On the intermediate categories in English*

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Kim, Jong-Bok. 2016. On the intermediate categories in English. *Linguistics Research* 33(1), 177-191. Categorization in language is intended to capture generalizations among expressions, and traditional wisdom has posited a set of the lexical categories or parts of speech for English. However, issues have been arising if the simple list of lexical categories such as N, V, Adj, and P is enough to capture shared grammatical properties among the observed expressions in English. In this squib, I suggest that in addition to the decomposition of lexical categories by features, we also need to posit intermediate lexical categories, such as *nominal, verbal*, and *adverbial*. **(Kyung Hee University)**

1. Introduction

Categorization is to classify concepts into categories on the basis of commonalities. The traditional grammar of English has taken that its lexical category (parts of speech) includes noun, verb, adjective, adverb, preposition, and so forth, as represented in the simple hierarchy:

(1)   parts-of-speech

noun   comp   verb   adj   prep   adv   particle, ...
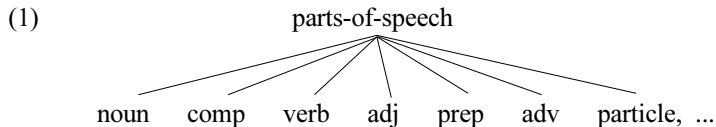
Chomsky (1970, 1973) and others have observed that such primitive lexical categories miss some key generalizations among lexical categories, and proposed that the major categories are decomposed by the binary features [N +/−] and [V +/−]:

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(2)   a. noun = [N +, V −]
       b. verb = [N −, V +]
       c. adjective = [N +, V +]
       d. preposition = [N −, V −]

The feature decomposition of the major syntactic categories in this way, for instance, allows us to capture generalizations in the cleft construction. Observe the following data set (see Aarts 2007):

(3) a. John came to see me. – It was [John] that came to see me.
    b. I met her in Seoul. – It was [in Seoul] that I met her.
    c. I made my brother study English. – *It was [study English] that I made my brother.
    d. I made my brother happy about the plan. – *It was [happy about the plan] that I made my brother.

What these examples tell us is that unlike NPs or PPs, VPs or APs cannot be in the postcopular focus position. The feature decomposition in (2) then expresses this sharing property by simply stating that only [V −] can be focused.[1]

The job of categorization, however, is not always clear. For example, there are degrees of membership. Consider the following examples:
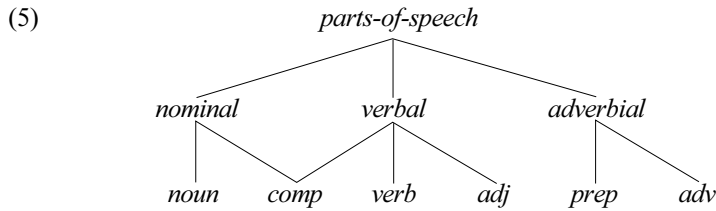
(4) a. They came in.
    b. They are planning to do swimming this summer.

What is the category of *in* in (4a) or that of the expression *this summer* in (4b)? We cannot simply assume that the former is a preposition while the latter is a NP, since they both behave like adverbial expressions. As such, natural categories tend to be fuzzy at their boundaries and inconsistent in the status of their constituent members.

In this squib, I suggest that English requires to posit intermediate categories like *nominal, verbal*, and *adverbial* as represented in the following taxonomic structure:

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[1]   Jackendoff (1977) introduces binary features such as [subject +/−], [object +/−], [complement +/−], and [determiner +/−] to decompose all the lexical categories including article, degree adverb, particle, and so forth.

(5)

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                          parts-of-speech
              ┌────────────────┼────────────────┐
           nominal          verbal          adverbial
            ┌──┴──┐      ┌─────┼─────┐       ┌──┴──┐
          noun  comp   verb       adj     prep   adv
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As given in the hierarchy, the top of the taxonomy, *parts-of-speech*, is the most general type for the lexical category. Middle or intermediate types, *nominal, verbal,* and *adverbial* are perceptually and conceptually the more salient. The subordinate level categories, *noun, comp, verb, adj, prep, adv,* and others are the most specific ones. They belong to the basic level categories, having identifiable, individuating features. In this squib, I argue for the need to postulate the intermediate categories to capture some generalizations among lexical categories.

