occurs if SC contains FPs: the subject and the particle need not be in the same FP (cf. §6).

2.2.7. Finally, the distribution of floated quantifiers is difficult to reconcile with any form of the bare LP approach (assuming Sportiche, 1988, for the syntax of FQ). Although marginal, post-PRT floated quantifiers on the subject, *the rat considers the kids as all hopeless cases* are judged acceptable.¹²

This is impossible to represent in the scenario (7a), where $PRT = L^\circ$. In (7b), it would require displacement of Su from specLP to an adjunction position to LP, leaving FQ behind. Not only is this an otherwise unattested configuration, but above all it would force PRT to be adjoined to LP (with Su in specLP), where it could not be selected by V° , under any reasonably restrictive assumptions on selection (a *sine qua non* for syntax). Both (7a), i.e. abandoning the first tenet of the bare LP approach, and (7b), i.e. abandoning the second, are incompatible with FQ on SC-Su. The only solution, is to abandon the third: there are FPs in SC.^{13, 14}

Again, all problems trivially disappear if SC contains FPs, (§6.3).

2.2.8. From the outset, the syntax of SC-PRT disconfirms the claim that radical construction-particular variation in syntactic structure must be admitted for pairs such as *I find this exciting* and *I find that this is exciting*. It is not the case that one but not the other requires functional projections. Both do.¹⁵

¹² Often qualified as "street-like". The choice of PRT and Pred is important: post-PRT FQ is for instance better with adjectival than nominal predicates, and worse with $PRT = for$ than $PRT = as$.

¹³ This also gives a new argument to the effect that SC are constituents: from (i) the fact that PRT and Pred form a constituent (cf. clefting, §2.2.6), and (ii) the fact that a post-PRT FQ is (marginally) acceptable, it follows that Su originates below PRT, inside the constituent $[PRT Pred]$. SC is therefore an underlying constituent.

¹⁴ Independently of PRT, Belletti (1990) notes that FQ are incompatible with a bare LP, in ... $V^\circ Su FQ Pred$... sequences (*he finds the dishes all excellent*), where Su and FQ do not form a constituent. The problem is again magnified by PRT, given the possibility of examples with the reverse order w.r.t. those in the text, ... $V^\circ Su FQ PRT Pred$... (cf. §6.3).

¹⁵ In most cases, such "bare LP" theories are trivially updatable to theories *cum FP*. There is at least one family of approaches where this is not true: many researchers in language-acquisition rely heavily on the 'no-functional-

Maybe is there a compelling reason to postulate distinct types or number of functional projections in the two cases? A more precise investigation of the identity of PRT again runs against such x-particular claims.

3. PREPOSITIONS

3.1. Similarities Between SC-PRT and P

3.1.1. What is PRT? It bears a striking resemblance to prepositions: not only is PRT often homophonous with a preposition, but both P and PRT are cross-linguistically invariant w.r.t case and phi-features, and semantically (and in some languages morphologically) distinct from other invariant morphemes.

Cases of homophony cut across languages: *for* in English, *für* in German, *de*, *pour* in French, *za* in Slovak, *le* in Hebrew, etc.

Homophony with a preposition does however not entail being a preposition. In at least two cases, elements are homophonous with prepositions but do not seem to be best analysed as P°: the English infinitival *to*, and particles in particle verbs, V-PRT (e.g. *take x in*).

Cross-linguistically, one test however strongly puts together SC-PRT and P°, against both infinitival *to* and V-PRT: stranding.

3.1.2. Stranding of prepositions is possible in English (and in some Scandinavian languages, e.g. Swedish), but not in Romance or in German: ¹⁶

projections-inside-Small Clauses' hypothesis to explain developmental stages of acquisition. Such analyses lose much of their *raison d'être* if such bare Small Clauses do not exist in adult language.

¹⁶ This is not totally accurate. There is a limited amount of P-stranding in Romance, but irrelevant to the present concerns.

- (8) a. ✓ *Who* *did you vote* *for?* (English)
 b. * *Qui* *as-tu voté* *pour?* (French)
 c. * *Chi* *hai votato* *per?* (Italian)
 d. * *Wen* *stimmst du* *für ?* (German)

Exactly the same holds of SC-PRT : SC-PRT may be stranded in English (and in Swedish) but not in Romance or in German:

- (9) a. ✓ *Who* *do you take me* *for?*
 ✓ *What* *do you consider him* *as?*
 b. * *Qui* *me prends tu* *pour?*
 * *Qu'* *est-ce que tu me considère* *comme?*
 c. * *Chi* *mi prendi* *per?*
 * *Cosa* *mi consideri* *come?*
 d. * *Was* *hältst du mich* *für?*
 * *Was* *betrachtest du mich* *als?*

The grammatical versions of the Romance and German examples require pied-piping: *pour qui me prends-tu?* *per chi mi prendi?* and *als was betrachtest du mich?*

On the other hand, SC-PRT differs from V-PRT w.r.t. stranding: while stranding of the former is limited to English, stranding of the latter is allowed in all languages under discussion (the status of German V-PRT is somewhat controversial):

- (10) a. ✓ *What* *did you throw* *away ?*
 b. ✓ *Qu'* *est-ce que tu as foutu* *loin ?*
 c. ✓ *Cosa* *hai buttato* *via ?*
 d. ✓ *Was* *wirfst du* *weg ?*

Finally, SC-PRT also differ from the infinitival marker w.r.t. stranding: the first but not the second may be stranded: *what do you regard him as* vs. **what do you want to?*¹⁷

(11) Stranding	<i>English</i>	<i>French</i>	<i>Italian</i>	<i>German</i>
<i>Prepositions</i>	+	–	–	–
<i>SC-PRT</i>	+	–	–	–
<i>V-PRT</i>	+	+	+	(+)
<i>infinitival.to</i>	–			

Such a perfect covariation between P° and SC-PRT, against V-PRT and *to*-infinitive prompts an analysis of SC-PRT in terms of X° similar to prepositions, maybe P° s.¹⁸

3.1.3. If SC-PRT are heads there must be more than one maximal projections in Small Clauses, independently of extraction of predicates, of floating quantifiers and of other "space-limitations" arguments presented in §2.2. Since SC contains two X° s, the (lexical) predicate-head and the SC-PRT head, and since no XP may have two heads, SC minimally includes two projections: *what do you regard* [_{YP} *as* [_{XP} *delicious*]].

3.1.4. Now since displacement entails that *as delicious* forms a constituent excluding the subject (§2.2.6), the Small Clause constituency tests must individuate a projection above YP: *regard* [_{ZP} *the fondue* [_{YP} *as* [_{XP} *delicious*]]].

¹⁷ That *what* should be a possible wh-word for the infinitival is suggested by echo-question, where *I want to go* is echoed as *you want to WHAT?* (cf. **what do you want to?*).

¹⁸ These paradigms also confirm the non-obvious hypothesis that PRTs form a homogeneous class.

