THE ROLE OF ASPECTUAL FEATURES
IN MORPHOLOGY

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This paper argues that the process of morphological derivation involves not only the inheritance of thematic properties of argument structure but also that of aspectual features attributed to the conceptual structure in the sense of Jackendoff 1987. As evidence for this, it is shown that the restriction on the attributive use of the adjectival passive participle can be described in terms of the conceptual structure of the base verb. The unacceptability of the compounding of some adjectival passive participles, which would pose problems for Levin & Rappaport’s 1986 analysis, is explicable under my analysis. It leads us to an interesting claim as to the modularity of syntax and morphology.*

1. INTRODUCTION. Analyses of adjectival passive constructions (APs) in the framework of generative grammar have been chiefly concerned with the question of what kind of arguments of the base verb may be predicated or modified by the adjectival passive participle (APP) derived from it. While many of them (Anderson 1977, Bresnan 1982, Wasow 1980, Williams 1981) argue in terms of thematic roles and agree that it is restricted to the Theme of the base verb, Levin & Rappaport 1986 (henceforth L & R) showed that such a constraint referring to a particular thematic role is untenable.1 They presented an analysis based on the syntactic properties of the base verb; it follows from the general principles of GB theory and dispenses with all special rules for the derivation of an

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1 Dryer 1985 also argues against the Theme analysis.
AP except for category conversion. Their point is that the argument structure without any semantic information (lexical-thematic properties, in their terms) of a base verb and the categorial properties of the derived word as an adjective would suffice for determining which argument to externalize. Their analysis also implies that how the syntactic and thematic properties of the base verb are inherited by the derived APP is automatically determined through the process of category conversion.

One of the purposes of this paper is to reexamine and refine L & R's proposal from the aspect of semantics or conceptual structure; if the APP inherits thematic properties from the base verb and the alteration of the status of the arguments is the by-product of conversion, a similar process should be assumed for other (non-thematic) semantic properties as well. I will propose that they are inherited in the form of the conceptual structure which Jackendoff 1987 proposed. His model enables the representation of various types of event structures by the combination of thematic structure and aspectual structure.

The other purpose of this paper is to explore the distribution of the attributive APPs. I will demonstrate that the restriction on the attributive use of APPs should be explained in terms of the conceptual structure of the base verb, which would support my first proposal. As is well known, attributive APPs are more restricted than predicative ones, a fact which L & R as well as many other works have ignored. Even if L & R's analysis is on the correct line as to the derivation of the APP itself, it would not suffice for explaining the restriction on the attributive use of the APP. I will show that it is restricted under two semantic conditions which could not be formulated without the semantic information along with the argument structure or thematic grid.

I begin by formulating the two assumptions I have roughly sketched above, and in Section 3 I will give data to illustrate my analysis. In observing the APPs derived from verbs that take two obligatory arguments, I turn to the distribution of APP compounds, because the Projection Principle requires such APPs be accompanied by the complement. It will be shown that the unacceptability of some compounds is inexplicable in syntactic terms but can be explained by my semantic approach. Further observations on compounds incorporating predicative adjectives also turn out to provide further support for my approach.

What interests us most is that the restriction on the attributive APPs is quite similar to the revised versions of Affectedness Constraint proposed by Tenny 1987 and Yumoto (forthcoming) which explain the restriction
on the movement of an object of the derived nominal into the NP-Spec position. A brief discussion on this point is given in conclusion.

2. **ASSUMPTIONS.** In this section I present two assumptions which will account for the range of possible attributive APPs. One is the assumption that semantic features represented in the form of conceptual structure à la Jackendoff 1987 are inherited through the morphological derivation. The other is that the temporariness of the APP, which makes its attributive use unacceptable, should be determined by the aspectual properties of the event described by the base verb in conjunction with the role of the externalized argument in its conceptual structure.

2.1. **INHERITANCE OF THE CONCEPTUAL STRUCTURE.** Current works on the inheritance in morphological derivation have chiefly dealt with the inheritance of the subcategorization frame and argument structure (or θ-grid) (e.g. Lieber 1983, Randall 1982, Roeper & Siegel 1978, Selkirk 1982, Williams 1981), and the question as to the inheritance of nonthematic semantic properties has been left untouched. I believe it is worth considering what kinds of semantic features are inherited and how they are affected through each morphological derivation. I propose here that the derivation of the APP also involves the inheritance of aspectual properties from the base verb; they crucially determine the value of a certain feature of the adjective, as will become clear in the next section.

