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AGAINST THE PREDP THEORY OF SMALL CLAUSES

1.   THE STRUCTURE OF THE SMALL CLAUSE: AN INTRODUCTION

Since Williams 1975 and Stowell 1981, 1983 it has been assumed that predication is possible in the absence of a verb in examples like (1), but also (2):

(1)   a.   Alice became [$_{SC}$ t $_i$ president/the head of the association].   NP/DP predicate

  b.   This proposition is/seems [$_{SC}$ t $_i$ preposterous/out of the question.   AP/PP predicate

  c.   [$_{CP}$ That Jessie should fight] **was considered** [$_{CP}$ t $_i$ obvious].   CP subject/ECM verb

(2)   a.   With [this issue solved], we can turn to the real problem.

  b.   [Me mad]? Impossible!

The notion of a small clause has been proposed to describe such instances of propositional constituents not containing a verb or any (obviously visible) functional heads.[1] The internal structure of small clauses was initially assumed to be simply that of the lexical predicate, with the subject appearing in the specifier of the maximal projection of the relevant lexical head (Stowell 1981, 1983):

(3)
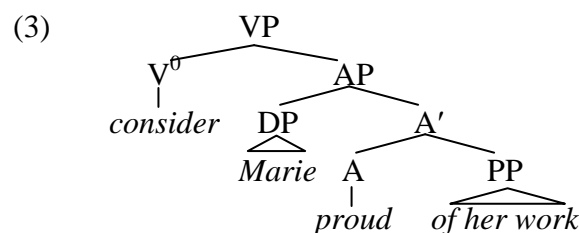
Evidence for this view provided by Stowell 1981, 1983 comes from subcategorization: some verbs can combine with predicates only of a particular lexical category:

(4) a. I expect [that man off my ship].

b. *I expect [that man very stupid].

(5) a. We consider [it unlikely that John will win].

b. *I consider [John off my ship].

(6) a. Alexandra proved [the theory false].

b. *I proved [the weapon in his possession].

(7) a. We all feared [John killed by the enemy].

b. *We all feared [John unfriendly].

While for some of these cases semantics rather than lexical category may be the determining factor (see Bolinger 1972, Maling 1983 and Matushansky 2002 for the case of *seem*), for others no alternative explanations have been proposed. However, the hypothesis that small clauses are projections of their lexical heads ran into a number of theory-internal problems (discussed in detail below), which made all the more convincing the competing theory, due to Bowers 1993. This proposal (further developed in Bowers 2001) argues that predication must be mediated by a functional head (originally Pr^0, now $Pred^0$), which has a semantic as well as a syntactic function.

(8)
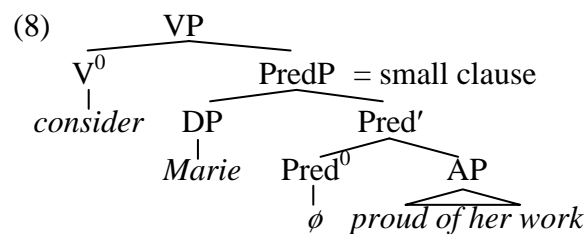
In this paper I will argue that this theoretical move was a mistake and no clear evidence can be provided in favor of the presence of a functional head in small clauses. I will first (section 2) examine the original theory-internal arguments in favor

of postulating PredP and show that either they are based on incomplete empirical generalizations or that in the current state of the theory an independently available alternative explanation for the relevant facts can be found that does not require the postulation of PredP. In section 3 I will examine the semantic motivation for $Pred^0$ advanced by Bowers and demonstrate that it doesn't seem to be immediately clear what role the putative predication-mediating element should have. Next I will turn to the putative overt realizations of $Pred^0$, focusing on copular particles (section 4), but also on other so-called overt predicators (section 5) and argue that their distribution is not that expected of $Pred^0$ (as long as $Pred^0$ is assumed to be present as a mediator in all small clauses). In sum, I will argue that there is no evidence for an obligatory functional head in small clauses and therefore a suitably minimalist theory should not postulate one.

2. THEORY-INTERNAL EVIDENCE FOR PREDP

The core proposal advanced in Bowers 1993 and also adopted by den Dikken 2006 is that all predication is mediated, and nonverbal predication is mediated by $Pred^0$. If correct, this view provides a structurally unified take on the external argument as the specifier of PredP, for VP, NP, AP and PP predicates. Before proceeding with the more standard perception of $Pred^0$ as the head of nonverbal small clauses only, it therefore becomes necessary to provide a reason for not including verb phrases in the discussion of small clauses, contra Bowers 1993, which can now be regarded as a very clear and elegant argument for vP.

I contend that treating vP as a kind of PredP does not lead to any clear empirical generalizations. The hypothesis that the external argument of the verb must be introduced as the specifier of a dedicated functional head (vP or VoiceP) is based on a number of well-known distinctions between the semantics and the syntax of external vs. internal arguments (Harley 1995, Kratzer 1996, Marantz 1997, among others), which either do not apply to nonverbal predication or have not been tested with it. While nonverbal small clauses with an AP, NP, or PP predicate all appear in many syntactic environments (complements of *be* (9), various raising and ECM verbs (10), the absolute construction (van Riemsdijk 1978:62-86, Chung and McCloskey 1987), so-called "Mad Magazine" sentences (Akmajian 1984, Potts and Roeper 2006), resultatives (12a) and perhaps depictives (12b-c), bare VPs (in English) are restricted to "Mad Magazine" sentences and complements of *let, have, help*, the active *make*, modals and perception verbs. While some languages allow small-clause complements of modals (possible in most Germanic languages, see Barbiers 1995, van Riemsdijk 2002, van Dooren 2014, etc.), others, e.g., Russian, disallow infinitival complements of perception verbs: both facts strongly suggesting that the difference should be attributed to c-selection rather than semantics, and therefore, that verbal and nonverbal complements do not belong to the same lexical category.

(9)   Sam$_i$ is [$_{SC}$ t$_i$ *sad*].   copular clause

(10) a.   Sam$_i$ seems [$_{SC}$ t$_i$ *mad*].   raising/stative

      b.   Sam$_i$ became [$_{SC}$ t$_i$ *mad*].   raising/dynamic

      c.   Sam made [$_{SC}$ Lee *mad*].   causative

      d.   The people elected [$_{SC}$ Sam ($^{??}$*the) president*].   denominative

    e.   Carroll named [$_{SC}$ his heroine Alice].   naming

    f.   Kim saw [$_{SC}$ Sam$_i$ *mad*].   perception

(11) a.   [With John *sick*], we'll never get the job done on time.   absolute construction

     b.   [Me *mad*]?! Ridiculous!   "Mad Magazine" sentence

(12) a.   We painted [$_{SC}$ the room$_i$ *green*].   resultative

     b.   Sam$_i$ ate the meat$_k$ [$_{SC}$ PRO$_k$ *raw*].   object depictive

     c.   Sam$_i$ ate the meat [$_{SC}$ PRO$_i$ *nude*].   subject depictive

The fact that bare VPs are incompatible with copular and semi-copular verbs/particles further suggests that nonverbal small clauses share properties that bare verb phrases do not have. The ability of Voice^0/v^0 to introduce an external argument is intimately linked to its ability to assign accusative case (Burzio's generalization), which is systematically not the case for nonverbal predication. Finally, the external argument of a verb can be suppressed in passives or middles, but no effect of this kind is observed with nonverbal predicates.

This final striking difference between the external argument of verbs and the subject of nonverbal predicates might be taken as the first piece of evidence against treating the latter as the specifier of a functional head. However, it suffices for our purposes for now to accept, as was tacitly done in the literature on small clauses as PredPs, that it is only nonverbal predication that is mediated by Pred^0; beyond Bowers' and den Dikken's work it has never been proposed to treat v^0/Voice^0 as a kind of Pred^0 and the arguments given above reason against doing so independently of the question of whether nonverbal predication requires mediation. Further arguments against unifying v^0/Voice^0 and Pred^0 can be found in Baker 2003a:37-39.

Having thus disposed of verbal predicates in small clauses, we now turn to dismantling the evidence provided for the presence of a functional head in nonverbal small clauses.

2.1. Coordination of unlikes

The first argument presented by Bowers 1993 in favor of a functional head in small clauses comes from examples like (13), where constituents of different lexical categories are coordinated despite the cited general prohibition on the coordination of unlikes (examples (14) via Sag, Gazdar, Wasow and Weisler 1985; for other non-mainstream solutions see Bayer 1996, Daniels 2002). The hypothesis that a functional head is present in the small clause resolves the issue, turning it into a coordination of two PredPs.

(13) a.   I consider Fred **crazy and a fool**.

     b.   I consider Mary both **shrewd and in the know**.

(14) a.   ＊The scene of the movie and that I wrote was in Chicago.   Chomsky 1957:36

     b.   ＊John sang beautifully and a carol.   Peterson 1981:449

However, as noted already in Schachter 1977 and Maling 1983 (citing Dik 1968 and Peterson 1981), projections of different lexical heads may in fact be coordinated: in cases of adverbial modification (15), as well as in some more complex cases, such as (16):

(15) a.   The surgeon operated slowly and with great care.

     b.   John ate quickly and with good appetite.

(16) a. John up and left. Schachter 1977

    b. Come any closer and I'll scream.

Schachter 1977 and later Whitman 2004 show that it is the semantics of the coordinated constituents that restricts coordination: the coordinated constituents should have the same semantic type. Once this constraint, independently required for proper composition, is taken into account, coordination of two predicates (or of two event modifiers) is naturally allowed because the conjuncts have the same type ($\langle e, \langle s, t \rangle \rangle$ for predicates, $\langle v, \langle s, t \rangle \rangle$ for event modifiers), whereas ungrammatical cases fall out automatically: an entity-denoting NP or a proposition-denoting CP cannot be coordinated with an AP or a PP, as an argument, as a predicate or as an adjunct.

The coordination of projections of distinct lexical categories may raise the question of assigning a (conventional) label to the constituent formed by the coordination of X′ and Y′. However, it can easily be resolved in the current state of the linguistic theory by appealing to the hypothesis that the conjunction itself is projected as a CoordP (for evidence that conjunctions project a binary structure see Schachter 1977, 1984, Munn 1987, 1993, Zhang 2009, among others).