3.2. Dissimilarities Between SC-PRT and P

Litteraly taking SC-PRT for a preposition, *regard* [_{ZP} *the fondue* [_{PP} [_{P°} *as*] [_{XP} *delicious*]] leads to severe problems (even ignoring the status of the subject position).

3.2.1. If SC-PRT is a P°, the bracketed sequences below have the same status:

- (12)a.✓ *Tu votes [PP pour le principal responsable de la purge] .*
 you vote for (the) main one responsable of the purge
- b.✓ *Tu le tiens [PP pour (le) principal responsable de la purge] .*
 you him hold for (the) main one responsable of the purge

But the two structures strongly contrast w.r.t extraction: neither wh-extraction nor cliticisation is possible from the simple prepositional phrases, but both types of extraction are allowed in the predicative construction,

- (13)a.* *De quoi est-ce que tu votes [pour le principal responsable t] ?*
 of what is-it that you vote for the main (one) responsible
- b.? *De quoi est-ce que tu le tiens [pour (le) principal responsable t] ?*
 of what is-it that you him hold for the main (one) responsible
- (14)a.* *Tu en votes [pour le principal responsable t] .*
- b.? *Tu l' en tiens [pour (le) principal responsable t] ?*
 you (him) of.it vote / hold for the main (one) responsible

3.2.2. Second, even ignoring ZP above (§3.2), ...*il le tient* [_{PP} *pour* [_{AP} *responsable*... poses a systematic selection problem:

- (i) P selects selects AP, an otherwise unattested fact;

- (ii) since V selects a proposition, PP must be interpreted as propositional at LF, again an otherwise unattested fact ¹⁹

4. COMPLEMENTISERS ACROSS CATEGORIES

4.1. Two Types of Prepositions

4.1.1. Both problems in §3.2 stem from the homogeneous treatment of prepositions as projecting PPs. As argued by Vergnaud (1974), this is an inadequate theory of prepositions. A more adequate treatment distinguishes two types of prepositions: "dummy" functional prepositions and full lexical prepositions, the first being a functional projection associated to the noun, as in *proud* [_{FP} *of* [_{DP} *the* [_{NP} *monument* (i.e. inside the nominal "clause", "extended projection", etc.), while the second is a full lexical projection in its own right taking a "clause", "complete functional complex", "extended projection", etc. as complement: [_{PP} *après* [_{CP} *que tu partes...* (cf. also Starke, 1993).

4.1.2. The two types of prepositions rather systematically correlate with different morphosyntax and distinct semantics. Functional prepositions are "light morphemes", often phonological clitics, while lexical prepositions are full words. Functional prepositions have a fuzzy semantics (often dubbed "mere case-markers"), while lexical prepositions typically have a rather clear core-meaning.

Even limiting oneself to these two simple criteria, SC-PRTs clearly pattern with functional prepositions and not with lexical ones. The clearest cases are the Romance *de* (and possibly *à*,

¹⁹ Apart from irrelevant cases in which P takes a CP as complement.

cf. fn. 5) and the Hebrew *le*, all light morphemes, standardly treated as dummy case-marker. English *for* is also standardly treated as a functional preposition, for independent reasons.²⁰

4.1.3. Such a distinction solves, in principle, both of the above problems. If SC-PRT are assimilated to functional prepositions, there is no principled reason why extraction out of FP should be impossible (when FP is not an adjunct), and none of the selection problems arise: there is no PP selecting AP, and there is no PP interpreted as propositional.²¹

4.2. What Does it Mean to be a *Functional Preposition*?

4.2.1. Rather trivially, it entails that the "preposition" is part of the set of functional elements associated to a lower lexical head, rather than being the head of its own "clause", "complete functional complex", "extended projection", etc.

Apart from the above, functional prepositions have three salient properties.

²⁰ Treating SC-PRT as a functional P may lead to two problems, none serious:

- (i) French *pour* may be orphaned, as in *il a voté pour* 'he voted for', this being a hallmark of lexical prepositions. This is not true of Italian, **ha votato per* (but *ha votato contro* is grammatical). This minimal variation seems best analysed as reflecting the fact that French *pour* is ambiguous between the two categories (i.e. not limited to the lexical variant). Ambiguity between the two statuses being an independently needed notion.
- (ii) *as* systematically appears as the initial part of apparently complex constructs: *as if, als ob, comme si*. This may reflect the fact, overtly visible in several languages, that there is a wh-position between CP and IP, diversely labelled FocP, AgrCP, etc., and that the question-head *if* may realise it, thus following the complementiser *as*.

²¹ The case of extraction out of functional prepositions is somewhat delicate: extractability out of functional prepositions otherwise occurring in SC is only testable with *de, à, since pour, für, for* etc. do not seem to otherwise occur in argumental positions.

The generalisation seems to be that whenever functional prepositions in complements assume the role of the sole "case-marker", extraction is bad,

[i] * *J'en parlais [à la soeur t]*. 'I of.him/her was.speaking to the sister t'

but whenever conditions change and they become "dummy", extraction is possible:

- [ii] a. *De quién has visto [a admiradores delirantes t]*. (Spanish, structural-case)
of whom have.you seen A admirators delirous? (Brugè and Brugger, 1994)
- b. *L'endroit, ou j'ai dissuadé ta soeur [de se promener t]*. (French, infinitival)
the place, where I dissuaded your sister DE walking

4.2.2. Functional prepositions can be associated with (i.e. be in the "clause", "complete functional complex", "extended projection" of) diverse lexical heads, verbal and nominal, as in:²²

- (15) *Pierre a peur [de devenir responsable [de tous les oignons .*
 P. is afraid of to.become responsible of all the onions .

4.2.3. Functional prepositions systematically occur as the highest element of their "clause" ("complete functional complex", "extended projection", ...).

In nominal units they c-command the highest functional elements (universal quantifiers, determiners, possessives, demonstratives, etc.), as in ... *proud [of all the kids ...*, and its word for word French counterpart ... *fier [de tous les enfants ...* .

Exactly the same holds of infinitivals, in which functional prepositions c-command not only negation and adverbs, but also the subject of the infinitival, when realised, as in European Portuguese:

- (16)a. *Pierre a peur [de NE PAS partir.* (French)
 Pierre has fear [of not not leave
 b. *O Pedro tem medo [de ELA se ir embora.* (Portuguese)
 the Pedro has fear [of her self go away

4.2.4. As a third property, functional prepositions are typically the only functional head directly selected by the lexical element c-commanding them but located in a distinct "clause", *obliger [à partir* 'force A to.leave', but *empêcher [de partir* 'prevent DE to.leave'.

²² Such functional prepositions also occur in adjectival and adverbial "clauses", "extended projections", etc, with the same properties (discussed below) as those occurring in infinitivals and nominals. Cf. for instance the Italian *mi ha aspettato [a lungo]* 'me he.has waited A long' and *mi costa [di più]* 'to.me it.costs DI more'.

4.2.5. How can one formalise the fact that functional prepositions occur in several different contexts (nominals, infinitives, and others) with similar properties across contexts ?