The inheritance of semantic features in the process of APP derivation was not completely ignored by previous works, but in most cases it was loosely handled. Bresnan’s (1982: 23) formulation of Participle-Adjective Conversion describes the semantic difference between the verbal passive participle and the APP by the operation on lexical form which includes the syntactic property as well:

\[
\text{Participle-Adjective Conversion} \\
\text{Morphological change: } V_{[\text{part}]} \rightarrow [V_{[\text{part}]}]_A \\
\text{Operation on lexical form: } P(. (\text{SUBJ}) ..) \rightarrow \text{STATE-OF P (. (SUBJ) ..)} \\
\text{Condition: } \text{SUBJ = theme of P}
\]

If we assume the semantic inheritance in the framework of GB theory,

\[2\] For example, Anderson (1977: 370) argues as if the semantic properties of the base verb were identical with the derived APP, which is obviously too strong a claim.
we should revise her formulation without referring to grammatical functions. For the reasons which will be made clear in the discussion below, I will follow Jackendoff 1987 and go into the argument based on the conceptual structure which he proposes. Owing to the lack of space I would like to point out only the advantages of his model relevant to my analysis.

According to Jackendoff, the conceptual structure consists of three tiers. One of them, 'temporal tier', represents the aspectual property of the event by two temporal primitives: $P$ (=a point in time) and $R$ (=a region in time). These primitives are connected with the other tiers which represent thematic and transitive relations for each subevent. For example, *hit* is given the conceptual structure like 1, which shows that by virtue of the motion to the object over an interval of time, the subject comes to act on the object at the termination of its motion.

\[
\text{(1) } [\text{Event GO } ([\text{Thing } i, \text{Path TO } ([\text{Thing } j])] ]]
\]

\[
\begin{array}{c}
R \\
\text{P} \\
\end{array}
\]

\[
[\text{Event ACT } ([\text{Thing } i, \text{Thing } j]) ]
\]

The indices are used to represent correspondence between syntactic and conceptual positions; for example, c-selection of *hit* is represented as $\_\text{NP}_j$. The position indexed $i$ is not coindexed with anything in the c-selection feature because it is the external argument. The only modification that affixation of the passive morpheme performs on the conceptual structure of the base verb is the deletion of the index that marks the subject. Thus the conceptual structure of the passive verb *hit* would be as follows where the logical subject is expressed as an implicit argument: 3

\[
\text{(2) } [\text{Event GO } ([\text{Thing } i, \text{Path TO } ([\text{Thing } j])] ]]
\]

\[
\begin{array}{c}
R \\
\text{P} \\
\end{array}
\]

\[
[\text{Event ACT } ([\text{Thing } i, \text{Thing } j]) ]
\]

Based on this model, let us assume that the conversion of a verbal passive participle into an adjective is accompanied by the following process of semantic inheritance:

\[
\text{(3) } [\alpha] \rightarrow [\text{State BE } ([\text{Thing } i, \text{Property RESULT-OF } [\alpha])] ]
\]

3 In order to guarantee the coreferentiality of the implicit arguments in the two tiers, Jackendoff assumes a binding relation between arguments. See Jackendoff 1987, §10.
where α is a conceptual structure of the verbal passive participle and the indices for conceptual arguments are changed as a concomitant result of the category conversion. The function RESULT-OF is inherently temporal; it takes Event as the variable, and if the Event has the end-point (P), it might be eliminated by some inference rules, which I have not formalized yet.\footnote{See Jackendoff (1987: 379) for an example of the formalization of inference rules.} Thus the conceptual structure of the APP hit might be represented as 4:\footnote{It should be noticed that Thingj in 2 is replaced by Thingi through category conversion because it is externalized. I am grateful to the anonymous reviewer of EL for making me aware of some of the problems of notation like this.}

\[(4) \quad [\text{State } \text{BE (}[[\text{Thing } ]], \quad \text{Property } \text{RESULT-OF } \left[ \text{GO (}[[\text{Thing } ], \text{path TO (}[[\text{Thing } ], P)]\text{)}\right] \right] \quad \text{R} \quad \text{P} \quad \text{Event } \text{ACT (}[[\text{Thing } ], [[\text{Thing } ], ]]\text{)]}]\]

