Extended Projection

1 Syntax and morphology: any hope?
   - Back to Zwicky

(1) Morphological determinant
   a. The morphological constituent that intuitively ‘dominates’ its co-constituents and so ‘determines’ the category of the construct.
   b. In some construct of category Z one of the constituents, of category X, is largely restricted to occurring within constructs of category Z, while its co-constituent, of category Y, occurs in constructs belonging to a number of categories in addition to Z. As a result, Z can be predicted on the basis of X, but not on the basis of Y.

(2) a. -ness = nominal ‘constructs’
   b. Adjectives occur in different constructs:
      i. bluish (A)
      ii. widen (V)
      iii. happiness (N)

(3) Syntactic determinant
   a. (i) The syntactic constituent that intuitively ‘dominates’ its co-constituents and so ‘determines’ the category of the construct.
   b. In some construct of category Z one of the constituents, of category X, is largely restricted to occurring within constructs of category Z, while its co-constituent, of category Y, occurs in constructs belonging to a number of categories in addition to Z. As a result, Z can be predicted on the basis of X, but not on the basis of Y.

(4) Zwicky discovers that “syntactic determinants are semantic functors.”

(5) In light of Hudson’s discussion, we can conclude, contra Zwicky, that there is a coherent notion of head which spans both syntax and morphology, and it can be grounded in independent facts about the grammar.

2 Grimshaw 2005

2.1 Introduction

(6) “Generalized X-bar theory”: All categories are projections of some head.

2.2 Extended Projection

(7) Extended projection
   a. Projections of lexical heads form larger projections of some kind with the functional heads above them
   b. the formation of such projections depends on identity of category

(8) Three lexical categories: V, N, A (e.g. Baker 2003)

(9) a. V [+V,-N] F0
    b. I [+V,-N] F1
    c. C [+V,-N] F2

(10) a. N [-V,+N] F0
    b. D [-V,+N] F1
    c. P [-V,+N] F2

(11) Projection
    X is a head of YP, and YP is a projection of X iff:
    a. YP dominates X,
    b. the categorial features of YP and X are consistent,
    c. there is no inconsistency in the categorial features of all notes intervening between X and YP (where a node N intervenes between X and YP if YP dominates X and N, N dominates X.)
Two options for extended projection

- The F-value of X is lower than the F-value of YP
- The F-value of X is not higher than the F-value of YP (“no increase”)

X is a perfect head of YP and YP is a perfect projection of X iff: X is a head of YP and the F-value of X is the same as the F-value of YP.

### 2.3 Possible Head Complement Relations

Possible head-complement relations with a lexical head

- V-PP, V-DP, V-NP, V-CP, V-IP, V-VP
- N-PP, N-DP, N-NP, N-CP, N-IP, N-VP
- Are all of the combinations above really possible?

Functional head-complement relations

- C-IP, I-VP
- P-DP, D-NP

Impossible head-complement relations

- I-NP, I-DP, I-PP, I-CP
- D-VP, D-IP, D-CP, D-PP
- C-NP, C-DP
- P-VP, P-IP
- I-IP, D-DP

Generalized Theta Criterion

Every maximal projection must be part of an extended projection that receives a role.

Lexical head - complement: Semantic role assignment, e.g. theta marking

F-head - complement: Extended projection (“F-selection”)

I-IP, D-DP —> Which of the options in is correct?

- [CP that [CP that IP]]
- the book next to my friend
- we got off of the horse
- the book on top of the table

### 2.4 Projection and locality

Do verbs select for NP or DP?

- [DP D [NP N]]

“Without Extended Projection, properties of the lexical head N or V project to NP or VP, properties of the functional head D or I to DP or IP, but properties of the lexical head do not project to DP or IP.”

### 2.5 Semantic selection

- They merged the files/*the file.
- They amalgamated the files/*the file.
- They combined the files/*the file.

They asked a question.

They asked whether Mary was leaving.

They asked that Mary was leaving.