4.3. Complementisers

4.3.1. Since in each case the functional preposition must realise a (high) functional head, the minimal hypothesis, it would seem, is that the high(est) functional projection is identical in all these contexts: i.e. there is one high functional projection, call it ΨP , which occurs in both nominal phrases and infinitival phrases, with Ψ^o realised by functional prepositions such as *de*.

4.3.2. Apparently, (the content of) ΨP is in complementary distribution with (the content of) CP: functional prepositions do not occur in finite clauses, and complementisers do not occur in infinitivals or in nominals. Furthermore, CP and ΨP have the same properties: they occur as the highest functional projection associated to a lexical head, and are typically realised by semantically fuzzy light morphemes.

As proposed by Rizzi (1982), Kayne (1984) for infinitivals, and extended to nominals by Starke (1993), Cardinaletti and Starke (1993), this complementary distribution of similar elements is maximally elegantly captured if they are all complementisers. Being complementisers they have similar properties, but complementary distribution (two complementisers cannot cooccur in one and the same clause).

(17)a. [_{CP} *que* *Jean pèlera les oignons*

that J. will.peel the onions

b. [_{CP} *de* *peler les oignons*

of to.peel the onions

c. [_{CP} *de* *tous les oignons*

of all the onions

4.3.3. If functional prepositions, i.e. complementisers, are a uniform class in nominals, infinitivals and finite clauses, "functional prepositions" in SC are one more instance of this functional category.²³

- (18) *il le traite* [CP *de fou*]
 he him calls DE a madman

4.3.4. This conclusion is overtly expressed in languages such as Korean, in which the SC-PRT *is* the complementiser, providing empirical evidence that the above reasoning is somewhere around the right track:²⁴

- (19)a. *Suna-nun* [*Minsu-lul yongliha.ta.ko*] *yoki-nun-ta*.
 Suna.Top Minsu.Acc intelligent.Dec.C° consider-Pres-Dec
 'Suna considers Minsu intelligent.'
- b. *Suna-nun* [*Minsu-ka ku ch'aek-ul ilk-oss-ta-ko*] *malha-oss-ta*.
 Suna-Top Minsu-Nom that book-Acc read-Past-Dec-C° say-Past-Dec
 'Suna said that Minsu read that book.'

4.3.5. SC-PRT = C°.

²³ Kitagawa (1985), Merlo (1987) and Mouchaweh (1984) also arrive at the conclusion that SC are full CPs, on the basis of a distinct set of arguments.

²⁴ Korean examples courtesy Shin-Sook Kim (personal communication, 21 June 1994). I thank Chris Wilder for bringing the Korean facts to my attention. Apart from Korean, earlier stages of English seem to have witnessed the same phenomenon, with *as* as complementiser for argument clauses, and ancient Greek also used the same complementiser in finite clauses and in SC (A. Alexiadou, personal communication, 21 June 1994).

4.4. The Format of SC

4.4.1. If SCs are CPs, not only do they contain a functional projection (§2.2, §3.1.3), but they contain the full set of functional projections (under the standard hypothesis that there can be no "holes" in structure, i.e. that the presence of a high functional projection entails the presence of all the projections it is taken to dominate; this follows, among others, from the systems of Grimshaw, 1991, and Rizzi, 1993).

4.4.2. With small clause particles as complementisers, all the facts discussed above fall into place: small clause particles are selected by the verb, as are other complementisers, and small clause particles form a constituent with the predicate: CP. No "space" problem exists, the syntax of floated quantifier can be maintained as is.

Without entering into the details of the syntax of P-stranding, this process seems to be a property of full lexical prepositions (as shown by Romance, where stranding is found only with (a subset of) lexical prepositions), and the fact that all prepositional complementiser may strand in English, may arise from a process "blurring" the distinction between the two classes (e.g. reanalysis between the functional preposition and the matrix lexical head, along the lines of Hornstein and Weinberg, 1981). Finally, the fact that extraction is possible out of CP is the unmarked case, it is rather opacity of some nominal contexts that must be accounted for (cf. fn 21).

4.4.3. The fact that functional prepositions, alias complementisers, occur across all types of clauses (extended projections), with parallel properties in each case, leads towards exactly the contrary of an x-particular account.

Not only do small clauses not provide evidence for construction-particular variation of underlying syntactic structure, but their inspection leads to the opposite hypothesis: all syntactic structure is built from one and only one type of "clause" (or *complete functional*

complex, extended projection, etc.), irrespective of the categorial nature of the predicate, of the type of construction, or of the identity of the language. It is thus not surprising that nominals, infinitivals, small clauses and full clauses all have a parallel internal structure, with a topmost CP, and a lowermost LexP.

Just as structure must be built out of uniform x-bar units, structure is built out of uniform "clausal" units, i.e. syntactic structures are constructed out of a (categorially underspecified) universal *clausal skeleton*.

5. BE

5.1. The Nature of Predication in SC

5.1.1. Functional projections are "associated to" a lexical element, which they c-command. What is the lexical element present in small clauses?

While adjectival predicates are often treated as $[_{C^0} \text{ as } \dots [_{AP} \text{ Adj}^0]$, such a representation is inadequate for nominal (and prepositional) small clauses, *I consider him Mary's best friend*: the predicate is already a complete "clause" (extended projection). In the absence of PRT, it might be maintained that predication here is a relation strictly between two maximal projections, maybe with one adjoined to the other in order to respect constituency tests (e.g. Moro, this volume, among others). But this is incompatible with the presence of PRT, as in *I regard John **as** my best friend*. PRT cannot be between the adjoined subject and the DP onto which the subject is adjoined, since heads cannot occur between an adjunct and the adjoiner. On the other hand, PRT cannot be inside DP, trivially. An adjunction structure is thus excluded.

The only representation compatible with these facts is that assuming a null head, taking the DP/ PP predicate as a complement $[_{C^{\circ}} \text{ as } \dots [_{LexP} \text{ Lex}^{\circ} \text{ DP/PP}]]$ (cf. §6 for the position of subjects and §2.2.3 for the fact that PRT cannot be Lex°).

Once this conclusion is clear for nominal and prepositional SC, the unmarked (or "simpler") hypothesis is that it holds also for adjectival SC: it would necessitate some argument to postulate two distinct underlying structures to what otherwise seem similar constructs. In the absence of such an argument, it will be tentatively assumed that SC consist minimally of $[_{C^{\circ}} \text{ as } \dots [_{LexP} \text{ Lex}^{\circ} \text{ DP/PP/AP}]]$.²⁵

Two paradigms, syntax-semantics agreement mismatches and predicate types, indicate the existence and the nature of a null predicate: a null copula, BE (cf. also Stockwell, Schachter and Partee, 1973; Borkin, 1973; Kitagawa, 1985; Aarts, 1992, for similar proposals, and Ruwet, 1978, for its counterpart in absolute constructions).