2.2. A RULE GOVERNING THE TEMPORAL FEATURE OF THE APP. It is generally accepted that in most cases, prenominal adjectives (cf. 5a) designate permanent attributes that serve to classify the referent of a head noun, while postnominal ones (cf. 5b) designate temporary attributes, and predicative ones (cf. 5c) are ambiguous if their inherent meaning is vague as to temporariness. Therefore adjectives which describe a temporary condition are excluded from the prenominal position as is exemplified in 6:

\[(5) \quad \begin{align*}
\text{a. } & \text{the visible star} \quad \text{(nontemporary)} \\
\text{b. } & \text{the star visible} \quad \text{(temporary)} \\
\text{c. } & \text{The star was visible.} \quad \text{(ambiguous)}
\end{align*}\]

\[(6) \quad *\text{the faint girl, } *\text{the pale boy, } *\text{the ill child}\]

Yet the correlation between the position and the semantic function of the adjective is not so simple (cf. Quirk et al. 1985: 428-33 and Yasui et al. 1976: 45, 106-11); for example, an appropriate adverb or context might add the classifying force to a temporary adjective and improve the acceptability as in 7:

\[(7) \quad \begin{align*}
\text{a. } & \text{a seriously ill person} \\
\text{b. } & "\text{This book is short/*This is a short book} — \text{it's about right for that low shelf.}" \\
& \quad \text{"Hand me that short book you had."} \\
& \quad \text{(Bolinger 1967: 24)}
\end{align*}\]
The same restriction applies to the use of APPs as shown below:

(8) a. the closed door (nontemporary)
b. the door closed (temporary)
c. The door was closed. (ambiguous)

(9) a. *the hit boy, *the travelled land, *the taken money
b. the beaten boy, the broken vase, the wounded people

(10) the repeatedly hit boy, the well-travelled highway,
the illegally taken money

Therefore, we should presume that APPs, like ordinary adjectives, are also classified as to the feature [± temporary]. According to the generalization as to simple adjectives, it follows that the APPs acceptable in attributive position are specified as [-temporary]. Though we can presume that simple adjectives are inherently marked with such a feature in their lexical entries, as to derived adjectives, some process accompanying the category conversion to determine the value of this feature would be required. If the APP derivation causes the alteration of the conceptual structures of the base verb as was shown in 3 above, then it is expected that certain features inherited from the base verb should be relevant in determining whether the derived APP has the feature [-temporary].

Observations on the attributive APPs derived from various kinds of verbs have led me to the hypothesis that the conditions upon which the APP is marked as [-temporary] are formulated in terms of the conceptual structure inherited from the base ([a] in 3), namely:

(11) The conversion of a verbal passive participle into an adjective is accompanied by the addition of a feature [-temporary] if:

(i) the derived adjective describes (in its conceptual structure) the state resulting from the event with an endpoint (P) at which a certain result is specified, and

(ii) the argument which the derived adjective predicates (i.e. the external argument) is the unique argument which guarantees the completion of that event.

Some APPs might be unacceptable in the attributive position because of the effect of blocking; for example, cleaned and opened would be blocked by the corresponding adjectives clean and open.

As is suggested by Bolinger (1967: 2–6), there are more simple adjectives restricted to the attributive position than those restricted to the predicative position, while as to the APP, the reverse seems true. Therefore, [+temporary] rather than [-temporary] is the unmarked feature for the APP.
Rule 11 presupposes the process of semantic inheritance proposed in 3 and L & R's claim that the argument externalized through the conversion of the verbal passive participle into the APP is predicted from syntactic features of the base verb. The point is that the conditions of nontemporariness could not be expressed if it were not for the inheritance of aspectual properties from the base verb. I will show how this rule works in the next section.

3. DATA. In this section I will present data to justify the conditions proposed in 11, which would indirectly support the argument for the semantic inheritance instantiated by 3. We will examine not only the distribution of attributive APPs but also the range of possible compound APPs incorporating the complement. In most cases, compound APPs occur in prenominal position. It is primarily because the element incorporated within a word is nonreferential, which implies the inherency of the attribute expressed by the APPs. Secondly, according to the Gricean principle of conversation (the maxim of manner), the compound structure should be avoided except in the prenominal position, because as far as the configuration allows, the complement must be projected as a PP which would make its semantic relation to the head transparent. Thus the distribution of compound APPs is largely determined by the nontemporariness of the APPs.

The data are presented according to the argument structure of the base verbs and the type of event which the base verbs designate. Though the conceptual structure is not given for each APP, the discussion is always based on the conceptual structure inherited from the base verb in such a way as was assumed in 2.1.

As I have pointed out, attributive APPs with adverbial modifiers (including compounds incorporating adverbial adjuncts) may be accepted because of the classifying information given by the modifiers, so we should exclude them from our data in examining whether an APP bears the feature [-temporary] or not.