2. The intermediate category *nominal*

There is a subcategorization generalization that we need to consider with respect to the property of verbs that select a CP. As noted in Kim and Sag (2005) and Kim and Sells (2008), most of the verbs that select a CP can also select an NP:

(6) a. John believed it/that he is honest.
    b. John mentioned the issue to me/mentioned to me that the question is
       an issue.

An ensuing question is if we need to introduce two lexical entries for such verbs or we can have a simple way of representing such a pattern? The intermediate category *nominal* in (5) can give us an answer to this.

According to the hierarchy, the type *nominal* is a supertype of both *noun* and *comp*. In accordance with the basic properties of the hierarchy, an element specified as [POS *nominal*] then can be realized either as [POS *noun*] or [POS *comp*]. Each of these will be projected into the phrasal types NP and CP, respectively. The hierarchy in (5) implies that the subcategorization pattern of English verbs may refer

to (at least) one of these three types, *noun, comp*, or *nominal*. Consider the following patterns:

(7) a. She pinched [his arm] as hard as she could.

b. *She pinched [that he feels pain].

(8) a. We hope [that such a vaccine could be available in ten years].

b. *We hope [the availability of such a vaccine in ten years].

(9) a. Cohen proved [the independence of the continuum hypothesis].

b. Cohen proved [that the continuum hypothesis was independent].

The data indicate that each main verb here has different subcategorization requirements. The part-of-speech type hierarchy in (5) allows us to formulate simple lexical constraints that reflect these requirements. For example, given the hierarchy introducing intermediate categories like *nominal*, we can represent the argument structure of the verbs, *pinched*, *hope,* and *proved,* as the ones given in the following:

(10)   a. [ARG-ST <NP, XP[POS *noun*]>]

b. [ARG-ST <NP, XP[POS *comp*]>]

c. [ARG-ST <NP, XP[POS *nominal*]>]

In each class, the ARG-ST value specifies the argument elements that the verbs select. The POS value represents the part-of-speech type that a word passes on to the phrases it projects. These three patterns thus illustrate that English transitive verbs come in at least three varieties. Observe that the ARG-ST of *prove* in (10c). The second argument bears *nominal*, implying that its complement can be realized either as an NP or a CP. This is what we can see in (9).

Different from these three types, we also find verbs like *bother* that can select a CP as its subject. Observe the following:

(11)   a. [John] bothers me.

b. [That John snores] bothers me.

(12)   a. [John] loves Bill.

b. *[That John snores] loves Bill.

The contrast here means that verbs like *bother* can have either an NP or a CP as its subject while those like *love* allow only an NP subject. Once again the intermediate category *nominal* allows us to represent this in an economical way.

(13) a.
$$\begin{bmatrix} \langle \text{bothers} \rangle \\ \text{SPR} \quad \langle \boxed{1}[\text{POS } nominal]\rangle \\ \text{COMPS} \langle \boxed{2}\text{NP}\rangle \\ \text{ARG-ST} \langle \boxed{1}, \boxed{2}\rangle \end{bmatrix}$$

b.
$$\begin{bmatrix} \langle \text{loves} \rangle \\ \text{SPR} \quad \langle \boxed{1}\text{NP}\rangle \\ \text{COMPS} \langle \boxed{2}\text{NP}\rangle \\ \text{ARG-ST} \langle \boxed{1}, \boxed{2}\rangle \end{bmatrix}$$

These different realizations all hinge on the lexical properties of the given verb, and only a limited set of verbs including *bother* allow the dual realization described by (13a).

Note that not only a CP but other clausal types can also occur as the subject:

(14)   a. [That John sold the ostrich] surprised Bill.
          (*that*-clause CP subject)
       b. [(For John) to train his horse] would be desirable.
          (infinitival CP or VP subject)
       c. [That the king or queen be present] is a requirement on all Royal weddings.
          (subjunctive *that*-clause CP subject)
       d. [Which otter you should adopt first] is unclear.
          (*wh*-question CP subject)

Once again, as given in (15), we observe that not all verbs allow such a clausal subject. Lexical properties of each verb may determine the possible category of its subject.