5.1.2. Agreement between the subject and the predicative XP in small clauses exactly mirrors that between the subject and the predicative XP in copulas. Not only in the trivial cases of nominal and adjectival predicates, as in the English *I consider John as a good actor/*actress* or in the Slovak:

(20) *povaz'ujem Mári-u za velmy pekn-ú*

I.consider Mary-FEM.ACC for very pretty-FEM.ACC (Slovak)

but also more to the point where syntactic and semantic gender differ. In the latter cases, mismatches are resolved exactly identically in SC and in copular sentences.

²⁵ I wish to leave both possibilities open however. On the one hand, treating adjectives as heads of LexP leads to a selectional problem (verbs do not select adjectives, etc), while on the other, an argument for adjectives as L° in SC may be provided by incorporation: if it is discovered that incorporation of an adjectival predicate (I consider-intelligent John) is typologically significantly more productive than incorporation of noun-predicates (I consider-thief John), this might be traced down to diverse underlying representations. If the latter is correct, no fundamental change is requested in the above approach.

When the subject is semantically feminine but syntactically masculine, as in (21) (where *le président* refers to a semantically feminine entity, but a grammatically masculine N°), it triggers optional agreement with nominal predicates, but obligatory agreement with adjectival predicates. The same state of affairs holds in copular sentences, (21), and in small clauses, (22) (both from French).

- | | | | | | |
|--------|---|---|-------------------------|----------------------------|----------------------------|
| (21)a. | <i>Le président</i> _{woman} | <i>est</i> | ✓... <i>un acteur</i> . | ✓... <i>une actrice</i> . | |
| | the _{masc} president | is | ...an actor | ...an actress | |
| b. | <i>Le président</i> _{woman} | <i>est trop</i> | ✓... <i>vieux</i> . | *... <i>vieille</i> . | |
| | the.masc president | is too | ...old _{masc} | ...old _{fem} | |
| (22)a. | <i>Je considère</i> | <i>le président</i> _{woman} | <i>comme</i> | ✓... <i>un acteur</i> . | ✓... <i>une actrice</i> . |
| | I consider | the _{masc} president | as | ...an actor | ...an actress |
| b. | <i>Je trouve</i> | <i>le président</i> | | ✓... <i>trop vieux</i> . | *... <i>trop vieille</i> . |
| | I find | the president _{woman} | | ...too old _{masc} | ...too old _{fem} |

Exactly the same holds of semantically masculine but syntactically feminine nouns, often found in insults.

5.1.3. The range of predicates admitted by small clauses is identical to that admitted by copular sentences: adjectival phrases, noun phrases and prepositional phrases.²⁶

Both of these similarities would be accidental without BE, while the cooccurrence of nominal / prepositional predicates with PRT would simply be undepictable.

²⁶ Case morphology provides an indirect hint to the same effect: exactly as one finds instrumental predicates in some Slavic copular constructions (Russian, Polish), instrumental SC predicates are also attested (Serbo-Croatian, Russian). There is however no correspondance between the presence of one and that of the other inside one and the same language (I thank Wayles Browne for discussion of this point).

5.2. Some Consequences of the Null Verb

5.2.1. If the predicate of the small clause is a null BE, small clauses are (structurally) full clauses, headed by a (null) verbal predicate, and projecting up to a complementiser: [_{CP=SC} PRT [... [_{VP} BE AP/DP/PP]]]. There is no significant structural difference between small, infinitive or finite clauses. Impoverishment, if any, lies in the content of nodes, not in their absence, §7.3 .²⁷

5.2.2. A prominent, if not the prominent, question of the research on SC has been to establish conditions on predication, such that it obtains also in the absence of an overt verb. If SCs involve a covert V°, the necessary and sufficient condition on predication is the presence of a verbal head in a given structural relation to its "subject" (assuming the presence of a verbal head in nominalisations, perhaps via a SC).

5.2.3. Finally, Kayne (1993a) proposes another, very similar, use of the null copula: realised *have* and *be* always originate in a null copula. This null copula takes as complement a DP which has a (functional) preposition as its highest functional head. A realised *have* is the realisation of the complex head formed by incorporation of P° into the null BE, while *be* is the realisation of the pure null BE.

The DP with a functional preposition as its highest functional head can now be understood as a standard case of (nominal) CP, with the functional preposition as C° (§4.3). In the present terms, the complement of BE is a SC (as often assumed), with PRT, i.e. C°,

²⁷ Moro (this volume) notes one difference between the overt and null BE: the null BE doesn't allow subject / object inversion (*Jan Hus is the man that she respects the most* vs. *the man that she respects the most is Jan Hus* but *she considers Jan Hus the man that is most worthy of respect* vs. **she considers the man that is most worthy of respect Jan Hus*) and concludes that there is no null BE in SC. There is however no need for such a harsh conclusion: Rapoport (this volume), Rothstein (this volume) note another difference: the covert BE cannot be interpreted as an identity functor (contrary to its overt counterpart). The latter difference may explain the former, insofar as inversion is found only with the identity functor. What there is to be explained is a restriction on the null SC copula, not the absence of such a copula (cf. also fn. 28).

incorporating into the matrix BE to form *have*. In other words, *have* and *be* are underlyingly, ...BE [C° ... BE].

But now three cases arise, instead of the original two: the underlying BE is realised as *be*, as *have*, or not at all. This may be integrated into Kayne's approach through a slight change of assumptions: a perfect covariation is assumed between two properties in the process of triggering the *be* / *have* distinction, incorporation of P° into C° and concomitant spec-head agreement between P° and its specifier. To derive the required tripartition, these two properties need to be separated.

The abstract copula is realised only in contexts in which it c-commands a potential incorporee. Inversely, the abstract copula remains silent where no potential incorporee obtains (in usual argument and adjunct SC). To capture this asymmetry, it suffices to assume that BE is realised *only if* the complementiser (i.e. the "functional preposition") is incorporated into it. Both *be* and *have* are the result of incorporation of C° into BE.

The distinction between *be* and *have*, on the other hand now stems from the presence vs. absence of spec-head agreement between C° ("functional preposition") and specCP: incorporation of an "agreed" C° yields *have*, as in Kayne's original proposal, but *be* stems from the incorporation into BE of a non-agreed C°. ²⁸

²⁸ If the identity reading is contingent upon incorporation, the asymmetries noted in fn. 27 derive from this approach.

6. SUBJECTS

6.1. The Foot of the Chain

Given the preceding internal structure of SC, i.e. ... $V [_{CP} PRT [_{FP} \dots [_{VP} BE Pred] \dots]$... the subject originates in specVP, as is the case otherwise (reflecting the θ -dependence of the subject onto a SC-internal predicate), ... $V [_{CP} PRT [_{FP} \dots [_{VP} Su BE Pred] \dots]$...²⁹

6.2. The Head of the Chain

The surface order differs from that postulated in §6.1. Why? The null answer seems again appropriate: everything happens as in a full clause, modulo the content of the nodes. VP-internal subjects are not associated to case. A chain is thus created between the thematic subject position and the closest case-position.

6.2.1. Since it precedes PRT, i.e. C° , the head of the subject-chain in *he regards this meal [_{C^\circ} as ... [_{VP} t a real treat]* could be either in specCP, or outside CP.