3.1. APPS DERIVED FROM VERBS WITH ONE OBJECT. If the base verb takes only one internal argument, that argument necessarily becomes the external argument of the derived APP, as pointed out by Yasui et al. (1976: 54) with 'transferred past participles' like the following:
arises. Let us examine how our semantic constraint attributed to Rule 11 affects the acceptability of the attributive use of such APPs.

It is easy to predict that APPs derived from causative verbs (e.g. 12) are acceptable in attributive position as in 13 because causative verbs definitely designate delimited events and imply the specific change of state of the object. The conceptual structure of the APP *broken* would be like 14 which leads to the implication that the result is specified as the state of being “BROKEN” and it is guaranteed solely by the filling of the argument [[Thing ]], namely the external argument:

(12) assassinated, bent, broken, burnt, closed, covered, damaged, destroyed, frozen, healed, imprisoned, painted, polished, published, renewed, ruined, sliced, torn, etc.

(13) assassinated Presidents, frozen fish, polished spoons

(14) \[\text{RESULT-OF } \text{CAUSE ([[Thing ]], [Event GO [[Thing ]], [BROKEN]])} \]

The APPs derived from ‘creation verbs’, which come under causatives, however, are the exception. Though they have an end-point (P) specified by the object’s coming into being, and thus satisfy the conditions in 11, they cannot be used attributively:

(15) *the made box, *cooked stew, *a built house, *a found rule

The reason for this can be found in the theory of information. These APPs add no new information to the referent of the modified nouns because both the existence of the referent and how it has come into being are presupposed for each noun. In other words, such APPs sound redundant as reference-modification, and are not allowed in the attributive position unless the modifiers or intensifiers qualify them as classifiers.

Now consider verbs with one object which designate instantaneous events (i.e. have only (P) in the temporal tier) without any implication of resultant change of state being specified such as *hit* (cf. 1 above). In

(i) an admitted rebel (= a man who is admitted to be a rebel)
(ii) the alleged conspirators (= the persons who are alleged to be conspirators)

It seems that indirect modification like this is available to a limited number of APPs and that it is not based on the regular mechanism of inheritance of argument structure, so I will not take up this matter in this article.

9 For a detailed discussion on reference- vs. referent-modification, see Bolinger 1967.
contrast to causative verbs, they do not have the corresponding attributive APPs as is predicted from 11.\(^{10}\)

\[(16) \ast \text{the hit boy}, \ast \text{the knocked head}, \ast \text{the taken money}, \ast \text{the touched point}\]

Among the noncausative transitive verbs, so-called "path accomplishment verbs"\(^{11}\) are of particular interest. Consider the following examples:

\[(17) \ast \text{the entered town}, \ast \text{the crossed desert}, \ast \text{the swum channel}, \ast \text{the travelled land}, \ast \text{the walked tightrope}\]

\[(18) \ast \text{the read book}, \ast \text{the performed play}, \ast \text{the watched program}, \ast \text{the expressed gratitude}, \ast \text{the observed rules}\]

The VPs corresponding to the NPs above represent accomplishment, though they do not imply any apparent change of state on the part of the objects. The orthodox version of Theme Analysis might rule out even the derivation of such APPs (at least those in 17) because they involve no explicit change on the part of the object. According to Tenny (1987: 80–86), however, the direct objects in such VPs come under 'affected objects' whose referents 'measure out' the event and 'delimit' it under her definition; for example, when a desert is crossed, or a play performed, the desert or the play represents an area or object through which the event proceeds and gives the measure to show the end-point. As evidence she points out that both the middles and the passive nominals with preposed objects (the phenomena which characterize 'affectedness' in her sense of the word) may be derived from these VPs.

I have no objection to the claim that the events described by these VPs with Path are 'delimited' and have a definite end-point. However, I do not agree with her claim that they are subsumed under 'affectedness verbs' (defined in terms of aspectual features), because the completion of the event can be characterized solely by the relation between the two arguments.\(^{12}\) For example, in the conceptual structure of the APP entered the thematic tier of enter 19a is embedded, from which the terminal state 19b would be inferred:

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\(^{10}\) It should be noted here that we should not rule out the derivation of these APPs though they seldom appear even as predicative adjectives because with an appropriate adverb, such APPs would be acceptable as true adjectives (e.g. the repeatedly hit boy, the illegally taken money).

\(^{11}\) I adopted the term from Wechsler 1989.

\(^{12}\) I owe this idea to Wechsler ibid.
19b shows that the termination of the event cannot be guaranteed without the participation of the implicit argument (Agent). Actually, according to the judgment of my informants, the middles and the passive nominals as well as the attributive APPs based on this class of verbs are all unacceptable contrary to Tenny's judgment. In my analysis, the examples in 17 and 18 are unacceptable because they do not satisfy lliii and thus do not bear the feature [-temporary].

