Functional categories: FLN or FLB?

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Hauser *et al*. 2002 distinguish FLN (*Faculty of Language in the Narrow sense*) from FLB (*FL in the Broad sense*). Syntactic theory distinguishes Lexical (L) from Functional (F) categories. We propose that there are two types of F-cats with the following properties: (i) FLN F-cats are universal, obligatory and type-rigid; FLB F-cats are not; (ii) FLN fixes a lower bound on categorical inventories (L-forms, D, T), but no upper bound; (iii) The number of F-cats is not fixed, *contra* Cinque (1999). Distinguishing FLN from FLB F-cats provides a solution to the following problems: (i) inventory; (ii) selection; (iii) ordering (iv) class size, and (v) gradience.

1. Unsolved problems relating to Functional categories

1.1 Universality: Only some F-cats are universally attested. Some analyses posit a universal F-cat inventory, and allow languages to differ according to whether F-cats are overt or covert (Cinque 1999). Other analyses parameterize F-cat inventories (Ritter & Wiltschko 2009).

1.2 Ordering: The idea that F-cats have a fixed order (Cinque 1999) fails to account for their ordering: some F-cats don't have a fixed position (NEGATION, Ouhalla 1991; EVIDENTIALITY, Blain & Déchaine 2007); some forms don't have a fixed F-cat realization (*that* is D or C).

1.3 Selection: Only some F-cats select for an L-cat: D selects N, T selects V (Abney 1987). Moreover, D and T categorize L-cats (1) (Borer 2005). Other F-cats are type-flexible: Squamish PLURAL (2) occurs on N or V, as does French QUANTITY (3), and Plains Cree ASPECT (4).

(1) a [$_{D}$ ***the*** [$_{L=N}$ *saddle*]]
b [$_{T}$ ***will*** [$_{L=V}$ *saddle*]] D/T

(2) a *hiyi ta* ***mex****-mixalh big*
DET **PL**.REDUP-bear big
'The **bears** are big.'
b *lha Linda na* ***kw'elh****-kw'elh-nexw-as ta stakw* PL
DET L. REL **PL**.REDUP-spill-TR(LC)-3ERG DET water
'Linda **spills** the water **all the time**.' (Bar-el 2005)

(3) a *J'ai lu* ***beaucoup*** *de livres.*
1SG have read many of books
'I read many books'
b *J'ai* ***beaucoup*** *lu cet été.* QUANT
1SG much read this summer
'I read a lot this summer' (cf. Obenauer 1983)

(4) a *ni-mosôm-****ipan***
1-grandfather-PRETERITE
'my late grandfather'
b *Aspin nîmihito-nâniw-****îpan***. ASP
there dance-indef.actor-PRETERITE
'There had been dancing there' (Wolfart 1973)

1.4 Class size: Some analyses equate closed-class with F-cat status (Abney 1987). But class size is not a reliable F-cat indicator, as any L-cat can be closed-class (Rijkhoff 2002b, Dixon 1982, Emonds 1985), including V (Australian), N (Northern Iroquoian), A (Niger-Congo), and P.

1.5 Gradience: Some forms are semi-lexical (Corver & van Riemsdijk 2001). Semi-lexical verbs include auxiliary, aspectual and light Vs. Semi-lexical Ns include classifier Ns (Rijkhoff 2002a) and measure Ns (Borer 2005). Semi-lexical As include size and quantity adjectives (Morzycki 2009). Semi-lexical Ps include grammatical and aspectual Ps (Zaring 1991, Zwarts 2005).

2. Our proposal: there are two types of F-categories

Hauser et al. (2002:1572*f*.) suggest that FLB is based on mechanisms shared with nonhuman animals, while FLN is uniquely human and has been exapted from previous adaptive functions. The FLN/FLB distinction is mirrored in the F-cat system. All languages distinguish arguments from predicates (Gil 2005). Argument expressions arise when D Merges with an L-form to satisfy referential anchoring, (5)a. In the absence of referential anchoring, as property-denoting expressions, L-forms must be temporally anchored; this is satisfied by Merging T with an L-form, (5)b. This defines the lower bound: all languages have: (i) L-forms: (ii) argument

expressions (anchored by D); (iii) predicates (anchored by T). Recursive Merge derives transitive structures (6); as well as the distinction between predication and equation (7).

(5) a [**D** [L]] b [**T** [L]] REFERENTIAL/TEMPORAL ANCHORING

(6) a [L] b [L [$_D$ L]] INTRANSITIVE/TRANSITIVE

(7) a [T [[$_D$ L] [L]]] b [T [[$_D$ L] [$_D$ L]]] PREDICATION/EQUATION

2.1 Solving the universality problem: Definiteness (D) and finiteness (T) define the core F-cats (Muysken 2008): they are conceptually necessary, and by hypothesis are FLN F-cats. They are universal (present in every language) and obligatory (present in every sentence). The set of FLN F-cats also includes argument-typing and clause-typing F-cats, e.g. Kase and Comp, (8). As for FLB F-cats: they are non-universal and non-obligatory: PLURAL, QUANTITY and ASPECT may be present but need not be; when present in a grammar, they need not be present in all sentences.

(8) a [**K** [**D** [L]] b [**C** [**T** [L]]] ARGUMENT- /CLAUSE-TYPING

2.2 Solving the ordering problem: The type-rigid/type-flexible distinction solves the ordering problem. FLN F-cats, because they are type-rigid, necessarily occur in a fixed position. Argument-typing is possible only if an argument expression has been formed; clause-typing is possible only if a predicate expression is temporally anchored. In contrast, FLB F-cats are type-flexible and so may be introduced into any layer of the extended nominal or verbal projection.

2.3 Solving the selection problem: FLN F-cats are type-rigid and provide a unique context of identification. D provides a unique context of identification for argument expressions, T provides a unique context of identification for predicate expressions. In contrast, FLB F-cats are type-flexible and do not provide a unique context of identification: the F-cats PLURAL (2), QUANTITY (3) and ASPECT (4) combine with either argument or predicate expressions. The type-rigid/type-flexible distinction reflects FLN/FLB properties respectively. Because FLN F-cats are constrained by referential and temporal anchoring, they respect the argument/predicate divide, and strictly select for complement type. In contrast, FLB F-cats are not constrained in this way: they cross the argument/predicate divide and do not select for complement type.

2.4 Solving the class size problem: That L-cats can form closed-classes is consistent with vocabulary size being emergent (Hauser *et al.* 2002). All F-cats form a closed-class, but not all closed-classes are F-cats.

2.5 Solving the gradience problem: The existence of a semi-lexical closed-class within each L-cat—Borer's (2005) "twilight zone"— is an outcome of recursive Merge.

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