(15)   a. *That Fred was unpopular nominated Bill.

     b. *That Tom missed the lecture was enjoyable.

     c. *For John to remove the mother is undeniable.

     d. *How much money Gordon spent is true.

In the present categorization system with intermediate categories, we can represent the difference between the two verbs *nominate* and *surprise* as following:

(16)   a.
$$\begin{bmatrix} \langle \text{nominate} \rangle \\ \text{SPR} \quad \langle \boxed{1}\text{NP} \rangle \\ \text{COMPS} \; \langle \boxed{2}\text{NP} \rangle \\ \text{ARG-ST} \; \langle \boxed{1}, \; \boxed{2} \rangle \end{bmatrix}$$

     b.
$$\begin{bmatrix} \langle \text{surprise} \rangle \\ \text{SPR} \quad \langle \boxed{1}[\text{POS } \textit{nominal}] \rangle \\ \text{COMPS} \; \langle \boxed{2}\text{NP} \rangle \\ \text{ARG-ST} \; \langle \boxed{1}, \; \boxed{2} \rangle \end{bmatrix}$$

Unlike *nominate*, the first argument of *surprise* can be realized as a *nominal* specifier. This means that its subject (specifier) can be realized either as an NP or as a CP.

One more point worth noting is that the *nominal* category also includes the gerundive verb. Consider what can function as the prepositional complement of the expression *to*:

(17)   a. They object to [a religious ceremony].

     b. They object to [paying for the coverage].

The prepositional complement can be either an NP or a gerundive phrase. Note that a clausal gerundive can also function as the prepositional complement:

(18)   a. They object to [him speaking in the public forum].
          b. The others did not seem to object to [her taking on this role].

What this means is that the phrases projected from the intermediate category *nominal* (including *noun, comp,* and *gerundive*) can all function as the prepositional complement.

3. The intermediate category *verbal*

In the previous section, we have seen the need to introduce the intermediate category *nominal* to capture subcategorization generalizations among the verbs. The hierarchy (5) introduces another intermediate category *verbal* which subsumes the lexical category *comp, verb,* and *adjective,* and whose necessity we discuss in what follows.
     Consider the following object extraposition examples:

(19)   a. Nobody expected (it) of you [that you could be so cruel].
          b. I want you to take care not to mention (it) to anyone that I am
             here.

As illustrated here, the expletive *it* is optional. Note that verbs like *expect* are quite flexible in terms of its complement types.

(20)   a. Nobody expected [his success].
          b. Nobody expected [anything] of me.
          c. Nobody expected [that you could be so cruel].
          d. *Nobody expected [that you could be so cruel] of you.
          e. Nobody expected it of you [that you could be so cruel].
          f. Nobody expected of you [that you could be so cruel].
          g. Nobody expected [you could be so cruel].
          h. *Nobody expected [you could be so cruel] of you.
          i. ?Nobody expected of you [you could be so cruel].
          j. ?Nobody expected it of you [you could be so cruel].

What we can observe from these data set is that the verb *expect* can, as its complement, combine with an NP, a CP or even an S. It can also select the optional expletive it, a PP, and a CP in the order. However, it does not select a CP and PP in the order. Verbs like *mention* and *require* also belong to this group. As noted in (21), these verbs can combine either with an NP or with a CP complement:

(21) a. They never mentioned the issue before/that he liked contemporary music.
      b. They require further information/that the information be available soon.

Just like *expect*, these verbs take the expletive *it* as an optional complement:

(22) a. We require (it) of our employees that they wear a tie.
      b. I forgot to mention (it) to you that she wants to study abroad.