3.2. APPS DERIVED FROM VERBS WITH TWO COMPLEMENTS.

3.2.1. THE CLASS OF PUT VERBS. First let us consider the APPs derived from trivalent verbs like put which take all the arguments obligatorily:

(20) a. I put *(the book) *(on the desk).
   b. Jack exchanged *(a cow) *(for beans).
   c. The teacher changed *(the liquid) *(into gas).
   d. The runner handed {a baton *(to me)/me *(a baton)}.
   e. He presented {a gift *(to the school) }
      {the school *(with a gift)}.
   f. Don’t place *(the grail) *(on the table).
   g. I was associated *(with him) in the enterprise.

L & R (p. 649) hold that in deriving an APP, only the argument to which an internal \( \theta \)-role is assigned directly (what they call ‘direct argument’) is allowed to be externalized. Thus if the base verb takes two obligatory complements, the one that does not undergo externalization should be projected as a PP complement. This naturally follows from the Projection Principle, the Case Filter and the properties of the adjective. Therefore the APs without PP complement like 21a and 21b are ruled out for syntactic reasons:

(21) a. *Gas seemed changed./*The runner remained unhanded.*The table remained neatly placed./*Scholars seem freely associated.
   b. The liquid seemed changed *(into gas)/The baton re-

Since Tenny herself admits (p. 83) that the middles and the passive nominals derived from verbs like enter or cross are “awkward”, and moreover, she gives the semantic definition of the affected argument as the following (to rule out GOALS), her argument is not convincing in this respect: “A semantic argument is an affected argument iff it independently delimits the event in which it participates” (p. 80).
mained unhanded *(to the anchor)./The books remained neatly placed *(on the table)./The businessman seems associated *(with scholars).\textsuperscript{14}

c. *(*gas-)changed liquid, the *(*anchor-)handed baton, *(*table-)placed books, *(*scholar-)associated businessmen

As to the attributive use of this class of APPs, the PP complement is not allowed configurationally, so L & R would rule them out whichever argument is externalized.

When we consider the compound structure of the APPs like 21c, however, the syntactic analysis seems to get stuck. As is shown in 22, the left-hand position of a verbal compound is an A-position; this is why the nominalization of a verb like tell, find or go is allowed only if it incorporates the complement to become a compound:

\begin{equation}
\begin{align*}
22 & \quad \text{a. *telling/story-telling} \\
& \quad \text{b. *finding/fault-finding} \\
& \quad \text{c. *going/church-going}
\end{align*}
\end{equation}

But then the unacceptability of the compounds in 21c is inexplicable; they satisfy the Projection Principle, and the direct argument of the base verb is chosen as the external argument.

Under our analysis, Rule 11 would offer a solution for this; these compounds are semantically deviant because the ordinary usage of a compound adjective (cf. p. 110) seems inconsistent with the temporariness of the head APPs in these compounds. Though they designate the state resulted from a delimited event, their completion is guaranteed only by the relation between the two internal arguments. Therefore they do not satisfy the second condition of 11 and are not characterized as [-temporar y].

It should be noted that the lefthand element of the APP compound does not affect the conditions of nontemporariness even though syntactically it is a $\theta$-position. It seems that the function of this element in the domain of semantics is limited to intensification or particularization of the state described by the head.

\subsection{3.2.2. The class of smear verbs.}

Under the analysis of L & R, the compounds headed by the APPs derived from verbs like smear are problematic. They take two internal arguments, one obligatory and the other

\textsuperscript{14} The data show that these APs become unacceptable if the PPs in the parentheses are not expressed.
optional, and they have two argument structures (lexical-thematic properties in the terminology of L & R) such as the following:

(23) **stuff**: agent \(\langle\text{material, location}\rangle\)  
     agent \(\langle\text{material},\ location\rangle\)  

**feed**: agent \(\langle\text{theme, goal}\rangle\)  
     agent \(\langle\text{theme},\ goal\rangle\)  

As either argument can be assigned a \(\theta\)-role directly (as is expressed by the use of italics), both can be externalized and derive a well-formed AP as far as the Projection Principle is not violated. With *stuff*, for example, L & R show that only the following APs are acceptable:

(24) a. The pillows remained stuffed (with feathers).  
     b. The feathers remained stuffed in the pillow.  
     c. the carefully stuffed pillows