Summarizing, in the current state of linguistic theory the projection problem can be resolved by assuming that the label is determined by the coordinating element (or, as suggested in the most recent work on labeling (e.g., Chomsky 2013, 2014), constructed from shared features) and the independently required semantic prohibition on coordinating items of different semantic types accounts for the fact formerly explained by the projection of PredP.
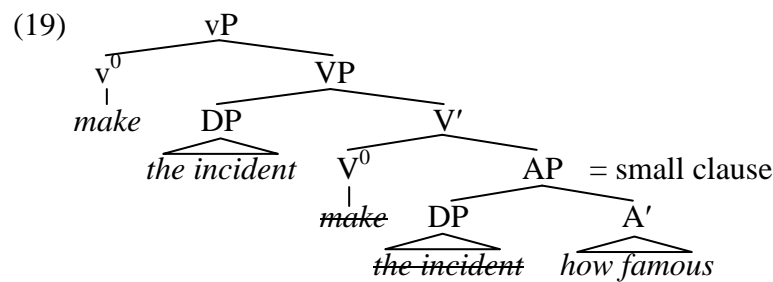
2.2. Movement

As noted by Svenonius 1994, the PredP hypothesis accounts for two more properties of the small clause that do not seem to be compatible with Stowell's analysis on theoretical grounds: the position of its subject and the movement of its predicate. Starting with the latter, Williams (1983) observed that the ability of the small-clause predicate to move makes it a maximal projection: since movement of intermediate projections (X'-levels) is prohibited in X-bar theory (a constraint that is now replaced by the prohibition on the movement of segments), the fact that the small-clause predicate can be targeted by wh-movement, as in (17), argues that the subject cannot occupy its specifier: as the small-clause subject does not move together with the predicate, the target of the movement operation would seem to be a non-maximal projection whose specifier ([Spec, AP] in (17)) is stranded.[2]

(17) a.   What does John consider [$_{AP}$ Bill [$_{A'}$ ~~what~~]]?

b.   How do you want [$_{AP}$ your eggs[$_{A'}$ ~~how~~]]?

c.   How famous did the incident make [$_{AP}$ the criminal[$_{A'}$ ~~how famous~~]]?

As Svenonius demonstrates, introducing PredP resolves this problem: the subject remains in [Spec, PredP] and what moves is then the AP in (17), and in general, a maximal projection:

(18) a.   What does John consider [$_{PredP}$ Bill [$_{Pred'}$ Pred^0 [$_{AP}$ ~~what~~]]?

b.   How do you want [$_{PredP}$ your eggs [$_{Pred'}$ Pred^0 [$_{AP}$ ~~how~~]]?

c.   How famous did the incident make [$_{PredP}$ the criminal [$_{Pred'}$ Pred^0 [$_{AP}$ ~~how famous~~]]?

In the current state of the syntactic theory, however, the problem of the stranded specifier is circumvented by independent developments and more specifically, by the general adoption of the Raising-to-Object analysis of Postal 1974 (see Runner 2006 for discussion). Raising-to-Object analyses assume that the subject of a small-clause/infinitival complement of a verb moves into [Spec, VP], with the verb raising to a higher head (Johnson 1991, Lasnik and Saito 1991, Koizumi 1993, Lasnik 1995, etc.). Under this analysis (17) can be analyzed as involving the movement of the entire small clause, still containing the trace of the subject:

(19)

$$vP$$

v^0 — *make*

VP

DP — *the incident*

V′

V^0 — ~~*make*~~

AP = small clause

DP — ~~*the incident*~~

A′ — *how famous*

In the minimalist trend it behooves us also to raise the question of whether the prohibition to move segments has any empirical support. Given the raise in the number of functional heads since the introduction of this constraint, a reevaluation seems to be in order.

2.3. Multiple specifiers

As argued by Williams 1983, placing the subject of predication into the specifier of the lexical head gives rise to problems when non-bare predicates (20) are considered. Anglo-Saxon possessors (20a) are generally thought to occupy [Spec, DP], which renders this position unavailable for the small-clause subject. Degree modification, as in (20b-c), gives rise to the same issue: measure phrases, as in (20b,c), are generally

thought to occupy [Spec, DegP], which strongly suggests that the highest (functional) specifier in the extended projection of the predicate is filled, irrespective of the structure adopted for comparatives. Thus under one analysis (Bowers 1975, Jackendoff 1977, Heim 2000, Bhatt and Pancheva 2004, etc.) DegP is located in [Spec, AP], leaving no free specifier for an AP-internal subject. Conversely, under the alternative analysis (Abney 1987, Bowers 1987, Corver 1990, 1991, 1997a, b, Matushansky 2013, etc.) Deg^0 (*-er*) takes AP as its complement and [Spec, DegP] is filled with either the differential or the comparative clause, likewise leaving no empty specifier for the subject. Making small clauses projections of $Pred^0$ solves the problem, since the subject can be merged in [Spec, PredP].

(20) a. I consider Josiah **her father's** best friend.

 b. Set the pole **15 inches** to the right.

 c. Ayelet was **2 inches** taller **than her friends**.

However, the theory-internal prohibition against multiple specifiers has become obsolete for a number of theoretical and empirical reasons. From the theoretical point of view, such a prohibition seems like pure stipulation: if one maximal projection can merge with another maximal projection (which is required to enable the merger of the specifier), it is unclear why another such merger should be ruled out.[3] To provide some precedents, multiple specifiers have been proposed to deal with multiple nominative constructions in Japanese and Korean (e.g., Fukui 1986, 1995, Heycock and Lee 1989, Heycock 1993, Koizumi 1995, Ura 1996, Takahashi 1996, Hiraiwa 2001) and multiple accusative constructions in Korean (Yoon 1989, 1990; see also

Maling 1989); Chomsky 1995 assumes multiple specifiers to account for *there*-insertion, and multiple CP specifiers seem to be unavoidable when it comes to multiple wh-fronting (Rudin 1988). In the generally assumed phase-based approach to derivation, to enable movement out of the vP phase (Chomsky 2000) it must be postulated that vP has specifiers in addition to the thematic specifier hosting the subject.

It could be objected that we are dealing here with multiple non-thematic specifiers, whereas the subject position is necessarily thematic. However, empirical or conceptual reasons remain to be found for using this distinction to exclude multiple thematic specifiers, and the privileged status of a small-clause subject can be made to follow from the fact that it is the last such specifier.

2.4. Expletives in small clauses

As also observed by Svenonius 1996 and Grohmann, Drury and Castillo 2000, non-thematic and expletive subjects can appear in small clauses (21)-(22), suggesting the presence of a functional head whose specifier must be filled as a result of the EPP requirement. $Pred^0$, however, cannot be this head, given how EPP is understood to interact with theta-theory in the current state of the linguistic theory. Specifically, in order to be fillable by an expletive, an EPP position should not be assigned a thematic role, which is not assumed to be the case for [Spec, PredP], as most theories of mediated predication also assume that $Pred^0$ has a semantic role to play (see below). If $Pred^0$ theta-marks the external argument (as in Bowers' view), its specifier is a theta-position and so non-thematic subjects should not be introduced in [Spec, PredP].

(21)   a.   I want it cold (when I go skiing).   Svenonius 1996

      b.   I saw some students shouted at.

      c.   I've never seen there be so many problems.

(22)   a.   John believes [a man likely to be in the room].   Grohmann et al. 2000

      b.   John believes [there likely to be a man in the room].

Grohmann et al. 2000 propose to account for all of these cases by assuming that the subject of the small clause undergoes raising-to-object: it is [Spec, VP] of the main verb that contains these non-thematic subjects. However (Eddy Ruys, p. c.), this explanation cannot account for raising in the absolute construction (23a), as well as in Headlinese (23b), as in both these cases no embedding verb is present and hence there is no [Spec, VP] to host a raised subject:

(23)   a.   **With Mary$_i$ likely [t$_i$ to be in trouble/sick]**, there is little we can do.

      b.   [Young UK women with children]$_i$ **less likely [t$_i$ to find work]**.

(https://www.theguardian.com/business/2016/oct/05/uk-young-women-children-finding-work-oecd-report)

While these facts would seem to entail the presence of a functional projection in small clauses whose specifier would be targeted by the raised subject, this functional projection cannot be equated with PredP, since [Spec, PredP] is a thematic position *ex hypothesi*.

2.5. Predicate case

The PredP hypothesis has also been used as an explanation for predicate case-marking. As the following examples show, NP and sometimes AP predicates can be case-marked and the case on the predicate is subject to cross-linguistic variation:

(24) a.   Ja sčitaju ee   otličnoj   lingvistkoj.   Russian

   I   consider   her.ACC   great.INS   linguist.INS

   'I consider her a great linguist.'

   b.   Ona   vernulas'   aspirantkoj.

   she   returned   PhD.candidate.INS

   'She came back a PhD candidate.'

(25) a.   salma   ʕayyanat   walad-a-ha   wazir-an.   Arabic

   salma   nominate.CAUS.PRF   child-ACC-her minister-ACC

'   'Salma nominated her child to be a minister.'

   b.   walad-u-ha   ʕuyina wazir-an.

   child-NOM-her   nominate.PASS.PRF   minister-ACC

'   'Her child was nominated to be a minister.'

It seems altogether reasonable to assume (e.g., Bailyn and Rubin 1991 for Russian, Abu-Joudeh 2013 rejects this analysis for Modern Standard Arabic) that the case on the predicate in (24)-(25) is assigned by $Pred^0$. Predicate case can therefore be used as indirect evidence for the PredP hypothesis: a case-assigning functional head must be assumed anyway in order to account for the fact of case-assignment and placing this head between the subject and the predicate of a small clause, as is

assumed for Pred[0], straightforwardly explains why the small-clause subject does not intervene for predicate case assignment.

The facts, however, are more complicated than the PredP hypothesis warrants. As far as I have been able to ascertain, it is never the case that in languages with a marked predicate case it is only this case that surfaces on all predicates. In fact, there is systematically at least one environment where the predicate surfaces with the unmarked case: present tense copular clauses (26) that can, nonetheless, be shown to involve predication rather than equation (see Matushansky 2010 for a discussion of Russian).

(26) a.   Vera assistent/*assistentom.   Russian

            Vera assistant.NOM/INS

            'Vera is an assistant.'

      b.   Zaydun waziirun/*waziiran.   Arabic, Maling and Sprouse 1995

            Zaydun.NOM minister.NOM/ACC

            'Zaydun is a minister.'

