T.R. Rapoport

The Predicate in Aspectual Representation*

1. Introduction

In this paper, I examine the adjunct predicate and how it is constrained within a theory of the structural representation of aspect. My analysis not only offers evidence that a theory of thematic roles has no place in syntax but, in addition, minimizes the role that grammar itself plays in adjunct predicate constructions by placing the burden of the acceptability of these constructions on the interpretive, rather than on the syntactic component.

As part of my account, I contrast the depictive predicate, an adjunct to original aspectual structure, with both the resultative predicate, a part of original aspectual structure, and the 'modified result' predicate. The facts of these various predicate types offer, in turn, an insight into aspectual classification in general.

Depictive predicates are of particular interest, since they are adjuncts with the unusual property of bearing a thematic relation to an argument of the main predicator of the sentence. The characteristics of this relation and its interpretation are what constitute the core of this paper.

2. Depictive adjunct predicates

The depictive construction is exemplified in (1) and (2) below, with subject and object hosts, respectively.

* I am grateful to Arik Cohen, Nomi Erteschik-Shir, and Peggy Speas for interesting discussion of the issues raised in this paper. I also thank the audience at the conference on Interface Strategies in Amsterdam (September 1997) for their comments.

(1) a. Jones$_i$ cut the bread hot$_i$.
b. Jones$_i$ fried the potatoes drunk$_i$.
c. Jones$_i$ froze the juice tired$_i$.
d. Jones$_i$ boiled the lobsters sick$_i$.

(2) a. Jones cut [the bread]$_i$ hot$_i$.
b. Jones fried [the potatoes]$_i$ raw$_i$.
c. Jones froze [the juice]$_i$ fresh$_i$.
d. Jones boiled [the lobster]$_i$ alive$_i$.

The depictive predicate (the d-adjpred) modifies an entity at the time of the (initiation of the) action. The sentences of (1a) and (2a), for example, mean 'Jones cut the bread and at the time that she cut it she was hot' and 'Jones cut the bread and at the time that she (started to) cut it, it was hot', respectively. That the modification relates to the initial point of the action, at least in object-hosted d-adjpreds, can be seen clearly in (2b), for example: a potato that is raw at the beginning of a frying process does not remain so throughout the process.

While many verbs allow a depictive to be hosted by either the subject or object, many verbs do not allow an object host, as noted in McNulty (1988) and in Rapoport (1993):[1]

(3) a. Jones$_i$ phoned Smith drunk$_i$.
b. Jones$_i$ hugged Smith sweaty$_i$.
c. Jones$_i$ kicked Smith angry$_i$.
d. Jones$_i$ chased Smith drunk$_i$.

(4) a. *Jones phoned Smith$_i$ drunk$_i$.
b. *Jones hugged Smith$_i$ sweaty$_i$.
c. *Jones kicked Smith$_i$ angry$_i$.
d. *Jones chased Smith$_i$ drunk$_i$.

(4b), for example, cannot mean that Jones hugged Smith and at the time that Jones hugged Smith, Smith was sweaty. In fact the only interpretation possible for such sentences, and this only for some speakers, is a resultative one: that is, that Smith became sweaty as a result of Jones hugging her.

The data above raise two issues: the distinction between the acceptability of object hosts in (2) and in (4); and the resultative interpretation forced with the object hosts of (4). I turn now to the question of restricting the d-adjpred host.

This question has been addressed previously. Williams (1980), for example, argues that when the predicate is in the VP, it is predicated of the theme of V. This restriction accounts, for example, for the ungrammaticality of sentences like (5).

(5) *John gave Bill$_i$ the dog dead$_i$.

[1] The verbs of (4) have been chosen somewhat carefully because of speaker variation in the acceptability of object hosts in general. The examples of (4) were unanimously judged unacceptable.

In (5), the intended host, *Bill*, is not a theme and so cannot host the adjunct predicate.

Williams' statement, though, does not offer a unified account of subject and object hosts; in addition, it is not accurate, as McNulty 1988 points out. She notes that under a definition of theme as the object in motion or being located, Williams' statement should rule out many good adjunct predicate constructions, such as (6).

(6) Mary destroyed [the novel]$_i$ unfinished$_i$.

In (6), the phrase *the novel* does not meet the definition of theme and yet it can be the d-adjpred's host. McNulty thus argues that the necessary thematic role for the host is that of patient, restricts the possibility of patient hosts to those cases in which no theme (such as the subject) is available, and offers (7) as a final statement of the host restriction.

(7) Adjunct predicates assign a theta-role to NP only if NP bears one of the following theta roles: *theme*, *agent*, *patient*. *Patient* NPs are available as subjects only if the structure contains no theme.

(7) takes into account both the subject and object as potential hosts, and does seem to cover all cases. However, (7) makes use of thematic role labels, which are almost always vague at best. Moreover, even this statement does not account for the ungrammaticality of examples like (8):

(8) a. *The potatoes fried raw — compare: (2b)
b. *The juice froze fresh (2c)
c. *The lobster boiled alive (2d)

The subject hosts in (8) are patients, there is no potential theme host to interfere, and yet the result of adding a d-adjpred is not acceptable.