If we consider the compound structure, the incorporation of either argument should become acceptable because the lefthand position may serve as the \(\theta\)-position for the obligatory argument, as in the case of trivalent verbs. Yet the prediction is not borne out again, as follows:

(25) a. the (paint-)smeared wall/*the wall-smeared paint  
     b. a (feather-)stuffed pillow/*the pillow-stuffed feathers  
     c. the (paint-)stained shirts/*the shirt-stained paint  
     d. (blood-)soaked rags/*the rag-soaked blood  
     e. (corn-)fed calves/*calf-fed corn

Though the Projection Principle or \(\theta\)-theory would not rule them out, the compound APPs incorporating Location (or Goal) and modifying Material (or Theme) are unacceptable. Only the APPs which can occur alone may also have the other argument incorporated.

One possible solution to this problem is to assume a thematic hierarchy in which Material comes before Location and to rule out the compounds which violate the order of projection following this hierarchy. This solution is not justifiable, however, until the theory of thematic relation is refined further enough to explain various syntactic and morphological phenomena uniformly.

Under the analysis presented in the previous section, only the argument which can characterize the termination of the event independently is allowed as an external argument of the attributive APP, even if it is in the form of a compound. For example, the acceptability in 25b reflects our cognition that though a certain state of a ‘pillow’ describes the completion of ‘stuffing’, ‘feathers’ alone cannot characterize it. If such an argument is chosen as an external argument, the APP is not given \([-\text{tempo-}\)
rary]; hence the unacceptability of not only the attributive use, but also the compound structure which is typically interpreted as [−temporary].

### 3.2.3. The Class of Sell Verbs

Dative verbs like *sell* are generally considered to have two argument structures as follows:

(26) \(sell\): agent \(<\text{theme}, \text{(goal)}>\)

\[
\begin{align*}
\text{agent} & \langle \text{theme}, \text{goal} \rangle \\
(\text{L & R 1986: 651})
\end{align*}
\]

They are identical with those of *stuff* shown in 23 except for the labels of \(\theta\)-roles. However, the corresponding APPs, in particular those incorporating the complement, exhibit an interesting contrast to the data observed in the previous section:

(27) a. *sold cars
b. *sold students (=students to whom something was sold)
c. *government-sold cars (=cars sold to the government)
d. ?drug-sold students (=students to whom drug was sold)

(28) a. a paid check
b. *paid hospitals (=hospitals which someone paid)
c. *government-paid debt (=debt paid to the government)
d. *debt-paid stores (=stores to which the debt was paid)

We can correctly predict that Goal cannot be modified solely by the APP because it would be a violation of the Projection Principle. Yet the unacceptability of the compounds in (c) above is inexplicable in terms of any syntactic principles. Furthermore, according to L & R, the status of Goal in the argument structure 26 is the same as that of Material in 23, so it is rather surprising that 27c and 28c are not acceptable, as opposed to the lefthand examples in 25 which are acceptable.

I would like to point out that Goal of the verbs like *sell* and Material of the verbs like *smear* differ as to the way they participate in the aspectual structure of the event; the latter class of verbs designates causation, while the former designates the transition of possession which involves both the loss of something on the part of the subject and the acquisition of it on the part of the object. This means that Material does not delimit the event but only makes the result more specific, while Goal, indicating the terminal point of the transition, guarantees the completion of the transition in collaboration with Theme. Hence the unacceptability of 27c and 28c. If Goal is not projected, however, the termination is perceived earlier on, at the point when Theme becomes free from the possessor; hence the acceptability of 27a and 28a.

The discussion above has made clear that the status of the argument in
the argument structure or \( \theta \)-grid is not identical with that in the conceptual structure. In this respect, my view differs from that of Tenny 1987, who assumes the mapping between cognitive structure and syntactic argument structure governed by aspectual properties.\(^{15}\)

### 3.3. Compound APPs Incorporating Predicative Expressions

In this section we turn to compounds incorporating predicative adjectives. In order to explain the distribution of such compounds, we will employ the same semantic approach shown above.

Itoh 1985 points out that verbal compound adjectives allow only non-argument adjuncts to be incorporated among predicative adjectives and nouns; there is no compound APP derived from a verb which takes predicative expressions as an obligatory argument even though they satisfy the Projection Principle.\(^{16}\)

\[(29)\]  
- a. *mad-driven policeman, *mad-sent wives  
- b. *a President-elected woman, *a Pochi-called dog,  
  *selfish-labeled boys (Itoh 1985: 36)

She attributes this restriction to the binary branching of word structure and the inability of N and A to take predicative arguments.