One strategy available for a PredP proponent would be to claim that examples like (26) involve a non-case-assigning Pred[0] (cf. Pereltsvaig 2007, Bailyn 2001, 2002, etc.), yet such a move clearly undermines the role of predicate case as an argument for Pred[0], as it requires a postulation of two lexical items with identical semantics and identical phonology (or rather, lack thereof) that can nonetheless be l-selected by embedding verb. The situation is further complicated by the fact that in Finnish, Estonian and Hungarian the nonverbal predicate can be marked by as many as five

cases (in Hungarian), in function of the environment (Fong 2003, Matushansky 2012a). Given that it is the least syntactically complex environment (in function of the language: present tense copular clauses, all copular clauses, the complement of *be* and *become*) that gives rise to the unmarked predicate, it seems reasonable to assume that the source of the predicate case lies outside the small clause itself.

To deal with this issue Matushansky 2012a proposes that morphological case realizes not individual features (e.g., [accusative]) but rather bundles of them (e.g., [transitive; predicative; change-of-state]), with different predicate cases realizing different combinations (with, e.g., the Finnish translative realizing the complex [predicative; change-of-state] and the Estonian translative realizing the complex [predicative; transitive]). Irrespective of the precise implementation of this view, if we accept its key point, namely that various predicate cases realize the feature [predicative] in combination with others or under various conditions, we can depart from Matushansky's presupposition that this feature is assigned by Pred^0. If we assume instead that the feature [predicative] is interpretable, i.e., is present on the predicate because it is a semantic predicate, then predicate case-marking need not depend on case-assignment by a functional head and therefore need not indicate the presence of such a head.

2.6. Summary

The hypothesis that small clauses are projections of a functional head whose specifier hosts their subject has been argued to successfully resolve a number of problems arising from the prior assumption that small clauses are (extended) projections of the

lexical head. Since these problems may now be resolved in an independent fashion, motivation for Pred^0 should come from its observable contribution: either on the semantic side and then a proper lexical entry must be provided for it, or on the morpho-phonological side, where it would be visible as an independent lexical item. In the next section I will discuss the potential semantic contribution of Pred^0, postponing putative direct morpho-syntactic evidence for it until section 4.

3.   THE SEMANTICS OF PRED^0

It is a standard assumption in model-theoretic semantics starting from Montague that APs, NPs and PPs denote unsaturated functions from entities to propositions (semantic type $\langle e, \langle s, t \rangle \rangle$). As a result, the interpretation of examples like (27) involve simple Functional Application of the predicate to the subject, with the copula either semantically vacuous, as is often assumed (Frege 1892, Meillet 1906, Benveniste 1966; more recently, e.g., Pollard and Sag 1994, Heycock and Kroch 1999), or manipulating non-thematic argument slots, such as possible worlds, times or events (e.g., Bierwisch 1988, Kamp and Reyle 1993, Rothstein 1999, Maienborn 2005a, b):

(27)   Kim is a student/tall/in Dublin.

[T $_{PRES}$ [be [Kim a student/tall/in Dublin]]]

a.   [λx λw . x is a student/tall/in Dublin in the possible world w] (Kim)

b.   {w : Kim ∈ {x : x is a student/tall/in Dublin in w}}

Maintaining this assumption obviously leaves Pred^0 without a semantic role. While a number of syntacticians would take no issue with the hypothesis that

phonologically null Pred^0 makes no contribution on the LF side, it is generally asserted that Pred^0 is required to mediate predication. Since the notion of predication is based in semantics, it seems reasonable to assume that so is the role of Pred^0. Two possibilities can be envisaged as to why Pred^0 should be required to mediate the relation between an AP, NP or PP predicate: either it enables the AP, NP or PP to license the subject (thematic licensing) or it is required to permit the resulting proposition to combine with the embedding verb or tense. I will now show that neither of these two approaches can be motivated on semantic grounds.

3.1. A change in basic type

To provide a semantic role for Pred^0 Bowers proposes that APs, NPs and PPs do not denote predicates (sets), but rather must be converted into predicates. The semantic function of Pred^0 is therefore to create a predicate that could be combined with the subject. Appealing to the work of Chierchia 1985 and Chierchia and Turner 1988, Bowers 1993 proposes that APs, NPs and PPs are introduced into the derivation as entities (semantic sort π), Pred^0 converts these entity-correlates into propositional functions (type $\langle e, p \rangle$).[4] As such they can themselves function as arguments (28).

(28) a. Being crazy/to be wise is crazy.

  b. Blue is a beautiful color.

While providing a semantic role for Pred^0, the hypothesis that APs, NPs and PPs are not underlyingly predicates gives rise to serious problems of composition. Starting with APs, the assumption that they have the semantic type π necessarily entails that they cannot be used as modifiers in cases like *red books*, and the same issue arises

with PPs. For NPs the situation is exacerbated because the semantic type of bare nouns becomes open to debate. While examples like (28b) suggest that they can or should also be treated as entity-denoting (semantic type π), additional mechanisms would then become necessary to enable them to combine with determiners, possessive phrases, etc. In other words, NPs, APs and PPs would under this view acquire the semantic type that precludes their linguistic use without further refinements, forcing the use of $Pred^0$ in the predicate position and of some additional mechanism NP-internally. Not only does this approach look completely artificial, but it also requires that the entire mechanism of NP-internal computational semantics be revised. Clearly, such a global overhaul of the contemporary model-theoretic semantics can only be proposed if sufficiently motivated by other considerations, which I will show to be missing.

3.2. The eventuality argument

The alternative treatment of $Pred^0$ would be to assume the standard $\langle e, \langle s, t \rangle \rangle$ type for APs, PPs and NPs, which would enable NP-internal composition to proceed as usual, and hypothesize instead that the role of $Pred^0$ is to introduce the Davidsonian eventuality argument, which is otherwise missing from a nonverbal predicate. Two reasons can be advanced against this hypothesis. The first one is theoretical: Bierwisch 1988, Kamp and Reyle 1993, Rothstein 1999 and Maienborn 2005a, b suggest that it is the copula that has this role, which, given the close connection between eventualities and verbs, seems appropriate. The second reason is conceptual: linking $Pred^0$ to Davidsonian eventualities does not predict that it should be obligatory, contrary to the standard take on PredP as an obligatory mediator.

Making the second reason explicit, the first and foremost property of a predicate is that it should be able to combine with an argument. It should therefore be possible to produce a true small-clause structure (*P(x)*) where a proposition is constructed without the introduction of an eventuality argument. This would be correct for *be*, which can indeed be omitted, but not for $Pred^0$, which is claimed to be required for predication. In other words, even if there is a functional head introducing an eventuality argument, with this semantics its obligatoriness is still stipulative.[5]

3.3.   More than one $Pred^0$

The hypothesis that $Pred^0$ is necessary for predication on semantic grounds seems untenable, because the current state of model-theoretic semantics does not warrant the postulation of a functional head either creating predicates out of entity-denoting NPs, APs and PPs or of one introducing an event/state argument. Yet there is one more possibility to dismiss: that $Pred^0$ exists but makes different semantic contributions when combining with AP, NP and PP predicates. This is in fact the hypothesis that Baker 2003a advances without, however, going into detail. It could be postulated that, while Pred′ is uniformly a predicate (semantic type $\langle e, \langle s, t \rangle \rangle$), different terminal nodes realize $Pred^0$ for different lexical categories. An additional advantage of this view is that it is natural to have several lexical entries for the same functional label. However, as reasonable as this proposal is, an appeal to it is not motivated by the semantic theory itself – in other words, it does not provide direct evidence for $Pred^0$. Quite on the contrary, in fact: it requires a modification of standard assumptions regarding the semantic type of NPs, APs and PPs, which does not seem to be yet motivated by anything. In other words, for the time being $Pred^0$ cannot be argued to be motivated

by either theory-internal syntactic considerations, nor is it required by semantics (i.e., either it must be semantically null, or the lexical entries for various instantiations of $Pred^0$ and the underlying non-predicative semantic types for APs, PPs and NPs have yet to be determined).

Given the fact that in most languages discussed so far $Pred^0$ is also phonologically null, this lack of semantic contribution is highly suspicious: we do not expect a functional head to be vacuous on both interfaces. This is why it has been proposed that $Pred^0$ can in fact have overt realizations. In the next section we will argue that copular particles, frequently claimed to instantiate $Pred^0$, do not in fact provide any evidence for it. We will first argue that not all copular particles can in principle be used as such evidence: they need to appear in non-finite small clauses (i.e., not to be restricted to copular clauses). Then we will demonstrate that even such copular particles are still subject to additional constraints that raise doubts as to whether their role is indeed that of an obligatory mediator for predication. Other potential $Pred^0$ candidates, a heterogeneous class of functional items, including *as* and its cross-linguistic equivalents (the Danish *som*, the French *comme*, the Russian *kak*, the German and Dutch *als*, etc.), *for* and its cross-linguistic equivalents (the Russian *za*, the Dutch *voor*, etc.) and the Russian *v* 'in', will be examined in section 5.

4.   COPULAR PARTICLES AS LEXICALIZATIONS OF PRED^0

In many languages a functional element, which we will gloss uniformly as CPRT, appears between the subject and (some categories of) the predicate (29)-(30) leading Bowers 1993, 2001 to hypothesize that it realizes $Pred^0$. If such an element has the

distribution expected of Pred^0, it would provide independent evidence for it.[6] We will see that such is not the case.

(29) a.   Mae Siôn *(yn) ddedwydd.   Welsh (Rouveret 1996:128)

       is   Siôn   CPRT happy

       'Siôn is happy.'

    b.   Y   mae Siôn   yn   feddyg.

       PRT is   Siôn   CPRT   doctor

       'Siôn is a doctor.'

(30) a.   Èmèrí *(yé) mòsèmòsè.   Edo (Baker 2003a)

       Mary   CPRT beautiful.A

       'Mary is beautiful.'

    b.   Úyì *(rè)   ò=khaèmwè=n.

       Uyi   CPRT chief.N

       'Uyi is a chief.'

(31) a.   M-kango *(ndì) w-a   u-kali.   Chichewa (Baker 2003a)

       3-lion   CPRT 3-ASSOC 3-fierce

       'The lion is fierce.'

    b.   M-kango *(ndì) m-lenje.