6.2.2. The German and Romance wh-chains illustrated above rule out the first option: the head of the subject chain cannot be in specCP.

- (23)a. *De quoi as-tu traité Jean ?* (French)
OF what have you called him

²⁹ Somewhat paradoxically the strongest support for the θ -dependence of the subject on the predicate of SC comes from expletives. Since small clause subjects may be expletives, and objects are never expletive, it follows that the existence of the subject does not depend on the matrix verb, but on the SC predicate.

- b. *Als was betrachtest du ihn ?* (German)
 AS what consider you him

Since PRT is fronted, the whole CP has been displaced. If the subject was in specCP, it would have to be fronted along with the wh-constituent, contrary to fact. The subject is therefore outside CP, which entails that there exists a position above CP and below the verb, ...*V* *SU* [_{CP} PRT [_{...} [_{VP} *t* *BE* ... In other words there is a limited verb displacement, also in English. ³⁰

6.2.3. The same is shown, although somewhat marginally, by quantifier floating: *John regards the kids all* [_C *as a nuisance*. Since *the kids all* does not form a constituent, *the kids* cannot be in specCP.

6.2.4. The non-internal-to-CP case-needing subjects of small clauses thus occur outside CP in a case-position intermediate between the verb and CP. The matrix specifier involved with accusative case is standardly taken to be specAgroP: ³¹

³⁰ The existence of verb-displacement in English has been argued for by both Pesetsky (1989) and Johnson (1991). A further (simple) argument comes from the distribution of weak pronouns (in the technical sense of Cardinaletti and Starke, 1993). In analysing the distinctions between Romance pronominal clitics which occur adjacent to the verb and those which are not adjacent to verbs, these authors distinguish two classes of "clitics" (i.e. deficient elements): the clitics proper, the adjacent type, usually dealt with in works on Romance clitics, and weak pronouns, which contrarily to clitics are not X⁰ and thus do not intermingle with the V⁰-chain. Given this tripartition (clitic, weak, strong), many Germanic pronouns patterns with weak pronouns rather than with clitics, and among them the English subject and object *it*. The distribution of weak pronouns is extremely limited (**it, I have seen*): a cross-linguistic survey shows them to be always outside of their base position, in case-receiving specifier. This entails that the English weak object *it* in *I need it*, is in some case-receiving specifiers, specAgroP under usual assumptions, and the verb has undergone a limited displacement, ... *need_i* [_{AGROP} *it* *t_i* [_{VP} *t_i* (unless such a broad (apparently universal) generalisation is taken to have one unexplained counterexample: English).

³¹ The interpretation of adverbs has been taken to show that the subject is internal to the SC at s-structure (Stowell, 1983), contradicting (24). This is because an adverb between SC-Su and SC-Pred is preferably interpreted as modifying the SC and not the root clause. A more complete paradigm may however indicate the opposite: while the upstairs reading is disfavored, it is possible given special intonation, [ia]. This "marginal-upstairs" reading is NOT possible in finite complement clauses, [ib].

[i] a. *Le prof a trouvé Marie probablement malade.*
The professor found Mary probably sick.
 b. *Le prof a trouvé que Marie est probablement malade.*

(24) ... V_i [AgroP SU_k t_i ... [SC=CP PRT ... [VP t_k BE Pred]]]

6.2.5. A welcome consequence is the unification of SC subjects with raising subjects, ECM subjects and subjects of tensed clauses: all are displaced from specVP to the first case-assigning specAgrP: from specVP to the dominating specAgrsP in tensed clauses, from specVP to the matrix specAgroP in both small clauses and ECM constructions (e.g. Chomsky, 1993), and from specVP to the matrix specAgrsP for raising verbs.³²

The professor found that Mary is probably sick.

Furthermore, the marginality of the "marginal-upstairs" reading in [ia] is comparable to that of an adverb following a direct object:

[ii] *Jean a rencontré Marie probablement dans le train.*

John met Mary probably in the train.

The similarity between post-direct object, [ii] and SC, [ia], contra tensed clauses, [ib] points toward the external, not internal, position of the subject, i.e. (24). (As noted by Stowell, temporal adverbs produce better results for the "marginal-upstairs" reading in [ia]. The same holds of [ii]).

³² SC in subject position (fn. 7) may be one case of realised subject internal to SC, receiving case from the matrix V.

It is sometimes held that this approach is mistaken because the wrong case shows up on the SC-Su. But such an assertion rests on a false assumption. The reasoning goes as follows: (i) if the verb assigned case to the SC-Su in specIP, SC-Su should be nominative, (ii) in English, a subject SC may have *me* but not *I* as its own subject (*me angry is the last thing he would want* versus **I angry is the last thing he would want*), (iii) *me* is accusative while *I* is nominative, (iv) therefore the subject of a subject SC is accusative not nominative, contradicting the above hypothesis.

Assumption (iii) is wrong, or rather incomplete. French translations of the two above examples (in step (ii)) would be impossible with *je* 'I' as the SC-Su, and would require *moi* 'me'. But this time, it is clear that case is not the sole factor: *je* is a deficient pronoun (clitic or weak), while *moi* is a strong pronoun (cf. fn. 30). Italian and Slovak permit a cleaner test, eliminating the parasitic factor of deficient versus strong pronouns: *io, ja* 'me' are strong nominative pronouns, and alternates with *me, m v&a* 'me', accusative strong pronouns.

The Italian translation of the above example is [*io arrabbiato*] è l'ultima cosa che vorrebbe, with a nominative pronoun (Cardinaletti (personal communication)) and the same holds of Slovak (with sharper judgments in the latter case, for unclear reasons). The exclusion of *I, je* from the SC-Su in subject SC should not be taken to indicate case-properties of the SC-Su position, but rather the requirement that only strong elements may occur in that position. It may thus be maintained that SC-Su is internal to SC when SC itself is a subject, and SC-Su receives case from I°.

6.3. Intermediate Links

6.3.1. Does the subject chain directly link specAgroP and specVP or is there an intermediate link in between? A robust albeit surprising contrast in quantifier floating constructions indicates the presence of an intermediate trace in specCP.

While it is cross-linguistically possible both to Q-float from the subject of a SC, and to wh-question the predicate of a SC:

- (25) a. *He finds the kids all very strange.*
b. ***How strange** did he find the kids **t** ?*

it is mysteriously not possible to combine these two apparently independent processes:

- (26) * ***How strange** did he find the kids all **t** ?*

The same triplet obtains in French, Italian or German, with the counterparts of (25) acceptable, but the combination of the two unacceptable:

- | | | | | | | |
|-----------|-----------------------|-------------------|----------------------------|--------------------|-------------------|----------|
| (27) a. * | <i>Comment</i> | <i>trouves-tu</i> | <i><u>ces fromages</u></i> | <i><u>tous</u></i> | <i>t ?</i> | (French) |
| b. * | <i>Wie</i> | <i>findest du</i> | <i><u>diese Käse</u></i> | <i><u>alle</u></i> | <i>t ?</i> | (German) |
| | how | do you find | these cheeses | all | | |

6.3.2. From the impossibility of "P-stranding" with SC-PRT (§3.1.2, §6.2.2), it follows that wh-movement of the "predicate" is really a wh-movement of the whole CP (if any constituent below CP was allowed to wh-move, PRT would be strandable). The explanation of the mysterious incompatibility of wh-movement of the predicate and floating quantifier on the

subject now follows trivially if FQ is inside SC, i.e. inside CP: if FQ is inside CP, and CP is wh-fronted, FQ cannot be left behind.