How can we capture the subcategorization flexibility of such verbs? We first can assume that verbs like *expect* select a [HEAD *verbal*] element as its ARG-ST element:

(23) [ARG-ST <NP, XP[POS *verbal*], (PP[*of*])>]

Note various realization possibilities of this simple lexical entry. Given that the PP is optional here, the second *verbal* argument can be realized either as a CP or an S:

(24) a. [ARG-ST <NP, CP[POS *comp*]>]
      b. [ARG-ST <NP, S[POS *verb*]>]

These two will license examples like (20c) and (20g). Also as suggested by Kim and Sag (2005), this lexical entry, selecting a verbal argument, then can function as the input to the Extraposition Lexical Construction, as shown in (25):

(25)

$$\begin{bmatrix} \text{ARG-ST} \langle \boxed{1}\text{NP, NP}[it], \boxed{3}\text{PP}[of] \rangle \\ \text{EXTRA} \langle \boxed{2}\text{CP/S} \rangle \end{bmatrix}$$

$$\begin{bmatrix} \text{ARG-ST} \langle \boxed{1}\text{NP}, \boxed{2}[\text{POS } verbal], \boxed{3}\text{PP}[of] \rangle \end{bmatrix}$$

This means that a word that selects a verbal argument can be projected into another word whose ARG-ST value introduces the expletive *it* and whose verbal category is realized as the value of EXTRA. The mother will then project examples like (20e) and (20j). Examples like (20d) and (20h) are ruled out by an independent constraint that no element can occur after a verbal expression as in the following (see Kuno's (1987) Ban on Non-sentence Final Clause Constraint):

(26)   a. I explained [to them] [that the world is round].
       b. *I explained [that the world is round] [to them].

The constraint accounts for why examples like (22) are licensed while those like (20d) and (20h) are not.

   The *with* absolute construction offers another supporting instance to the supposition of the intermediate category *verbal.* The absolute construction, introduced by *with* or *without*, consists of an accusative subject and a predicate, forming a non-finite clause (Stump 1985, Kortmann 1991):

(27)   a. [With the children so sick], we weren't able to get much work
          done.
       b. [With Tom out of town], Beth hastily exited New Albany and fled
          to Ohio.
       c. [With Bush a born-again Christian], the public already had a sense
          of where he would stand on those issues.
       d. They were standing against the wall [with their hands above their
          heads].

The predicate in the absolute constructions needs to be a stage-level predicate, or

else introduced by a copula:

(28) a. With [him (being) injured], the team was eliminated from the State Cup.

b. With [the dog (being) exhausted], we finally got to eat dinner in peace.

c. With [him (being) sick with the flu], Ann was out of school for two weeks.

d. [With Sue *(being) vegetarian], we never got to eat anything we liked.

e. [With my friends *(being) European], we could travel without any Visas.

The absolute *with* can also be accompanied by *what* and can license a coordination, supporting the constituent analysis:

(29) a. What with [the prices being so high] and [my wife being out of work], I can't afford to buy new refrigerator.

b. What with [his daughter working for the bank] and [his son working for the airlines], no one would be take care of the little sisters by the day.

We cannot take the expressions after *with* or *what with* to form an NP since we can observe clausal properties in them:

(30) a. What with [it raining all day long], I didn't get a chance to hang the washing out.

b. With [the cat out of the bag], there is not much point in trying to hid the truth.

The subject in (30a) is the expletive *it* while the one in (30b) is the idiomatic subject. Further sentential properties of the absolute construction are observed in various syntactic phenomena from the attested data:

(31) a. At least Doc was probably safe back there now, what with [Mad Dog Tannen arrested and all]. (passivization)
   b. What with [there being no possibility of advancement], Linda is determined to find a new job. (*there* insertion)
   c. What with [his daughter working for the bank and his son [e] for the airlines], no one would be take care of the little sisters by the day. (gapping)
   d. What with [Emil obviously afraid of snakes and all], we sent him home. (S-adverbs)
   e. What with [everything all dug up], you can't trust a slant. (quantifier floating)

Phenomena like passivization, *there*-insertion, and gapping are all sensitive to sentence level expressions, supporting the bracket expression here forms a clausal unit like a SC. In some cases, the SC appears without *with*, as shown in (32).