       3-lion   CPRT 1-hunter

       'The lion is a hunter'.'

Can these elements be taken as evidence for a functional head mediating predication? To provide such evidence they would need to have the distribution

expected of Pred^0, i.e., to appear in all canonical small clauses ((9)-(12)). The Welsh copular particle *yn* shows just this kind of behavior, appearing in copular clauses (32), small-clause complements of ECM and raising verbs (33), in resultatives (34a), in depictives (34b), in the absolute construction (35), with naming verbs (36) and in NP-internal reduced relatives (37), and could therefore be taken to instantiate Pred^0:

(32) a.   Mae Siôn *(yn) ddedwydd.   Rouveret 1996:128

          is   Siôn CPRT happy

          'Siôn is happy.'

     b.   Y   mae Siôn *(yn) feddyg.

          PRT is   Siôn CPRT doctor

          'Siôn is a doctor.'

(33) Rydw i'n   ystyried [Siôn yn   niwsans].   Zaring 1996

     am   I+PROG consider John CPRT nuisance

     'I consider John a nuisance.'

(34) a.   Peintia'r   petryal   bach   yn   goch.

          paint.IMP+the rectangle small CPRT red

          'Paint the small triangle red.'

     b.   Dw   i'n   licio cwrw yn   oer.   Bob Morris Jones, p.c.

          be.1SG I+PROG like beer CPRT cold

          'I like beer cold.'

(35) A mi yn   ofnus, ni   ddywedais ddim.   Rouveret 1996

     and I   CPRT shy   NEG said   nothing

     'Since I am shy, I said nothing.'

(36) Enwyd   ef yn Siôn ar ôl ei dad.   Matushansky 2008

      name-PASS he PRT Siôn after his father

      'He is named Siôn after his father.'

(37) buddsoddi ym mhensaernïaeth fy ngwlad, yn   hen ac yn   newydd

      invest.VN in architecture   my country CPRT old   and CPRT new

      'to invest in the architecture of my country, old and new'

Conversely, in a large number of languages a pronominal or demonstrative-like element appears to mark identity statements, generic attributions or classificatory assertions (Berman and Grosu 1976, Doron 1983, 1986, Rapoport 1987, Rothstein 1995, Sichel 1997, Greenberg 1998, 2002, Heller 2002 for Hebrew, Rutkowski 2006, Citko 2008 for Polish, Soschen 2003, Markman 2008 for Russian, Wondem 2014 for Geez; see Li and Thompson 1977, Diessel 2009, Lohndal 2009 and van Gelderen 2011 for the general cross-linguistic phenomenon of the diachronic demonstrative-to-copula conversion).

In the next sections I will differentiate between nonverbal copulas (which appear in the absence of a lexical verb or only with the copula *be*) and predicative particles (which appear in other small-clause environments). The former will be exemplified by two languages where they have been argued to instantiate $Pred^0$: Chichewa and Edo (Baker 2003a). After showing that they cannot be taken as theory-independent evidence for $Pred^0$, I will turn to languages with the latter: Eastern Riffian and Welsh. I will show that these languages also offer no evidence for $Pred^0$ as an obligatory mediating functional head for predication. Finally, I will discuss cross-linguistic lexicalization patterns of both types of copular particles, showing that

they are inextricably linked to NP predication, and hypothesize what role they might be playing that explains their distribution.

4.1. Bantu copular particles

Evidence from Chichewa featured prominently in Baker's discussion of the PredP hypothesis. However, copular particles in Bantu languages cannot be taken as direct evidence for the existence of $Pred^0$, because their distribution is restricted to only some instances of nonverbal predication:[7] while in some Bantu languages (Zulu, Xhosa) copular particles only appear with NP predicates, in others (Swahili, Venda, Kinyarwanda) they are restricted to present-tense copular clauses (and sometimes only to third-person subjects). In Chichewa these constraints are combined, allowing the copular particle only for NP predicates in present-tense copular clauses; Kiso 2012 also discusses two languages closely related to Chichewa, Citumbuka and Cisena, where the copular particle appearing with NP primary predicates disappears in tenses other than the present, yet does not address its presence or absence with AP predicates.

(38) Zulu: only with NP predicates (see also Posthumus 1978, 1988, 2006)

    a.   Ngi-   mu- hle.

            AGR$_S$1SG- AA$_1$- beautiful

            'I am beautiful.'

    b.   Ngi-ngu-mfundisi.   Buell and de Dreu 2013

            AGR$_S$1SG-CPRT-1.teacher

            'I am a teacher.'

    c.   Ng-a-be   ngi-ngu-mfundisi.   Buell and de Dreu 2013

         AGR$_S$1SG-PST-be AGR$_S$1SG-CPRT-1.teacher

         'I was a teacher.'

(39) Xhosa: only with NP predicates

    a.   Ndi-   za   ku- ba   ngu-   mfundisi.

         AGR$_S$1SG- FUT- KU- COP   CPRT$_1$- 1.teacher

         'I will become a teacher.'

    b.   U-   za   ku- ba   m-   hle.

         AGR$_S$1-FUT- KU- COP AA$_1$- beautiful

         ' S/he will become beautiful.'

(40) Swahili: in present-tense copular clauses, optional (Steere 1884/1930, Loogman

      1965, Brauner and Herms 1986, Marshad and Suleiman 1991, McWhorter

      1992)

    a.   Shati **ni**   ø-   chafu.

         shirt$_5$ CPRT AA$_5$- dirty

         'The shirt is dirty.'

    b.   Nguo   **zi**   safi.

         clothes$_{10}$ AGR$_S$10 clean

         'The clothes are clean.'

    c.   Ali m-   réfu.   Marshad and Suleiman 1991:30

         Ali AA$_1$- tall

         'Ali is tall.'

(41) Venda: with 3rd person subjects in the present tense copular clauses

    a.   Ni   vhafunzi.

          AGR$_S$2PL   missionaries$_2$

          'You are missionaries.'

    b.   Mutukana ndi   mu- vhuya.

          boy$_1$ CPRT AA$_1$- good-natured

          'The boy is good-natured.'

    c.   Mufunzi   ndi   tshihole.

          missionary$_1$ CPRT cripple$_7$

          'The missionary is a cripple.'

    d.   Ndi   do   vha dokotela duvha linwe.

          AGR$_S$1SG FUT COP doctor   day   one

          'I will become a doctor one day.'

    e.   Nd-   o- la nama mbisi.   Pylkkänen 2002:34-35

          AGR$_S$1SG- PST-eat meat   AA$_9$.raw

          'I ate the meat raw.'

(42) Chichewa: only with NP predicates in the present-tense copular clauses

    a.   M-kango *(ndì) w-a   u-kali.   Baker 2003a:44

          3-lion   CPRT 3-ASSOC 3-fierce

          'The lion is fierce.'

    b.   M-kango *(ndì) m-lenje.   Baker 2003a:44

          3-lion   CPRT 1-hunter

          'The lion is a hunter.'

c. Nyumba-yi   i-na-li   yayikulu.   Kiso 2012:84

   house-DEM   NCL.SBJ-RECENT.PAST-COP   big

   'The house was big.'

d. A-na-li   mphunzitsi.   Kiso 2012:25

   3.SBJ-PAST-COP teacher

   'She/he was a teacher.'

(43) Kinyarwanda: only with third-person subjects in the present-tense copular

clauses

a. In-gofero ni   mini.   Jerro 2015

   9-hat   CPRT   big'

   The hat is big.'

b. Umu-curanzi njye nahuye nawe ni   Michael Jackson.   Jerro 2015

   1-singer   I   met   I   CPRT Michael Jackson

   'The singer that I met is Michael Jackson.'

c. Tw-a-li   abana.   Dekympe 2000:49

   1PL-PAST-COP children

   'We were children.'

d. Tu-ra-ba   beza.   Dekympe 2000:49

   1PL-FUT-COP   beautiful

   'We will be beautiful.'

Summarizing, copular particles in Bantu languages are restricted to NP predicates (a predicative particle appearing in all small-clause environments) or to copular clauses (a nonverbal copula, for which further restrictions, such as present

tense only, third person only, etc., are possible). The nonverbal copula could, of course, be argued to instantiate $Pred^0$ and to disappear as a result of restructuring (Stowell 1991), which would take the form of $Pred^0$-to-V^0 head-movement into the embedding verb (for which no morphological evidence is, however, available), but such reasoning already presupposes the existence of $Pred^0$ that these facts must be reconciled with; they cannot be used as primary evidence. The same reasoning applies to the copular particle that appears only with NP predicates: as we will show in the next sections, while it is possible to hypothesize that $Pred^0$ is overtly realized only with some lexical categories, this hypothesis is not supported by any independent evidence.

4.2. Edo copular particles

Another source of evidence for the PredP theory for Baker 2003a is the Volta-Niger language Edo, where adjectival and nominal predicates are introduced by different copular particles. Arguing that the role of $Pred^0$ is to introduce the external argument, Baker specifies that it does so differently for different lexical categories. As a result, different lexicalizations of $Pred^0$ for AP and NP predicates are not unexpected.

(44) a.   Èmèrí   *(yé)   mòsèmòsè.   Baker 2003a:40

            Mary $CPRT_A$ beautiful.A

            'Mary is beautiful.'

      b.   Úyì   *(rè)   òkhaẹ̀mwẹ̀n.

            Uyi $CPRT_N$ chief.N

            'Uyi is a chief.'

It can be shown, however, that the copular particles of Edo cannot be taken as evidence for the PredP theory, either in its original form or in Baker's version, for two reasons. Firstly, the use of the copular particles is limited to copular clauses (potentially, only in the present tense), functioning as a nonverbal equivalent of *be*. Secondly, it can be demonstrated that the copular particle appearing with non-nominal predicates (*yé*) forms part of verbal conjugation.

Starting with the former, both *yé* and *rè* are presented as verbs by Melzian 1937: *yè* 'to be, indicating quality… [or] in a certain place' (p. 224)[8] and *ɽé* 'to be, with a noun predicate' (Melzian 1937:180); *ré* is also used in identity clauses (Déchaine and Tremblay 2012), which clearly argues against relating it to predication:

(45) a.   Ùyì ò=ré né!né ò=khaèmwè=n.   Edo (Baker 2003a:111)

            Uyi it.be the chief.N

            'Uyi is the chief.'

      b.   Èvbáré ò=ré Òzó lé.   Edo (Baker 2003a:140)

            food.N it.be Ozo cook

            'It's food that Ozo cooked.'