6.3.3. When the SC-complementiser (SC-PRT) is overtly realised, the floated quantifier may occur (marginally) to the left of the complementiser, (28a), but may still not be stranded in wh-questions, (28b), yielding gibberish instead: ³³

(28)a. ✓ *Il considère ces enfants tous [comme des bons exemples de vertu].*

b.* *Comme quoi est-ce qu'il considère ces enfants tous t ?*

as what is-it that he considers these kids all

Not only is the pre-complementiser FQ inside CP (§6.3.2), but it must occupy specCP, the only position inside SC which precedes SC-PRT. The subject chain is thus minimally formed of ... V SU_k ... [_{CP} t_k PRT [... [t_k BE Pred] (There may of course be other subject traces CP-internally, below the complementiser). ³⁴

7. (COMPLEX) PREDICATES

Finally, what *is* the difference between small and other clauses? Some more speculative results are presented in this section, from the case of the predicate (strictly speaking, of the

³³ The non-floated version of all these questions is acceptable: *pour quoi/qui est-ce qu'il prend tous les gens?* 'for what/who is-it that he takes all the people', *how cute does he find all the children?*, etc.

³⁴ The existence of post-PRT FQ indicates that these may be floated off lower than specCP.

FQs on the subjects of *have* indicate the same: first, given §5.2.3 it is expected that the same triplet obtains with *have*, which is the case: *the kids have all many problems* and *how many problems do the kids have t ?*, but not **how many problems do the kids have all t ?* But since the same effect obtains with *be*, which by definition does not have FQ in specCP (§5.2.3), it must be due to a lower position of FQ: *the kids are all happy*, and *how happy are the kids t*, but not **how happy are the kids all t ?* (Further, there is no intrinsic incompatibility between wh and FQ, given that the past tense correspondants are acceptable, *how happy have the kids all been?*).

SpecCP must be considered an A position when hosting the trace of the subject. This is formally similar to Kayne (1993a), cf. §5.2.3.

object of the null predicate), to the content of the functional heads and the semantics of the matrix verbs.

7.1. Case on "Predicates" of Argument SC

7.1.1. In Slovak, where case-marking is overt both on nouns and adjectives, argument SC are of two types: (i) under *za*-verbs, with the SC-PRT *za* and accusative case on the predicate, (29a), (ii) with raising verbs, with the \emptyset -PRT and nominative on the case on the predicate, (29b): ³⁵

- (29)a. *Pavol* *považuje* *Mári-u* *za* ... *dobr-ú* *žiač&k-u* ... *poctiv-ú*.
 P.-NOM considers M.-ACC for ...good-ACC student-ACC ...honest-ACC
- b. *Mári-a_i* *sa mi* *zdá* [*t_i* *unaven-á*].
 M.-NOM refl to.me seems tired-NOM

7.1.2. The SC-PRT *za* independently occurs as a preposition, requiring an accusative complement in a variety of semantic contexts:

- (30)a. *On tam bol* *za* *Mári-u*.
 he there was for Mary-ACC
 'He went there instead of Mary.'
- b. *On hlasoval* *za* *Mári-u*.
 he voted for Mary-ACC

³⁵ Cf. *Zdá sa mi že Mária je unavená* 'seems refl. to.me that M. is tired', for the raising status of this V.

7.1.3. Given §7.1.1-2, the case on the predicate could covary either with the case of the subject (*za*-verbs take SC with accusative subject and predicate, raising verbs take SC with nominative subject and predicate), or with the presence of the preposition (*za*-verbs take SC with *za* and an accusative predicate, raising verbs take SC without *za*, and nominative predicates).

Passivised transitive SC-verbs disambiguate the two hypotheses:

(31) *Mári-a bola považovaná za dobr-ú ziač&k-u.*

M.-ACC was considered for good-ACC student-ACC

The case on the predicate strictly covaries with the presence of the complementiser (SC-PRT) and not with the case on the subject.

7.1.4. Covariation between C° and the case of the predicate requires a local structural relation between the two. This relation cannot be a S-structure specifier-head relation: the predicate is to the right of the complementiser. Given the conclusion that a subject FQ may remain in specCP (§6.3), it is also not an LF spec-head relation, specCP being already occupied. C° must assign case to the object under government. Which in turn requires the object to occur in specAgrSP, in a position governable by C° .

That small clauses involve a ... $V \ SU_k \ [_{CP} \ t_k \ PRT \ [_{AGRSP} \ Pred_i \ \dots \] \ t_k \ BE \ t_i \]$ configuration with case form PRT to Pred is confirmed by nominalisations.

7.1.5. Salvi (1991:206) notes pairs in which the verbs takes a complement SC with a \emptyset -PRT , while its nominalised counterpart requires an overt PRT:

(32)a. *Loi hanno**consacrato** [t_i \emptyset re di Francia.*

him they.have consacrated king of France

- b. *La sua*_i *consacrazione* [*t_i* *come* *re di Francia*.
 the his consecration as king of France

The insertion of a "preposition" in nominal but not verbal contexts (*destroy Ø the city* vs. *destruction of the city*) typically reflects case-requirements of the embedded noun, satisfied in verbal but not nominal contexts. Given the assumption of the existence of a null preposition in (32a), the usual explanation needs to be slightly refined, along lines suggested by Kayne: a null C° may govern (and assign case) if selected by verbs but not by nouns.³⁶

The fact that SC-PRT, i.e. C°, assigns case to the predicate, and the resulting displacement of the predicate to specAgrP provide the format for an analysis of several otherwise unclear facts.³⁷

7.1.6. (a) *Postverbal Nominal Subjects*. Italian, but not French or English, allows postverbal (realised) subjects in declaratives:

- (33)a. ✓ *L'ha fatto Gianni*.
 b.* *L'a fait Jean*.
 c.* *Did it John*.

³⁶ When the SC-subject is a full noun, another "prepositional complementiser" appears:

[i] b. *La consacrazione* [[*di Gianni*] *come re di Francia*] .
 the consecration of John as king of France

As depicted by the bracketing, *di* is better viewed as the C° associated to Gianni, in accordance with the generalisation that C° is realised on *in situ* arguments, but not on arguments in specAgrP (cf. the Ø / *to* alternation in double object constructions).