- They wondered a question.
- They wondered whether Mary was leaving.
- They wondered that Mary was leaving.
2.6 Agreement

(25)  a. the dogs are  
     b. *the dogs is

(26) The hypothesis space
     a. D automatically “inherits” the features of N (extended projection)  
     b. N is the head.  
     c. Ambiguous the

(27)  a. We arranged for him to leave at 6. (*left)  
     b. We thought that he left at 6. (*to leave)

(28)  a. We requested that he leave/*left at 6.  
     b. We thought that he left/*leave at 6.

(29) The hypothesis space
     a. C automatically “inherits” the features of T (extended projection)  
     b. T is the head  
     c. Ambiguous that

(30) Complementizer Agreement in West Flemish (Haegeman 1991)
     a. …da Jan noa Gent goat.  
        “…that Jan to Ghent goes.”  
     b. …dan Jan en Pol noa Gent goan.  
        “…that Jan and Pol to Ghent go.”  
     c. But: Complementizers can agree upwards, with matrix subjects (see Diercks to appear on Lubukusu and (appar- 
        ently) Finer 1997 on Selayarese)

(31) Non-local agreement in Korean
     a. ai-tul-i sensayngnim-kkey-tul yelsimhi-tul cilmun-ul ha-ko-tul iss-ta  
        child-PLU-NOM teacher-DAT-PLU intently-PLU question-ACC do-COMP-PLU be  
        ‘The children are asking questions to the teacher intently.’  
     b. “the Spec of IP is plural, making I plural. Since I and IP form an extended projection with the CP, the CP is plural  
        by projection, and its head can thus be plural marked. Assuming that the NP is a complement to the verb ha-,  
        and the PP and Adverb are in specifier positions of VP projections, downward projection of the plural feature  
        from I will allow them to be plural marked as well.”  
        teacher-PLY-TOP Kim-NOM mother-ACC school-LOC-(PLU) bring-COMP-PLY thought  
        ‘Teachers thought that Kim would bring his mother to the school.’

(32) Nominal concord: German, Moro
     a. dies-e schön-e blau-e Büch-er  
        ‘These pretty blue books.’  
     b. n̄-ini n̄-ento n̄-ajara  
        CLSG-dog CLSG-one CLSG-big  
        ‘one big dog’

(33) Potential problem: “Over-agreement”
     a. Why doesn’t the West Flemish CP with a plural head trigger plural number agreement on a verb?  
     b. Why don’t a noun and a possessive DP specifier have to agree in number?  
     c. Why don’t all specifiers have to agree with each other?  
     d. “A number of factors affect the exact predictions made for agreement:”
        (i) what is truly a specifier?  
        (ii) what are the feature characteristics of the various heads of an extended projection?  
        (iii) which features project and when?
2.7 Wh phrases and projection

(34) Pied piping: evidence that P is in the extended projection of N?
   a. The stone which they found a note under ...
   b. Which stone did they find a note under?
   c. The stone under which they found a note ...
   d. Under which stone did they find a note?
   e. The woman who they gave the job to ...
   f. Who did they give the job to? . The woman to whom they gave the job .... To whom did they give the job?

(35) A deeper problem:
   a. I wonder which book they read.
   b. I wonder whose book they read.
   c. I wonder whose mother’s friend’s book they read.

(36) a. *I wonder a book about whom they read.
   b. I wonder who they read a book about.

(37) a. I wonder very proud of whom they are.
   b. I wonder how proud of him they are.

(38) Appositives?!
   a. That man, a book about whom you have read, ...
   b. That man, very proud of whom they are, ...

2.7.1 Head movement

(39) Head movement is generally contained within an extended projection
   a. V-to-I-to-C (e.g. German)
   b. N-to-D (e.g. Italian) (to P?)