Furthermore, as noted by Baker himself, Edo copular particles disappear in resultatives. While under the causative verb *yá* 'make' *yé* is possible (although the inceptive particle *dòó* is required to render the sentence fully grammatical (46a), in resultatives *yé* must be omitted, as in (46b) and (47), see also (50a) below:

(46) a. Úyì yá   èmátòn ?(dòó) yé   pèrhè.   Baker 2003a:42

Uyi make metal   INCEP CPRT$_A$ flat.A

'Uyi made the metal be flat.'

b. Òzó gbé   èmátòn (*yé) pèrhè.   Baker 2003a:223

Ozo beat.PAST metal   CPRT flat.A

'Ozo beat the metal, causing it to be flat.'

(47) Òzó gìá ìrhùnmwùn khéréé.   Ogie 2009:256

Ozo cut grass   small.A

'Ozo cut the grass short.'

Though Baker claims that depictives are not possible in Edo, Ota Ogie, p.c., while largely confirming this, provides (48), also without the copular particle:

(48) a. À   biè   Èmérì òkhaèmwèn.   Ota Ogie, p.c.

IMPRS give.birth.PAST Mary chief.N

'Mary was born a chief.'

b. À   biè   Èmérì mòsèè.

IMPRS give.birth.PAST Mary beautiful.A

'Mary was born beautiful.'

By the criteria adopted above, the lack of the copular particle in secondary predication[9] means that Edo copular particles cannot be viewed as evidence for Pred^0. While Baker attributes the distribution of the copular particle to incorporation of Pred^0 into a higher head (cf. Stowell 1991), as discussed above, this hypothesis necessitates independent evidence for PredP, which we have shown to be lacking.

Turning now to *yé* as a potential Pred^0, it appears in the predicate position only with those adjectives that have a verbal equivalent, from which they differ by the tonal pattern and reduplication. While Baker glosses identically the verbal and the adjectival variants of the same quality concept and Omoruyi 1986 claims that there is no noticeable difference between them, Ogie 2009 indicates that the adjectival variant is interpreted as a transitory state (51):

(49) a.   Òzó   yé   zùrọ̀zùrọ̀.   Baker 2003a:87

         Ozo   CPRT$_A$ foolish.A

         'Ozo is foolish.'

    b.   Òzó   zùrọ́.

         Ozo   foolish.V

         'Ozo is foolish.'

(50) a.   Òzó   kòkó   Àdésuwa   mòsèmòsè.   Baker 2003a:227

         Ozo   raise.PAST   Adesuwa   beautiful.A

         'Ozo raised Adesuwa so that she was beautiful.'

    b.   Òzó   kòkó   Àdésuwa   mòsé.

         Ozo   raise.PAST   Adesuwa   beautiful.V

         'Ozo raised Adesuwa so that she was beautiful.'

(51) a.   Òzó   yè   mòsèè.   Ogie 2009:162

         Ozo   CPRT$_A$ beautiful.A

         'Ozo looks beautiful.'

b.   Òzó mòsé.

     Ozo   beautiful.V

     'Ozo is beautiful.'

In addition to these low-tone predicatives that appear with the copular particle *yé*, Edo also has a closed class of adjectives that are obligatorily attributive. While some of them cannot appear in isolation at all, others can but only with an implied elided noun:

(52) a.   *Ọ́gbọ̀n ẹ̀ré   Òsàrọ́ dẹ́rè.   Omoruyi 1986:299

      new   it-is   Osaro buy.PAST

   b.   Ò̀wièyí ẹ̀ré   Òsàrọ́ dẹ́rè.

      old   it-is   Osaro buy.PAST

      'It is an old one that Osaro bought.'

Omoruyi 1986 claims that parts of speech in Edo can be distinguished by the initial segment: all verbs are consonant-initial, whereas all nouns are vowel-initial. While some of these adjectives (e.g., (52)) are vowel-initial, like nouns, others are consonant-initial (like verbs, but without a verbal equivalent), as in (53). In neither case would their semantics need to be such as to preclude predicative use:

(53) a.   ímọ́tọ̀ wọ̀rọ̀   Omoruyi 1986:298

      car   long

      'long car'

b. èrhán túkpúrú

tree short

'short tree'

If *yé* realizes Pred^0, whose function is to turn an attributive adjective into a predicate, the correlation between the existence of a verbal form and the compatibility of its low-tone counterpart with *yé* is unexpected; it is moreover unclear why Pred^0 cannot freely make any potentially intersective adjective into a predicate. Conversely, if the only way of constructing a non-nominal predicate is by starting from a verbal stem, the particle *yé* can be viewed as a nonverbal copula c-selecting for APs that are already predicates, making the low-tone verbal forms simple participles, which, as in English, can freely become attributive.

Summarizing, the distribution of Edo copular particles does not support the hypothesis that they lexicalize Pred^0: not only do they appear only in copular clauses, but the ability of a given non-nominal stem to function as a predicate is determined by the existence of the corresponding verb, which shows that *yé* is not used to turn an AP into a predicate.

4.3. Welsh copular particle

The first to treat the copular particle *yn* as Pred^0 is Bowers himself (Bowers 1993, crediting Wayne Harbert). As the examples (32)-(37) above show, *yn* appears in all canonical small clauses. However, like other predicative particles cross-linguistically, it is obligatorily absent when the predicate is a PP (Jones and Thomas 1977:47, Jones 2009):

(54) a. Mae   Siôn   (*yn)   yn   Lludain   /o   flaen   y   tŷ.

       Zaring 1996

       is Siôn   CPRT   in   London   of   foremost   the

       house

  '   Siôn is in London/in front of the house.'

  b. A   hwy   yn   yr   eglwys,   ysbeiliwyd   eu   tŷ.   Rouveret 1996

       and them in   the   church   was-looted   their   house

       'While they were in the church, their house was looted.'

Given its putative origin as a preposition (but see Gensler 2002), this distributional fact can be motivated diachronically, but not synchronically. A defender of the PredP theory could argue, of course, that the preposition head-moves and incorporates into $Pred^0$, or that a null $Pred^0$ c-selects for a PP predicate, but for this to be done independent reasons have to be available to postulate $Pred^0$, which we have shown to be missing. Furthermore, as can be seen from examples (55)-(56), the distribution of *yn* in comparatives containing a differential is not that expected of $Pred^0$: *yn* can (perhaps must) appear between the differential adverbial and the comparative that it combines with. The same effect can be observed with differential measure phrases, which require *yn* to appear after the measure phrase (57):[10]

(55) a. ateb   ychydig yn   well   Mittendorf and Sadler 2008

       answer   little   CPRT   better

       'an answer slightly better'

b.   ateb   sydd   ychydig   yn   well

      answer   is.REL little   CPRT   better

'   an answer that is slightly better'

(56) a.   Mae   hi   llawer/ychydig yn   dalach.   ✓PD, ✓GA

          be.PRES.3SG she   much/slightly   CPRT   taller

     b.   %Mae   hi'n   llawer/ychydig talach.   ✓PD, *GA

          be.PRES.3SG she+CPRT much/slightly   taller

          'She is a lot/slightly taller.'

(57) a.   Mae   hi ddwy fodfedd yn   dalach.   ✓PD, ✓GA

          be.PRES.3SG she two   inches   CPRT taller

          'She is two inches taller.'

     b.   *Mae   hi'n   ddwy fodfedd talach.   *PD, *GA

          be.PRES.3SG she+CPRT two   inches   taller

     c.   Mae   hi'n   ddwy fodfedd yn   dalach.   doubling: ✓PD, *GA

          be.PRES.3SG she+CPRT two   inches   CPRT taller

          'She is two inches taller.'

     d.   *Mae   hi ddwy fodfedd   talach.   *PD, *GA

          be.PRES.3SG she two   inches   taller

          'She is two inches taller.'

The compositional semantics of NP-internal modification requires the degree argument of an AP to be saturated before the AP can function as a predicate or a modifier. If *yn* were an overt realization of Pred^0, we would expect to find it *before* the differential, which must form a unit with the comparative before the entire

extended AP combines with Pred^0. Given that this prediction is incorrect, movement of the differential from its base position to somewhere in the middle field could be hypothesized to account for this. Two facts make this proposal highly unlikely: on the one hand, Welsh doesn't have scrambling, and on the other hand, the informational status of adverbs and degree expressions makes them particularly resistant to scrambling in those languages that do have it (cf. Adger 1996).

4.4. The Eastern Riffian copular particle

As discussed by Oomen 2012, the Berber language Eastern Riffian has a predicative particle *ḏ* that is used with both AP and NP predicates, yet not with PP predicates. This particle is obligatory in copular clauses (58), as well as in secondary predication (59) and, strikingly, in indefinite NPs (60):

(58) a. netta ḏ   a-ryaz   Oomen 2012

          he   CPRT M-man

          'He is a man.'

    b. netta ḏ   a-wessar

          he   CPRT M-old

          'He is old.'

(59) a. y-err-iṯ   ḏ   lmalik   Oomen 2012

          3MSG-turn.into.PERF-3MSG.ACC   CPRT king

          'He made him king.'

b. i-ssess lqehwa-nnes t ta-berḵan-t

   3MSG-drink.IMPF coffee-3MSG.POSS CPRT F-black-F

   'He drinks his coffee black.'

c. ṭa-mɣar-ṯ-nnes ṯ-err-iṯ ḏ a-wessar

   F-woman-F-3SG.POSS 3FSG-turn.PERF-3MSG.ACC CPRT M-old

   'His wife made him old.'

d. twali-ɣ-ṯ ḏ a-buhali

   appear.IMPF-1SG-3SG.ACC CPRT M-mad

   'He seems mad to me.'

(60) ẓṛi-ɣ idž n we-xxam ḏ a-zeggwaɣ.   Oomen 2012

   see.PERF-1SG a of M-house CPRT M-red

   'I saw a red house.'