Under our analysis, the examples in 29 are ruled out by the second condition of 11, dispensing with the categorial idiosyncracy in the argument structure\(^{17}\) or any other assumptions of predication theory, be-

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\(^{15}\) Tenny (1987: 247) formulates this idea as the 'Aspectual Interface Hypothesis': "The mapping between cognitive structure and syntactic argument structure is governed by aspectual properties. Only the aspectual part of cognitive structure is visible to the syntax."

\(^{16}\) If the head has the suffix `-ing or `-er, incorporation of the obligatory predicative adjective is allowed as follows:

(i)  
- good-looking, carabolic-smelling, bureaucratic-sounding  
(ii)  
- a good-looker, a handsome-looker (Itoh 1985: 39-40)

\(^{17}\) Itoh claims that adjectives and nouns cannot take predicative arguments whether in syntactic phrases or in verbal compounds, and she suggests that this may follow from some general properties of [+N] categories (cf. p. 38 note 14). It seems dubious that there should be such a restriction on the \( \theta \)-grid attributed to the category. Rather I think the conditions on predication linking should rule out the predication beyond a copulative or of in structures like the following:

(i)  
- *John, is visible tired, *His wife, is sendable mad,  
(ii)  
- our election of a woman, President,

I cannot go into this issue in this article, but if such a solution is possible, the ill-formedness of the compounds as in 29 should be solely ascribed to our semantic constraint, which uniformly explains the distribution of other types of compounds given in this article.
cause the terminal state in the event designated by the base verb cannot be expressed without the incorporated predicative expression. Thus we can suppose that they are deviant for the same reason as was discussed as to 21c or 25.

If we observe the distribution of compound APPs with predicative adjectives from an aspect other than the syntactic obligatoriness, it would be clear that the explanation solely based on syntactic properties of the base verb is not tenable. Consider the following:

(30) a. the thin-sliced ham, a white-painted wall, a lean-washed dress, hard-boiled eggs, red-dyed hair
   b. the live-caught bear, dry-packed fish, ?hot-hammered iron, *a nude-painted woman, *the mad-imprisoned boy, *raw-frozen fish

The examples in 30a are the compounds with so-called resultative predicates, which describe the state of the object after the causative event. This type of compounding is quite productive, and it is correctly predicted under our analysis. The APP alone can designate the non-temporary attribute of the external argument as it satisfies the conditions in 11, and the predicative adjective merely particularizes it further.

Compounds in 30b are those incorporating so-called depictive predicates. Though they are also optional adjuncts, the compound structures vary in acceptability, a fact missing in Itoh’s observation. In part the acceptability might be due to the lexicalization, but it seems the right path to explain this fact in terms of the event structure underlying these compounds; the modification by the adjunct has the scope over the whole event represented by the base verb, so the terminal state of the externalized argument implied by the APP should not conflict with it, even if it is not particularized by it.

We might eventually be able to ascribe this matter to the speaker’s judgment as to what is appropriate for further classification of the terminal state of the event represented by the base verb if we try to generalize the analyses of the APP compounds presented above, but this is a topic for further research. At any rate, the variance of the acceptability in 30b as opposed to the constant acceptability in 30a above cannot be explained by means of syntactic properties.

3.4. APPs DERIVED FROM STATE VERBS. The APPs derived from verbs which designate states should be dealt with in a different way because the base verbs themselves are quite similar to adjectives in that they are in-
herently atemporal. Therefore it is irrelevant to assume the addition of
the State function in the conceptual structure accompanying the af-
fixation of a passive morpheme. Hence the inapplicability of Rule 11.
Let us examine the data below:

(31)  a. a known quantity, pretended kindness, the preferred read-
ing, the hated professor, the expected result
b. *(accident-)ascribed failure, *(word-)based morphology
   *(god-)attributed property, *(?death-)associated diseases

It seems that any APP derived from a state verb has the feature [-tem-
porary], and as far as it gives classifying information to the head noun, it
is allowed in the attributive position. If the base verb requires two in-
ternal arguments, the incorporation of the obligatory argument is forced
by the Projection Principle, and no further restriction would rule out
these APP compounds as opposed to those derived from causative verbs
with a similar argument structure as we have seen in 21c (cf. §3.2.1).

4. Concluding Remarks. By observing the distribution of the attri-
butive APPs and the elements which can be incorporated in the com-
pound APP, I have shown that the nontemporariness of the APP is de-
termined under the conditions on the conceptual structure of the base
verb and also that the acceptability of the compound APPs is affected by
them. The discussion has been based on the aspectual properties of the
event designated by the base verb of the APP, rather than the argument
structure or the thematic properties. This approach, if tenable, would
justify the argument for the semantic inheritance accompanying the
morphological derivation.