³⁷ Examples of the type *I want him alive*, which surface in Slovak with an accusative predicate but no *za*, might be taken to indicate a third class of SC. But such examples should be taken to be adjunct SC rather than arguments, *I want him* [*PRO alive*]. This is indicated by the interpretation of the SC: while complement SC are interpreted as a corresponding tensed complement (*she finds him attractive* vs. *she finds that he is attractive*), adjunct SC are interpreted as a temporal modifier (*he read the book* [*PRO drunk*] = *he read the book WHILE/ WHEN he was drunk*, or *he ate the meat* [*PRO raw*] = *he ate the meat WHILE/ WHEN it was raw*, and the interpretation of the initial example is temporal (*I want him while/ when he is alive*). Ambiguity of controllers (§2.1.2) makes the same point.

This asymmetry is taken to show that Italian, but not French or English, subjects may remain in situ, with an expletive *pro* in specAgrP (Rizzi, 1982). But the same holds of SC:³⁸

- (34)a. ✓ *Trovo simpatico Gianni.*
 b. ?* *Je trouve sympathique Jean.*
 c. ?* *I find nice John.*

Now if the adjectival "predicate" was *in situ* (either as the A° head of SC, or as the AP complement of BE), then the same explanation couldn't hold: the adjective should follow the subject (assuming all specifiers to the left, Kayne, 1993b). On the other hand, if SC-Pred is in specAgrsP, (33-34) are essentially identical: both have an *in situ* subject which follows a raised displaced predicate.

(b) *Postverbal Clausal Subjects*. It is an old observation that those small-clause subjects which do not require case (clauses) have a different distribution from NP-subjects, across languages: they occur after the "predicate", *Jean trouve [cette salade] attirante* 'John finds this salad attractive' vs. *Jean trouve attirant [que cette salade soit si bon marché]* 'John finds attractive that the salad be so inexpensive'.

Given displacement of the object (to specAgrsP), this can now be analysed as an *in-situ* (specVP) subject, which is not displaced to the matrix specAgroP because it is not subject to the same case-requirement as nominal objects.

(c) *Optional as*. In English as well as in French or Italian, *consider* optionally selects *as* in its small clause complement. While the appearance of *as* is marginal with adjectival predicates,

³⁸ Some care is required with accentuation: an Italian post-predicate subject of SC needs a slight focalisation. English and French allow such a subject, but only with strong accent, akin to heavy NP shift. The contrast thus holds of "light focalisation", whatever that is.

?*John considers Mary as intelligent*, the SC-PRT becomes much more natural with nominal predicates, *John considers Mary as a very good lawyer*. The same contrast obtains in French ?*Jean considère Marie comme intelligente* 'John considers Mary as intelligent' versus *les cobras sont considérés [t **comme** des mets de choix] en hiver par les Chinois* (the cobras are considered as of the meals of choice in winter by the Chinese).³⁹

That nominal but not adjectival objects prefer overt PRT may now derive from the fact that nominals and adjectivals have distinct case-requirements, the precise formulation of which is an open mystery of formal grammar.

7.1.7. Finally, if C° assigns case under government to specAgrsP, why cannot the subject benefit from this case (yielding the gibberish, **I regard as Mary nice*)? With nominal predicates, the answer is straightforward: the predicate itself needs case, and the SC-Su in specAgrsP would prevent it from obtaining it (given the usual crossing condition on A-chain). It is not a big step to extend this account to adjectives (which have case-agreement in overt-case languages) to rule out the above example, but the extension to prepositional phrases remains more speculative (to rule out **I regard as Mary out of trouble*).

Along these lines, the impossibility of C° assigning case to subjects may be another instance of the general crossing condition on case-motivated chains.⁴⁰

7.2. Case on "Predicates" of Adjunct SC

³⁹ *Le Nouveau Quotidien* 18/01/94:28.

⁴⁰ The impossibility of SC-subjects in specAgrsP of the SC would exactly mirror Chomsky's (1993) explanation of the impossibility of the subject in specAgroP of tensed clauses.

The hypothesis that C° assigns case also to adjectives might have an overt reflex in those languages in which predicative adjectives have an inflectional morphology distinct from that of modifier adjectives.

Finally, the intuitive idea that PP-predicates do not need case, might correlate with the asymmetry noted by Raposo and Uriagereka (1990) between PPs and other predicates w.r.t. the case of SC-subject: in Portuguese, only with PP-predicates can a subject remain in the foot of an A-chain (raising, passives).

7.2.1. The case paradigm in adjunct small clauses, as revealed by adjectival predicates, is distinct from that in complement small clauses: it strictly covaries with that on the controller of the subject.

- (35)a.✓ *Pavol_i obdivuje Hank-**u**_k [PRO_i nah-**i**].*
 P-NOM admires H-ACC naked-NOM (= P. is naked)
- b.✓ *Pavol_i obdivuje Hank-**u**_k [PRO_k nah-**u**].*
 P-NOM admires H-ACC naked-ACC (= H. is naked)

Similarly with passivisation:

- (36)a.✓ *Zabili Pavl-**a**_i [PRO_i nah-**eho**].*
 they.killed P-ACC nude-ACC
- b.✓ *Pavol_i bol zabiti [PRO_i nah-**i**].*
 P-NOM was killed nude-NOM

7.2.2. Although some information about case is accessible to the adjunct small clause, no nominal element may appear. Neither as object of the adjunct SC, with minimal pairs such as *Jean est mort coupable* vs. **Jean est mort le coupable* 'J. is dead (the) guilty', nor as subjects of the adjunct SC, **John stole the car [the salesman drunk]* (with the putative meaning of 'John stole the car while the salesman was drunk').

The non availability of case assignment/ legitimation may be traced down to the fact that PRT is not selected by V°, being in an adjunct, and thus is case-inert. Case-information on the

adjectival predicate therefore must originate in the fact that, as argued several times, control involves case transmission, a process distinct from case-assignment.⁴¹

7.3. Content of SC Nodes

7.3.1. If all clauses are full clauses, differences, if any, must lie in the content of nodes. Three main characteristics of SC, w.r.t other clauses, are (i) the relative lack of morphology (functional heads are not realised in SC, except for C°), (ii) the position of the subject, raised to specAgroP, as with ECM subjects, and (iii) several values are restricted to their default setting: NegP (or PolP) can only be positive, negation being expressed by independent negative adverbs (Cardinaletti and Guasti, 1993), tense is restricted to a variable linked to the value of the matrix tense (rephrasing Guéron and Hoekstra, this volume) etc.

7.3.2. The distribution of subjects follows from the two properties independently postulated of C° and I° : C° governs or not, I° legitimates case in specIP or not.

Subject of tensed clauses remain in their specAgrsP because the second property obtains. In infinitivals, I° is inert. If C° governs (i.e. is selected by an appropriate matrix verb, as above) a trace is legitimated in specIP and the subject may be displaced to the matrix specAgroP (ECM). If C° does not govern, a trace is not legitimate in specIP, the subject is "trapped" there, and only PRO may occur.

Finally, SCs are one step poorer: not only is I° inert, but Agro (or V+Agro) is also inert. When C° governs, the object must raise up to specAgrsP to obtain its case, thereby also

⁴¹ Although judged marginal, there seem to be some traces of dative control and dative case transmission to adjunct small clauses in Slovak.

allowing the subject to exit from CP without leaving a trace in specIP, yielding the usual crossing chain.