An important property of Eastern Riffian is the nominal nature of its adjectives. As discussed by Oomen 2012, the very existence of the category *adjective* in Berber languages is controversial and quality concepts are frequently expressed by nouns or verbs. For instance, Djemai 2008 argues that in Kabyle Berber there are no adjectives; deverbal nouns are used instead. In Tashelhiyt (Aspinion 1953 via Oomen 2012) and Tuareg (Prasse 1972, 2010 via Oomen 2012), adjectives are regarded as a subclass of (stative) verbs. In Eastern Riffian, as Oomen demonstrates, quality concepts are generally encoded as verbs, which can be distinguished from other verbs by their compatibility with the comparative phrase introduced by the preposition *x* 'on':

(61) a.   lbeṭṭix y-eɣla   kter zi   lbanan/ x lbanan.   Stanly Oomen, p.c.

            melon 3MSG-expensive.PERF   more from banana on banana

            'Melons are more expensive than bananas.'

      b.   y-uyur   kter zi   uma-s   /*x   uma-s.

            3MSG-walk.PERF more from brother-3SG on   brother-3SG

            'He walked more than his brother.'

The roots that are distinguished in this way can also be realized as morphological nouns, which exhibit adjectival behavior in that they, unlike other nouns, can function as modifiers in close apposition and also combine with degree operators:

(62) a.   a-ɣrum   a-berkan   Oomen 2012

            M-bread   M-black

            'black bread'

      b.   netta ḏ   a-meqqwṛan bezzaf.

            he   CPRT M-big   very

            'He is very big.'

Strikingly, adjectives of Arabic origin, which are not morphologically integrated and are, therefore, non-nominal, appear without the predicative particle *ḏ* (Oomen 2012):

(63) y-etban   eyyi   mṭewweṛ   Oomen 2012

      3MSG-appear.IMPF   1SG.DAT   smart

      'He seems smart to me.'

The distribution of the predicative particle does not follow from the hypothesis that it instantiates Pred^0: not only does it fail to appear with PP predicates, it is also conditioned by the nominal nature of the predicate. While it could be argued that Pred^0 is not lexicalized the same with different predicates (and is realized as the phonological zero where it fails to surface), independent grounds for such an assumption are necessary and moreover, it already presupposes the existence of PredP and therefore cannot be used as evidence for it.

4.5. Lexicalization patterns

If predication must be mediated by a functional head whose semantics is the same for APs, NPs and PPs, we expect either no categorial differences with respect to its overtness or random lexicalization (in some languages it would only be overt with APs, in others with PPs and NPs, in yet others three different lexical items would be used, etc.). The observed pattern, however, is regular in a way not expected from the PredP hypothesis because the presence of an overt predicative particle depends on the lexical category of the predicate (Hengeveld 1992, Stassen 1997, Pustet 2005). While PP predicates never appear with predicative particles,[11] a predicative particle appears with AP predicates in a language only if it also appears with NP predicates. In other words, the lexicalization pattern of predicative particles does not follow from the

hypothesis that they lexicalize a functional head that obligatorily mediates all predication. Some additional assumptions are necessary.

The cross-linguistic absence of an overt $Pred^0$ with PP predicates could be attributed to its incorporation into the preposition itself, but once again it places the burden of proof on the proponents of PredP analyses: some independent evidence for the existence of $Pred^0$ with PP predicates must be provided before it can be argued that its lexicalization fails for an otherwise unmotivated reason. Likewise, the implicational hierarchy in the lexicalization of the copular particle with AP and NP predicates does not follow from the simple assumption that they both must be merged as complements to $Pred^0$. While it is not unreasonable to hypothesize that the observed pattern will follow once the proper role of $Pred^0$ (e.g., the semantics enabling it to introduce AP and NP predicates) is established, doing so requires establishing this role and the existence itself of $Pred^0$ first.

One proposal to that effect comes from Hengeveld 1992, noting the independently known fact that in different languages or within the same language adjectives can be "more verbal" or "more nominal". Hengeveld proposes that it is the latter type that gives rise to an overt mediator in the predicative position, and we will see shortly support for this proposal.

Independent evidence for gradation in the concept of an adjective, from more nominal to more verbal, comes from languages where two types of adjectives are available: Japanese (Dixon 1977, Miyagawa 1987, Kubo 1992, Nishiyama 1999, Baker 2003b, Backhouse 2004, etc.), the Cariban language Macushi (Abbott 1991 via Dixon 2004), various Bantu languages including Zulu (Doke 1927, Posthumus 2000,

Stassen 1997:168, etc.), the Tibeto-Birman language Manange (Genetti and Hildebrandt 2004), etc. A clear illustration of the split comes from Japanese, where adjectives are divided into "verbal" and "nominal" on the basis of their morphology and the use of the copula:

(64) Canonical ("verbal") adjectives (65) Nominal adjectives

    a.   yama-ga   taka-i.   a.   yoru-ga   sizuka da.

         mountain-NOM high-PRES   night-NOM quiet   COP.PRES

         'The mountain is high.'   'The night is quiet.'

    b.   yama-ga   taka-katta.   b.   yoru-ga   sizuka datta.

         mountain-NOM high-PAST   night-NOM quiet   COP.PAST

         'The mountain was high.'   'The night was quiet.'

(66) a.   Taroo-ga   [utukusi-i]   tori-o   mita.   Yamakido 2000

         Taroo-NOM beautiful-PRES bird-ACC   saw

         'Taroo saw a beautiful bird.'

    b.   Hanako-ga   [kirei na] hana-o   katta.

         Hanako-NOM pretty COP flower-ACC bought

         'Hanako bought a pretty flower.'

Both types of adjectives can combine with degree operators and modifiers or function as non-intersective modifiers (Yamakido 2000):

(67) Max-ga   kanzen-na   baka da.

Max-NOM   complete-PRES   fool   COP.PRES

'Max is a complete fool.'

If it is *a priori* possible for adjectives to exhibit more or fewer nominal properties, it can be assumed that the predicative particle with adjectival predicates in a language reflects the more nominal nature of adjectives (as a category) in that language. This predicts that in languages where adjectival predicates are introduced by predicative particles adjectives would generally exhibit a more nominal behavior. This hypothesis is confirmed for both Welsh and Eastern Riffian, where adjectives and nouns share a number of properties usually associated with nouns. In particular, as discussed in Matushansky 2012b, Welsh adjectives do not form adverbs (the particle *yn* is also used for VP-modification), they combine with prepositions in the absence of any noun, their mode of combination with nouns can reasonably be treated as compounding and they trigger agreement on their own modifiers, as do nouns. Importantly, Welsh differs in this respect from other Celtic languages, which do not use predicative particles with adjectival predicates. The link between the use of the predicative particle and the nominal nature of an adjective is supported by Eastern Riffian integrated and non-integrated adjectives, as discussed above, and by Telugu, where the marker -*gaa*, which is obligatory with AP predicates and induces transient interpretation of NP predicates (Balusu 2014), also correlates with the core semantics of adjectives as property concepts rather than predicates.

The semantic role of the predicative particle can therefore be hypothesized to be the enabling of predication, but only for NPs and most likely not in the sense

envisaged by Bowers, since we will still assume that the core meaning of the noun is that of a predicate (as needed for NP-internal composition). Instead we hypothesize that the need for a predicative particle arises due to the fact that true predication requires more transience than is natural for a nominal predicate. It is therefore to ensure that the contrast between intrinsic and extrinsic properties (i.e., classification, including identity, vs. temporary property ascription) that the predicative particle is used. Hypothesizing that adjectives in Eastern Riffian and Welsh denotes quality concepts rather than properties allows for a certain alignment of morpho-syntactic and semantic factors here, although a proper analysis has to be left for future work.

4.6. Copular particles: conclusion

Copular particles have been hypothesized to be lexicalizations of $Pred^0$, but a careful cross-linguistic study shows that their distribution does not support this hypothesis. First of all, in no language do predicative particles proper appear with PP predicates,[12] which entails that PP predicates should be treated differently (cf. Baker 2003a; potential evidence for this also comes from the cross-linguistically frequent requirement to use stance verbs rather than verbal or nonverbal copulas with PP predicates, see Stassen 1997). Secondly, the predicative particle appears to be strongly linked to nominal predication, and in two languages where AP predicates appear with a predicative particle it can be shown that adjectives systematically manifest some nominal properties. Thirdly, in a case study of the Welsh predicative particle we have discovered that its distribution does not in and of itself match what would be expected from $Pred^0$ – while some of these mismatches can be accounted for by assuming incorporation, others cannot. The lack of information on Eastern Riffian prevents us

from a comparable in-depth analysis, but given the close link between the use of a predicative particle and the nominal nature of the AP predicates, the least that can be said about PredP analysis is that it does not account for it. Conversely, it becomes possible to hypothesize that at least in Welsh and Eastern Riffian the predicative particle functions as either a marker of nominal predication or as a semantic operator turning a time-stable property denoted by an NP into a more transient property that is required for predication (as opposed to identity). The proper formalization of this operator is impossible without a much more detailed discussion of the two languages than is possible in the format of one paper.

I emphasize again that for a number of cases, including those where the copular particle is only used in copular clauses, the distribution of the copular particle can be accounted for in the PredP approach – for instance, by hypothesizing its incorporation into a higher head. However, given that the cross-linguistic distribution of copular particles does not correspond to what we would have expected for $Pred^0$, it cannot be used as an empirical argument for $Pred^0$. In other words, had we not started with the assumption that nonverbal predication has to be mediated, we would not have arrived at the PredP hypothesis as a natural explanation for copular particles. It would be missing an underlying generalization, I contend, to extend to all predication the pattern that can be only observed with nominal predicates.

5. OTHER PUTATIVE OVERT PREDICATORS

Summarizing what we have seen so far, in languages that have copular particles these latter do not have the distribution expected from $Pred^0$. However, some elements in

more familiar languages have also been hypothesized to lexicalize Pred^0. Such elements include *as* and *for* (Emonds 1985, Aarts 1992, Bowers 1993, 2001, Starke 1995, den Dikken 2006) and their cross-linguistic counterparts (Bailyn 2001, 2002 for Slavic, Eide and Åfarli 1999 for Norwegian), as well as the Russian *v* 'in' (Bailyn 2002).

(68) a. Mary takes John **for** a fool.

b. Jessamine views her mother **as** her best friend.

(69) a. My sčitaem ego svoim.   Russian (Bailyn 2001)

we consider him.ACC self.POSS-INS

b. My sčitaem ego **kak** svoego.

we consider him.ACC AS self.POSS.ACC

c. My sčitaem ego **za** svoego.

we consider him.ACC FOR self.POSS.ACC

'We consider him as one of us.'