Now it should be mentioned that the conditions in 11 are quite similar
to those I have proposed to account for the restriction on the NP pre-
posing in derived nominals such as the city's destruction. They were
formalized as the following:

(32) The object of a derived nominal can be projected as the pre-
nominal genitive if:
   (i) the event represented has an end-point at which a cer-
tain result can be specified, and
   (ii) the object is the unique argument which guarantees the
completion of the event. (Yumoto, forthcoming)

These conditions, namely, the delimitedness of the event and the par-
ticular semantic role of the object in question, should replace the vague
notion of 'affectedness' which many earlier works (e.g. Anderson 1977,
Chomsky 1981, Jaeggli 1986) assumed. My point was that the restriction on the object preposing should be ascribed to the aspectual structure of the event described by the NP and the semantic status of the object in it. \(^{18}\) For example, the unacceptability of 33 and the acceptability of 34, which cannot be explained by ‘Affectedness Constraint’, are correctly predicted from 32:

\[
(33) \quad \text{*the butter's spread, *cities' destruction,}
\]
\[
\text{*the book's putting on the shelf by John,}
\]
\[
\text{*the student's presentation with a medal by the dean}
\]

(34) \quad \text{the student's dismissal by the dean, the building’s occupation, the mystery's solution, the captive’s release}

In 33 the terminal state of ‘spreading’ ‘putting’ and ‘presenting’ cannot be described only by the preposed NP, and indefinite plural objects like cities cancel the delimitedness of the event. \(^{19}\) Thus these examples are ruled out by 32. The examples in 34 represent the events in which the objects are not ‘affected’ (i.e. they do not undergo a change of state), and yet they are acceptable because they satisfy the aspectual conditions in 32.

Though I cannot restate or justify my analysis here, Rule 32, if tenable, shows a striking similarity to Rule 11. Since the former is a rule for syntactic structure while the latter a rule accompanying a morphological derivation, it follows that the constraints under the same conditions are at work both in syntax and in morphology. \(^{20}\) If these constraints are ascribed to an independent module in the semantic component which applies both in syntax and lexicon, it would present another aspect of a modular approach to morphology. In this approach, word formation

\(^{18}\) The idea owes much to Wechler’s 1989 definition of the ‘nuclear argument’ in terms of which he determines the distribution and interpretation of the prefix re-. 32 is also similar to the definition of ‘affectedness’ by Tenny 1987, though I worked it out quite independently. My approach is on the same line, though expressed in different terms. Yet her observations are partly untenable, in particular as to the derived nominal of the path accomplishment, for which I have the data opposed to her judgment as was pointed out in 3.1.

\(^{19}\) For a detailed discussion, see Fellbaum 1987.

\(^{20}\) It should be noted that the aspectual property including delimitedness of the event referred to by VP, NP or S cannot be determined simply by the lexical features of the predicate: see Fellbaum 1987, Mittwoch 1982, and Tenny 1987 for detailed discussions of this matter. Therefore, even if the conditions on NP preposing 32 in syntax are identical with those on the morphological derivation 11, it does not necessarily follow that an APP derived from a verb whose derived nominal can have its object preposed in certain cases is acceptable in attributive position.
rules are considered to operate both in syntax and lexicon, and the acceptability of derived words is explained by several general principles and rules that apply across different components.  

Finally, I have to touch on the question of why the same conditions are imposed on both rules, 11 and 32. I have not worked out any formal solution to this, but it is certain that the prominent status of the argument in question (i.e. the preposed object of the derived nominal and the external argument of the APP) is relevant. The prenominal genitive in the NP headed by a derived nominal is considered to be a property bearer, one that has the property of having participated in the event designated by the head. In this sense, the relation between the derived nominal and its preposed object is similar to that between the [-temporary] APP and its external argument. The first condition of 11 and 32 is probably required in order to confirm the interpretation of the event as a noninstantaneous property. Another similarity is that both the element which can be projected into the NP-Spec position and the argument externalized through the APP derivation are restricted to one nominal. Furthermore, when the interpretation is marked, namely, passive for the derived nominal or [-temporary] for the APP, the easiest choice among the potential candidates would be preferred. It might be said that the second condition of 11 and 32 is intended for defining the most prominent participant among the arguments. How to formalize the semantic principle underlying these constraints in terms of a more primitive concept is a topic for further research.

REFERENCES


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21 This model was first proposed by Shibatani and Kageyama 1988.