(32) a. The weather being cold, the children stayed at home.
   b. The sun having set, they made a fire.
   c. He left the room, the dog following him.

Even though there is no expression introducing the nonfinite clause, the clause functions as a subordination clause whose meaning with respect to the matrix clause depends on context. As in the absolute construction, this subordinate clause can have an AP, an NP, or a PP as its predicate:

(33) a. [His face pale with anger], he stormed out of the room.
   b. The contestants, [some of them primary school children], were kept waiting for two hours.
   c. There he sat, [his back against the hot stones of the tower].
   d. [His dad tired from work], John drove by himself.

In these examples, it is obvious that the bracket part is a constituent, modifying the main clause. Coordination further supports the existence of a clause:

(34) a. [sc [His house flooded] and [his wife missing]], John cried on
       Brown's shoulder.
    b. [sc [No food in the fridge] and [no money left in the account]],
       John didn't know what to do.

Having no overt expression determining the structure of the bracket expression, it appears to be reasonable to assume that the SCs are coordinated in such sentences. We propose to model these clauses as in (35):

(35)   what-with + S[*verbal, nonfin*]

This means that the what-with construction will combine with a nonfinite verbal expression licensing the examples we have seen.

4. The intermediate category *adverbial*

The most common type of modifiers or adverbial expressions are projections of an adverb or preposition:

(36) a. The bus stopped [suddenly].
    b. They went to the theater [in London].

Of course, even categories like VPs can function as an adverbial expression (or modifier), as observed from the following data:

(37) a. They want to go to Seoul [to meet friends].
    b. He left the house, [putting the coat on].
    c. The arrow disappeared, [broken into two pieces].

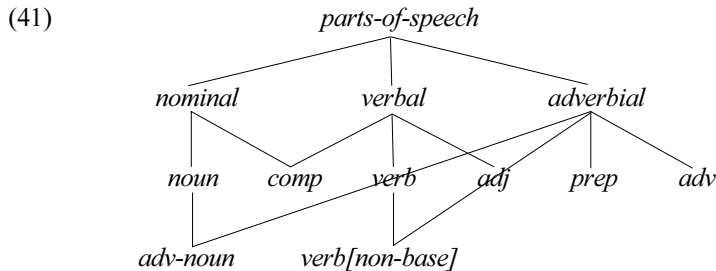Adjectives can be modifiers either in the prenominal or postnominal position:

(38) a. It was a [nice] house.
    b. The [swiftly flowing] waters carried it away.

(39)   a. He is the man [gentle with charm].
　　　b. The man [proud of his son].

In addition, a limited set of nominal expressions denoting a temporal or duration point can function as an adverbial expression:

(40)   a. There will be a forum [this week].
　　　b. The little cat devoured a mouse [last night].

These set of data imply that the proposed hierarchy in (5) needs to be modified as the following:

(41)

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                         parts-of-speech

         nominal            verbal          adverbial

      noun     comp     verb      adj     prep      adv

         adv-noun        verb[non-base]
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This revised hierarchy means that most of the lexical categories can serve as a modifier. As for the verb, the base-form verb cannot function as a modifier:[2]

(42) They work hard *(to) pass the exam.

The postulation of the intermediate category *adverbial* thus can express what kind of expressions projected from a lexical category can perform the function of adverbial.

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[2]   The verb form value can be classified into finite and nonfinite ones. The nonfinite ones include base, infinitive, *-ing*, and *-en*. The VP projected from the verbal head with the infinitive, *-ing* and *-en* vform value can function as a modifier. See Kim and Sells (2008) for the verb form values.

5. Conclusion

Categorisation based on prototypes is the basis for human development, and categorization in language is not an exception either. Among the categorization issues rooted in the language user's mind, this squib argues for the need to introduce intermediate categories like *nominal, verbal* and *adverbial* in English.

We have seen that the supposition of these categories can bring us insignificant generalizations which we would lose otherwise. This also hints that the rigid, simple lexical categorization that has been assumed in the traditional grammar needs to be reconsidered.

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