(70) a. Vi fant Marit (*som) naken/ *(som) nervevrak.   Eide and Åfarli 1999:160

we found Mary SOM naked/ SOM nervous.wreck

b. Vi så Jon (*som) rasende/ *(som) spùkelse.

we saw John SOM furious/ SOM ghost

c. Vi returnerte pakken (*som) uåpnet/ *(som) flypost.

we returned parcel.DEF SOM unopened SOM air.mail

d. Han ankom selskapet (*som) maskert/ *(som) sjørøver.

he arrived party.DEF SOM masked/ SOM pirate

e. Hun levde og døde (*som) ensom/*(som) eneboer.

she lived and died SOM lonely/ SOM hermit

(71) Jeg betrakter denne mannen som svært dum. Eide and Åfarli 1999:161

I regard this man.DEF as very stupid.

(72) On rešil vybrat'sja v prezidenty. Russian

he decided elect.INF.REFL in presidents.ACC=NOM

'He decided to get elected as president.'

Regarding their distribution, what is true for the English *as* and *for*, namely, that their use is heavily restricted, is also true for the counterparts of these elements in other languages. So far, we have argued that this restriction entails that the putative lexicalization of $Pred^0$ cannot be used as evidence for the existence of $Pred^0$, and the same argument can be used in this case: the distribution of such putative overt predicators as *for*, *as*, *in*, etc., is not that expected of the head of a small clause. The argument can be made stronger in certain cases, where it can be demonstrated that the putative overt predicator does not look like $Pred^0$ even if we assume that the head of a small clause is overt only in a subset of small clauses.

One case in point is the Russian *v* 'in' in examples like (72), where, Bailyn 2002 suggests, the case on the plural NP is nominative, agreeing with the subject of the small clause, rather than the accusative (which must surface as genitive for an animate NP, like *presidents*) that the preposition *v* 'in' should assign here. An alternative is proposed by Mel'čuk 1985:461-482, Franks and Pereltsvaig 2004 and Marelj and Matushansky 2010: if it is assumed that a normally animate NP can in this context be treated as inanimate (which its interpretation, the appropriate profession or calling,

rather than a set of individuals, is fully compatible with), then the nominative case-marking on it is the normal surface realization of accusative for inanimate NPs. Supporting this view is the fact, noted by Mel'čuk 1985, that *v* 'in' can also combine with mass nouns denoting the entire profession – and the case is clearly accusative:

(73) On pošel/xočet   v aviaciju.

      he   went/wants   in aviation.ACC

      'He went/wants to go into aviation.'

The plural NP in (72) and the mass noun in (73) have a very similar interpretation, and both, as also noted by Mel'čuk, preserve it in two more environments. In addition to the "become" use, contributed by the directional interpretation of the preposition, there also exist parallel constructions of persistence in the state (74a) and discontinuation of the state (74b) with the corresponding locative prepositions:

(74) a. On služil v soldatax/   armii.

          he   served in soldiers.LOC army.LOC

          'He served as a soldier.'

     b. Ego   vygnali   iz   lëtčikov/   aviacii.

          him.ACC chased.PL from pilots.GEN aviation.GEN

          'He was kicked out of aviation.'

While the animacy of the plural NP complements of the locative prepositions cannot be determined on the basis of these examples, their interpretation as denoting

the appropriate profession or calling is shared with that of the plural NP complement of *v* 'in' in examples like (72) – and with the corresponding mass nouns. Clearly, neither fact can be accounted for by the hypothesis that the preposition *v* 'in' in examples like (72) is $Pred^0$: $Pred^0$ is not expected to combine with mass nouns denoting professions, nor does it appear likely that the locative prepositions in (74) also constitute realizations of $Pred^0$, which would need to be assumed: if the small-clause structure is hypothesized for the "become" examples like (72), it would need to be assumed in their "stay" and "cease" counterparts in (74).

Similarly, evidence can be provided (Marelj and Matushansky 2015) that in examples like (75) *for* is just a preposition. In English, Serbo-Croatian and Russian it can be shown that *for* c-selects NPs, to which it assigns accusative, as the preposition *for* does in its directional usage in Russian and Serbo-Croatian. The NP hypothesized to be the subject of the *for*-small clause does not behave as such with respect to anaphor binding, yet shows exactly the behavior expected from the direct object of the verb. The verbs that combine with *for*-PPs generally do not combine with clear small clauses, and vice versa: verbs that unquestioningly combine with small clauses generally do not combine with *for*-PPs.

(75) a. Imogen takes/mistakes him **for** a fool.   English

   b. Uzima   me   **za** budalu.   Serbo-Croatian

      take.3SG   me.ACC   FOR fool.ACC

      'She/he takes me for a fool.'

c. My prinjali   ego   **za**   duraka.   Russian

we take.PAST.PL   him.ACC   FOR   fool.ACC

' We took him for a fool.'

Given these facts, it is simpler to assume that in examples like (75) *for* is just a preposition, and Marelj and Matushansky 2015 also show that the semantics of attitude ascription can be derived from the component parts of a change-of-possession verb and the preposition *for* in its "replacement" interpretation. In other words, for the specific case of *for* in the three languages above the PredP hypothesis does not explain the facts, which turn out to be more easy to derive from the more straightforward assumption that *for* is a preposition.

It is unquestionable that evidence of this kind cannot be unhesitatingly extrapolated from one language to another. For instance, in French (see Starke 1995) *pour* 'for' has a less restricted distribution in that it can also combine with AP predicates:

(76) a.   Je le   tiens pour fidèle   à   ses amis…

I   3SG.ACC hold for   faithful to   his friends

comme sa claymore l'est   à sa   main

as   his claymore   3SG.ACC+is to his hand

' I grant him true to friendly band, // As his claymore is to his hand. '[Sir Walter Scott, *La Dame du Lac* (*The Lady of the Lake*), Canto II:XIV; transl. by Albert Montémont]

b.   son visage est sans   attraits   et je la tiens pour stupide.

        her face   is without attractions and I her hold for   stupid

        ' Her face is unattractive and I consider her stupid. '[Étienne Léon Lamothe-Langon (baron de), *Mémoires et souvenirs d'une femme de qualité, sur le Consulat et l'Empire*, vol. 4, p. 274. Paris, Mame et Delaunay-Vallée, 1830.]

Does this mean that in French *pour* 'for' is more likely to be a lexicalization of Pred^0? In order to answer this question, it is necessary to examine its distribution in more detail. I contend, however, that at this point the issue should not even be raised. In the absence of evidence in favor of PredP in unquestionable small clauses (sections 2-3), the presence of a functional element in far less obviously predicational structures, even if proved, does not entail anything about canonical small clauses: even if it is demonstrated that the overt elements in examples like (68)-(72) are indeed required to mediate predication, their presence and role can be straightforwardly attributed to the fact that the structures they appear in are sufficiently different from canonical small clauses to require such mediating elements. We conclude that the so-called "overt predicators" discussed in this section cannot be taken as evidence for the existence of a functional head in small clauses.

6.   CONCLUSION AND FURTHER QUESTIONS

Summarizing what has been established here on both the theoretical and the empirical sides, it can be concluded that the PredP hypothesis is not substantiated by facts. Given that in canonical small clauses no overt material intervenes between the subject and the predicate of a small clause, the postulation of a null functional head there,

which is, moreover, obligatory, has to be motivated either by theoretical considerations or by semantic ones.

On the theoretical side, as has been shown in section 2, theory-internal arguments for $Pred^0$ have either become obsolete or are amenable to independently motivated alternative analyses: for instance, Raising-to-Object can explain how what looks like a segment (the predicate to the exclusion of the subject of the small clause) can be fronted, while the constraints on the coordination of unlikes can be shown to be semantic in nature.

On the empirical side, from the point of view of compositional semantics there doesn't seem to be any role that $Pred^0$ can fulfill. If we assume, with Bowers, Baker and den Dikken, that it enables the predicate to take a subject, and make an attempt to formalize this hypothesis in the standard Montagovian approach, a number of problems arise, discussed in section 3.1. An attempt to link $Pred^0$ to event semantics (section 3.2) likewise fails. In other words, not only is there no developed theory of the semantic contribution of $Pred^0$, but an attempt to create one leads to what seems to me to be insurmountable problems.

Turning now to the putative overt instantiations of $Pred^0$, i.e., copular particles, in section 4, we have seen that their behavior does not follow from the PredP hypothesis. The main, most striking property of predicative particles is that they never appear with PP predicates. On the assumption that small clauses with PP predicates are PredPs this gap in the distribution of the putative $Pred^0$ is inexplicable. Setting PP predicates aside does not help: even if we limit our attention to AP and NP predicates the distribution of copular particles is limited in ways that do not follow from the

hypothesis that they lexicalize $Pred^0$. More specifically, cross-linguistically copular particles generally occur with NP predicates only, and if they appear with AP predicates, then they also appear with NP predicates. This pattern would be unexpected if copular particles lexicalized $Pred^0$; the alternative that I advance here is that copular particles are indeed limited to NP predicates and either mark ascriptive (as opposed to classificatory) predication or enable it (see also Adger and Ramchand 2003). Evidence for this view comes from the fact that in languages where predicative particles systematically occur in small clauses with AP predicates (a small set consisting of Welsh and Eastern Riffian) adjectives can be argued to be nominal on independent morphosyntactic grounds.

A brief incursion into other elements hypothesized to be "overt predicators", such as the English *as*, *for* and *in* and their cross-linguistic equivalents, showed that these elements do not support the PredP hypothesis either: while for some of them an alternative analysis can be provided, for others it can simply be argued that the distribution of the constituents that they should be heading is not that of small clauses – for instance, they do not appear with verbs that normally take propositional arguments.