7.3.3. All the three above properties (§7.3.1) of SC may derive from the third: i.e. nodes in SC are restricted to default values (except for C° , which depends upon the governing V° for its content). The distribution of the subject follows from this if the unmarked value for Agr is to be inactive.

Assuming a theory of features in which the unmarked value corresponds to no formally represented value, an unmarked tense feature (for instance) may be represented as $[tense: \text{—}]$, with the property specified, but no value present. An adequate version of Full Interpretation (all and only value-bearing symbols of level n have a correspondent at $n+1$) then entails that the functional heads of SC will remain silent: All and only the s-structure value-bearing nodes will be interpreted at PF.

Although a theory of default values awaits formalisation, the overall direction seems clear enough, allowing to explain the surface morphological differences while keeping "space" to integrate the distributional facts.

7.4. Complex Predicates

7.4.1. It is a striking fact that those verbs taking both small clause complements, and noun-phrase objects undergo a regular meaning-shift from simple action verbs to psychological verbs, and this across languages. This happens with several distinct semantic classes of verbs: opinion verbs, *I took this apple* vs. *I took this apple for a grapefruit*, or *I hold him (in my hand)*, vs. *I hold him in high esteem*; *I am regarding the wall* ⁴² vs. *I regard the kids as cute* etc.; but also "naming-verbs", such as *I called John*, vs. *I called John a liar*, etc.

⁴² Apparently better in British English than in American English.

7.4.2. Adapting the classical account of reanalysis between the predicate of the small clause and the matrix verb (Chomsky, 1955/75, and more recently Rizzi, 1986; Stowell, 1991), it may be that the meaning shift is a reflex of a refined version of reanalysis.

7.4.3. Reanalysis has always remained a rather unconstrained mysterious process. Both Stowell and Rizzi propose that it is constrained by adjacency (preferably, or in absolute): the adjoined and the adjoiner must be adjacent at s-structure.

If Rizzi is correct in assuming that reanalysis of V and SC-Pred is necessary for clitic-extraction from the complement of the SC-predicate, no adjacency requirement may hold of reanalysis, (37a). Similarly, if Stowell is correct in assuming that reanalysis of V and SC-Pred is necessary to explain the lack of reconstruction in raised SC-subjects, no adjacency requirement may hold of reanalysis, (37b).

(37)a. ? *Je le lui tiens pour fidèle.*

b. ✓ *Someone is regarded as sick.*

In (37a) reanalysis would have to hold, but V and SC-Pred are not, and cannot be adjacent. Similarly, in (37b), reanalysis would have to hold since the narrow scope reading is not possible, as with *someone is considered intelligent*, but V° and SC-Pred are not adjacent.

7.4.4. A simpler and less mysterious version of reanalysis would be that reanalysis reduces to incorporation of C° into the matrix governing Lex° (i.e. V° in the above examples). If that is the case, the meaning shift between ... *V object* ... and ... *V SC* ... (as in *hold an apple* vs ...*hold*

John for honest) stems from the diverse interpretation at LF of the simple verb [_{V°} *hold*] and the complex verb [_{V°} *for* [_{V°} *hold*]], the result of incorporation.^{43 44}

8. SUMMARY

Cross-linguistically, particles (PRT) occurring between subjects and predicates of Small Clauses (SC) are selected by the matrix verb. A formal implementation of this selection relation rules out that SC are bare lexical projections, not associated to functional heads (bare LexP): either because of sheer lack of "representational space" for PRT, or because facts pertaining to floated quantifiers would force the placement of PRT in unselectionable positions, etc.

In addition, apart from being mostly homophonous with P°, PRT (contrary to other P-like element, e.g. infinitival *to*) behaves exactly as prepositions w.r.t. stranding: possible in English, impossible in German and Romance. If this strong similarity is taken to indicate that PRT is a head, then SC contains two heads, in contradiction with the bare LexP hypothesis.

⁴³ This implies reconstruction, or a copy theory of traces, in cases in which the SC is displaced, as in French wh-questions: *pour qui me prends-tu* 'for whom do you take me'.

⁴⁴ Such a view of reanalysis apparently doesn't explain the facts it was designed to explain by Rizzi (1986) and Stowell (1991). This is the desired effect.

The asymmetry between realised and null subjects w.r.t. clitic-extraction of the complement of the predicate is a very difficult (and light) judgment in Italian, and seems to produce only tenuous contrasts in French: *je lui trouve Tarzan tout à fait comparable* 'I to.him find T. totally comparable' vs. (?) *je le lui trouve tout à fait comparable* 'I him to.him find totally comparable'. To the extent that this reflects a syntactic asymmetry, it can be traced down to the differing properties of weak (in the sense of Cardinaletti and Starke, 1993, and fn. 30) and strong subjects independently of reanalysis. Weak elements do not need the specCP escape hatch, as attested by *où as-tu tout voulu* [_{CP} *acheter t*] ?, 'where did you all want to buy?' in which raising of the weak object *tout* does not interfere with wh-movement of the adjunct-wh).

Now if extraction is possible with null (or cliticised) but not overt subject in Italian (Rizzi's 1986 original observation), this can be traced down to *pro*'s being weak: it does not need the specCP escape hatch, which is thus free for the extraction out of the predicate.

In French, which has no 'standalone' *pro* subjects, weak subjects such as *tout* should produce an asymmetry: *je lui trouve tout bien ajusté* 'I him find all well adjusted' versus *je lui trouve ce pantalon bien ajusté* 'I him find these trousers well adjusted'. Although the judgments seems to go in the expected direction, they are uncertain, to say the least.

Finally, as noted by Kayne (1984), the (absence of) reconstruction facts discussed by Williams (1983), Stowell (1991), obtain outside of SC where constituenthood and reanalysis are not an issue.

On the other hand, PRT differs from prepositions w.r.t. extraction possibilities. In fact, it behaves on a par with (a subset of) functional prepositions. Since Vergnaud (1974), it is clear that the latter are elements internal to the noun-phrases, more adequately, the highest elements of noun-phrases. To put it briefly, they are nominal complementisers, and SC not only must contain *some* functional projection, but contain them *all*, up to CP.

Agreement in syntax-semantics gender mismatch contexts, as well as the existence of nominal and prepositional predicates in cooccurrence with PRT point toward the nature of the lexical head of this CP: a zero BE.

Several other patterns are discussed, among which case marking on the SC-predicates (based on the overt marking found in Slovak), with several conclusion about the syntax internal to SC, reanalysis, etc.

The main line remains however that Small Clauses are not small. They are full fledged clauses. The (rather limited) impoverishment of SC, mainly morphological, is traced down to Full Interpretation (FI; Chomsky, 1986): the null BE of SC is a (universal) default verb, realising the default values of all features. By FI, a default feature is not spelled out at PF. The syntax of SC-Su and the interpretation of tense and negation in SC mostly follow from the SC-nodes' having default values. In short, small clauses are full but rather empty clauses.

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