(40) Incorporation is a potential challenge (N-to-V, V-to-V, P-to-V)

(41) ‘A head can move into a position with a higher F value, or perhaps only to a position with an F-value that is not lower than that of the head itself. (p. 28)’

2.8 Category neutrality and apparently mixed extended projections

(42) Possible cases of mixed projections
   a. gerunds
   b. psychological predicates
   c. copula constructions
   d. “other complements to determiners” (see paper for references)

(43) The hypothesis space
   a. The constructions involve lexical heads with complements, not a single extended projection
   b. These combinations do form single extended projections, but their categorial description is not example as the earlier characterizations have assumed. (Grimshaw’s move)

(44) More specifically:
   a. There is no category mismatch.
   b. The head or complement is not in reality a member of the category it appears to belong to.
   c. Instead, the heads/complement are neutral between two categories.
   d. Two possibilities:
      (i) The head is neutral, and the complement belongs to one of the two, an extended projection is formed.
      (ii) The complement is neutral, the head belongs to one, an extended projection is formed.

(45) a. N: [+nominal]
    b. V: [-nominal]
c. V/N neutral: [-]

(46) Mixed projection must respect the F-value constraints.

(47) a. Their studying this problem will not be useful.
    b. I resent Mary’s eating cooking in front of me.

(48) ?

(49) Hypothesis A
    a. D is category neutral.
    b. *One/the/an eating cookies is enough to ruin one's diet.
    c. “However, this solution results in the verbal category being projected from the complement to the functional projection, which gives the wrong results.”

(50) Hypothesis B
    a. Gerunds are category neutral.
    b. Mary’s constantly eating cookies is blowing her diet.
    c. Mary’s constant eating of cookies is blowing her diet.

(51) Problems in IP: Copular clauses
    a. She is in the house/angry/the winner.
    b. Chung (1990) claims that in Chamorro, VP, AP, DP/NP, PP can all be complements of I.

(52) Problems in AP: Degree heads take adjectives and adverbs as complements
    a. very tall
    b. very quickly
    c. Proposal: Deg is neutral between adjective and adverb

(53) a. Adj: [+cat1 -cat2]
    b. Adv: [+cat1 +cat2]
    c. Deg: [+cat1]

2.9 Complementizers and Prepositions

(54) CPs do not have the distribution of nominals
    a. CPs are impossible after prepositions
    b. Grammatical after passive verbs:
        It is believed [that this man robbed a bank in California]
    c. Occur as relative clauses
        The man [that Mary met] was the robber.

(55) Multiple complementizers
        Bill-TOP John-NOM come-past-DECL-SUB thinks
        ‘Bill thinks that John came.’
    b. “The notion that there is just one entity called a ‘complementizer’ is clearly incorrect.”
(56)  a. Luis dijo que cuántos libros (que) deben leer los estudiantes para ese curso.
     L said that how many books (that) must read the students for that course
   b. Evidence for the idea that multiple heads of the same F-value can iterate.

(57)  a. Ps with P complements
     Since before the party, he hasn’t seen her.
     b. Down toward the children, the hot lava poured.
     c. From inside the house, a loud noise came.

(58)  The solution: prepositions can have different F-values.

(59)  Are prepositions functional heads?

(60)  Functional heads (?)
     a. belong to a closed lexical class
     b. can be phonologically or morphologically dependent on other material
     c. take only one kind of complement
     d. have complements which are not arguments
     e. are inseparable from their complement
     f. lack “descriptive content”

(61)  Zwarts (1995)
     a. Dutch ‘directionals’ (from, to, to) are functional
     b. others (out of, through, along) are lexical
     c. Functional prepositions
        (i) Never intransitive
        (ii) do not appear in compounds
        (iii) do not allow extraction
        (iv) always precede their complement
        (v) do not take PP complements

(62)  a. *Before which party has he not seen her since?
     b. Toward which children did the hot lava pour down?
     c. *Inside which house did a louse noise come from?

(63)  a. ?Since before which party has he not seen her?
     b. ?Down toward which children did the hot lava pour?
     c. ?From inside which house did a loud noise com?

(64)  a. Since which party has he not seen her?
     b. Down which street did the hot lava pour?
     c. From which house did a loud noise come?

(65)  a. since: F4 or F3
     b. before: F3
     c. the: F1
     d. party: F0

3 References