To conclude, the null functional head in small clauses is not a theoretical necessity in the current state of minimalist syntax, it is semantically, to say the least, unmotivated, and on the empirical side, the equation of $Pred^0$ with any overt element does not seem to lead to correct predictions. The question now arises of establishing what the structure of a small clause is if it is not headed by a functional head. The most straightforward answer would seem to be to reject a categorially unified analysis

and to extend Stowell's analysis of small clauses as lexical projections to more complex cases by treating predication as the last thematic merge to an extended projection of a lexical head:

(77) a.

```
              VP
          ┌───┴────┐
        V⁰         DP
        │      ┌────┴──────┐
    consider  DP₁          DP
             Elise    ┌────┴────┐
                     DP₂        D′
                    Anna    ┌───┴───┐
                           D⁰      NP
                           │    best friend
                           's
```

b.

```
              VP
          ┌───┴────┐
        V⁰         NP
        │     ┌────┴─────┐
    become   DP          NP
            Elise    a good sister
```

c.

```
              VP
          ┌───┴────┐
        V⁰        DegP
        │     ┌────┴──────┐
     seem    DP₁         DegP
            Elise    ┌────┴─────┐
                    DP₂        Deg′
                 four times ┌───┴───┐
                          Deg⁰      AP
                           │    intelligent
                           as
```

d.

```
              VP
          ┌───┴────┐
        V⁰         AP
        │     ┌────┴────┐
     make    DP         AP
            Elise     French
```
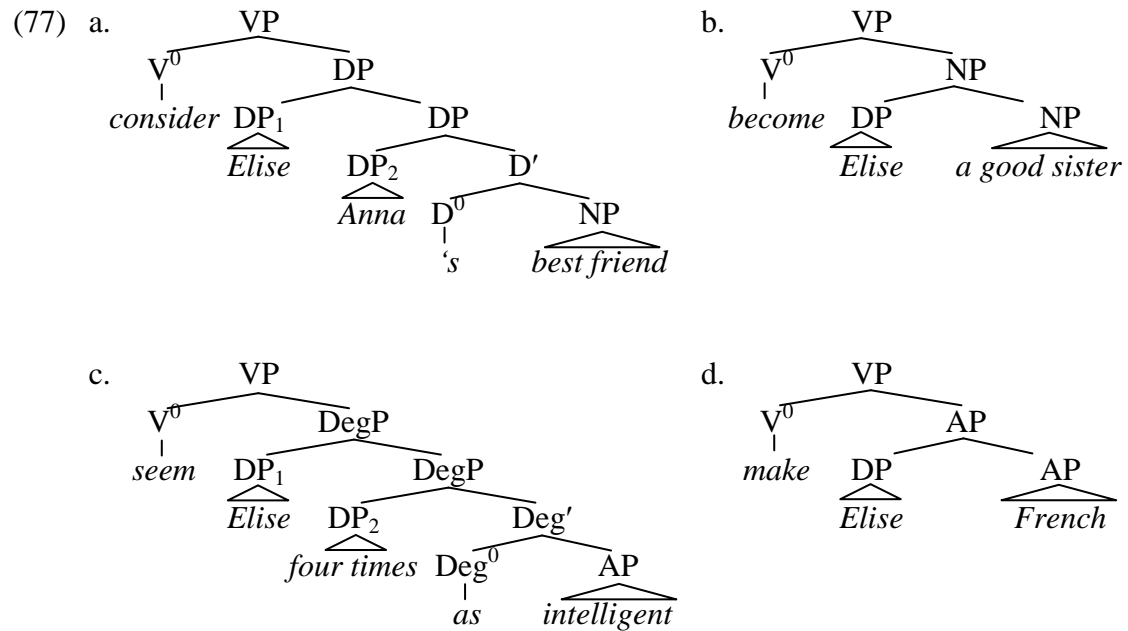
The fact that the structures in (77) are non-uniform with respect to lexical category has positive consequences as well as potentially negative ones. Starting with the former, the fact that the lexical category of the predicate of a small clause is visible from the outside makes it possible for us to account for the c-selection restrictions discussed in section 1 (with all the caveats about the potential alternative explanation in the terms of s-selection). The clearest case of such a restriction is the cross-linguistic categorial constraints on resultatives: while PP resultatives are generally allowed, AP resultatives are rare and NP resultatives are the rarest of all. A c-selectional restriction does not explain this hierarchy, but at least provides a handle for these cases (especially if we do not view lexical categories as atomic, regarding them instead as complexes of features, allowing, for instance, for nominal and verbal

adjectives). Conversely, postulating the same head for all small clauses leads us to expect them all to have the same distribution, contrary to fact.

The hypothesis that small clauses have the lexical category of their predicate appears to also make some questionable predictions. One is that AP small clauses are expected to have the distribution of an AP, NP small clauses – of an NP, etc. Semantic factors, however, can easily explain why this situation does not obtain: a DP or NP denoting an entity (type e) is not expected to have the same distribution as a DP or NP denoting a proposition (type $\langle s, t \rangle$) for reasons having nothing to do with their lexical category.

Less clear is the status of specifiers. To take an extreme case, consider (77a) and (77c), where DP_1 and DP_2 are specifiers of the same functional head (DP and DegP, respectively). At first blush the same syntax is incorrectly predicted, yet a closer consideration reveals that the two DPs differ in so many other properties (theta-role assignment, case-marking, hierarchical position, semantic type, derivation by external or internal merge, etc.) as to make this prediction unverifiable.

Finally, it could be objected that the non-uniform analysis in (77) fails to account for the fact that all of these structures are small clauses. I contend, however, that structural uniformity is not necessary; what small clauses have in common is their semantics: the predication relation with its resulting propositional denotation. Under this view, the fact that the small-clause subject is the subject of a DP in (77a), of an NP in (77b), of a DegP in (77c) and of an AP in (77d) is immaterial because the distribution of a small clause is primarily determined by its propositional denotation (and other properties of small clauses follow from their distribution). Postulating

syntactic uniformity in addition to this not only seems superfluous, but, as we have seen above, does not find any basis in fact – there is no evidence that small clauses are headed by one and the same functional head. I conclude that the PredP hypothesis, while esthetically pleasing, has no evidence in its favor.

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[1] Proposition-like constituents containing a verbal predicate (e.g., *See [Spot run]*) or constituents containing no functional projections or verbs (e.g., *a [star visible]*) have also been proposed as

candidates for small clauses. As the latter have neither the same distribution nor the same semantic type as canonical small clauses, I will be disregarding them here; verbal small clauses will be discussed below.

[2] In the current state of the theory, a degree word, such as *more* or *how*, indicates the presence of another functional projection, DegP, that it is either the head (Abney 1987, Bowers 1987, Corver 1990, 1991, 1997a, b) or the specifier (Bowers 1975, Jackendoff 1977, Heim 2000, Bhatt and Pancheva 2004) of. The problem is then exacerbated, as [Spec, DegP] is not available as a subject position under either view. We address this issue in the next subsection.

[3] It is frequently (and incorrectly) claimed that LCA (Kayne 1994) is incompatible with multiple specifiers. For a discussion see Abels and Neeleman 2006.

[4] It must be made clear at this point that Chierchia's work is concerned with the finite/non-finite opposition in VPs, associating the standard property/set interpretation with finite verbs (e.g., in *John runs*) and attributing its entity-correlate interpretation to their non-finite counterparts (e.g., in *John tried to run*). The question which of these two interpretations is derived from the other is not raised, since Chierchia assumes that a VP is ambiguous between the two and does not discuss the compositional semantics implicit in the finite/non-finite opposition; if anything, the semantic relation between predicates and their entity-correlates derives the latter from the former by the mechanism of nominalization ($\cap$).

Chierchia and Turner's work, on the other hand, explicitly assumes that the entity-correlate interpretation of VPs is basic, but also only discusses the finite/non-finite opposition on the empirical side.

Finally, the assumption that lies at the core of Bowers' proposal is also approximated by Bealer's (1982) first-order theory of properties, which assumes that all properties are primitives combined with their subjects by a distinguished 2-place logical predicate Δ that expresses the predication relation. However, given that this theory assumes (p. 82) that Δ is expressed by the copula

and does not consider NP-internal composition or (obviously) small clauses, it need not concern us here.

None of this work, to my mind, can or should be taken as evidence for $Pred^0$.

[5] Some further doubts about this approach come from the observation (Uchihara 2010, Grashchenkov and Markman 2008, Rothstein 2005) that small clauses pass at least some diagnostics for eventualities, obviating the need for an eventuality argument introduced by *be*. On the other hand, Engelberg 2005 demonstrates that some of these eventuality diagnostics also apply to attributive adjectives. The question itself remains open therefore of whether the eventuality argument is absent in the predicate to begin with.

[6] In addition to the Welsh *yn*, Bowers 2001 suggests that $Pred^0$ can be realized overtly in Korean (*kye*). To the best of my knowledge, however, the particle *key* (sic!, Kim and Maling 1997, one of Bowers' references, and Wechsler and Boh 2001) only appears in resultative small clauses, in infinitive-like clauses and to mark an adverb.

[7] Generalizations and examples in this section not attributed otherwise come from Matushansky and de Dreu 2009.

[8] While Baker consistently uses high tone on the copular particle (*yé*) and low tone on the preposition (*yè*), Ogie indicates opposite tone markings. I will not attempt to regularize Edo phonology here.

[9] While some potential evidence for the presence of *yé* in reduced relative clauses can be drawn from the fact that the underlyingly low-tone complementizer acquires the high tone in (i), Omoruyi 1986 does not pose an underlying copular particle there and does not discuss the tonal change; I do not have sufficient knowledge of Edo phonology to hypothesize what it is due to:

    (i)   òkhùò [nè mòsèmòsè] $\Rightarrow$ némòsèmòsè   Omoruyi 1986:298

          woman   that beautiful.A

          'a beautiful woman'

[10] For the Welsh data below I am indebted to Peredur Davies-Webb and Gwenllian Awbery, where not indicated otherwise. While the latter rejects the placement of the *yn* before a differential adverb, the former permits it, along with the possibility of having *yn* both before and after a differential measure phrase (57c). I have no explanation for this contrast.

[11] To recall, by a predicative particle we understand a functional item that occurs with nonverbal predication in small-clause environments not limited to the copular clauses. The distribution of copular verbs and nonverbal copulas follows the same pattern, although occasional exceptions occur, such as the appearance of the Hebrew generic nonverbal copula *ze* with PP predicates (Greenberg 1994, 1998), the need for a stance verb (*stand*, *sit*, *lie*...) or a special copular verb for PP predicates.

[12] The problem is most severe for the hypothesis (den Dikken 2006) that all predication must be mediated: either PP predicates should be attributed some special status (which is difficult, given that even VP modifiers are now generally treated as predicates over events and therefore a linking element would be expected even if a PP is not regarded as the main predicate in a small clause), or some reason should be provided for why $Pred^0$ is never overt with PPs. Obligatory incorporation is not independently motivated nor is its result expected to always be identical to the preposition itself.