Rapoport (1993) also attempts to describe the host restriction:

(9) An NP in the syntax associated with the position *y* in a CAUSE LCS (as in a.) can host a depictive predicate:
a. [x CAUSE [y....]]

(9) does accurately distinguish between the acceptable object hosts of (2) and the unacceptable ones of (4) but does not offer a unified account of subject and object hosts. Moreover, while the description of the restriction may be accurate, no explanation is offered for why such a restriction should obtain, a shortcoming of all the above accounts.

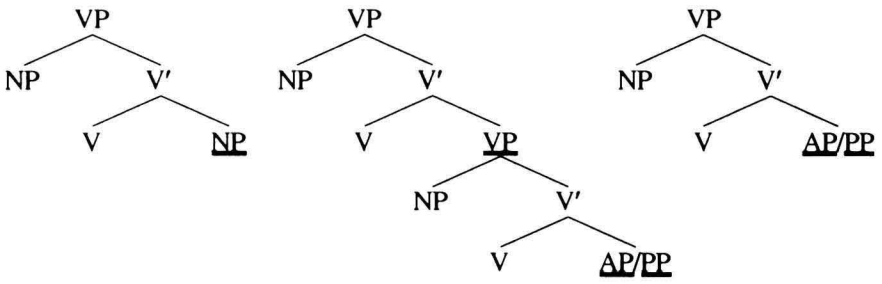
In fact, an explanation for the restriction on the depictive construction cannot be given when couched in terms of thematic roles. Only an explanation in terms of structure is viable. I offer such an account, making use of the aspectual structure (AS) model introduced in Erteschik-Shir and Rapoport (1997), a theory of the structural representation of aspect.

3. The AS model

3.1 *Aspectual structures and interpretation*

The AS model, based rather loosely on the work of Hale and Keyser (e.g. 1991, 1993), accounts for the variable behavior of verbs by a program of the free association of verbal nuclei with aspectual structures. Three of these structures, adopted from the work of Hale and Keyser, are illustrated in (10).

(10) a. activity b. accomplishment c. achievement



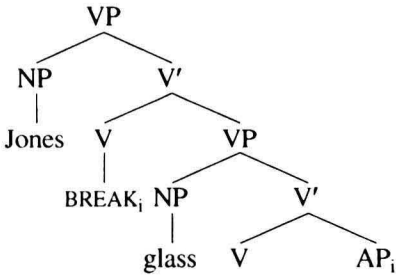
These syntactic structures are the projections of categories, each of which, following Hale and Keyser, is related to a particular interpretation: A is 'state', N is 'instance', and V is 'dynamic'. These categories form the basic head-complement relations of the aspectual structures: V-VP instantiates CAUSE, V-NP represents DO, and V-AP/PP is BECOME (or GO).[2] The complete structures roughly correspond to the Vendler-Dowty aspectual classes. Thus, the structure in (10a), projected from the DO relation, represents an activity; (10c), projected from the BECOME relation, represents an achievement, and (10b), projected from a CAUSE and a BECOME relation, represents an accomplishment.

A verbal nucleus, the verb base, can be associated (in principle freely) with any one of these structures;[3] additional phrases associated with (the NPs of) the structure are understood as arguments of this verb. Thus, for example, associating BREAK with the accomplishment structure (10b) yields the causative, transitive verb and a sentence like *Jones broke the glass* can be derived meaning, as we can see in its representation in (11a), 'Jones caused the glass to go to a broken state'.

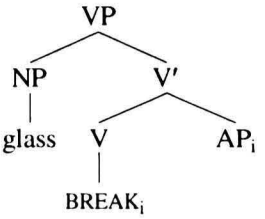
[2] Omitted here are details of the larger structures, including functional categories, that contain the aspectual structures.

[3] The term 'associate' is appropriate to a view in which the entire structure is projected as a unit. Alternatively, the structure can be built up in any one of several ways, such as Merge (Chomsky 1995), for example.

(11) a.



b.



In (11a), the nucleus BREAK is associated with the complex structure of an accomplishment, which includes both the upper CAUSE component and the lower BECOME (change of state) component, each of which contributes to the eventual interpretation of the sentence represented. In this particular accomplishment structure, the AP final state is identified by the verb BREAK, a relation indicated above by coindexing.

The same verbal nucleus BREAK can be associated with the achievement structure (10c), as well. Such an association yields a sentence like *The glass broke*, represented in (11b) and meaning 'The glass went to a broken state', again with the final state AP identified by the particular verb.

Thus, the same verbal nucleus can have a different number of arguments and head predicates with different aspectual interpretations.[4] In this way, aspectual distinctions are made without recourse to multiple lexical representations and lexical or linking rules (as found in, for example, Levin and Rappaport Hovav 1995). This is the impetus behind the AS program: every verb has only one nucleus (one 'lexical representation') and its use and eventual interpretation result primarily from the type of aspectual structure with which the nucleus is associated.

The relation of the specifier (or subject) to the head-complement projection is central to AS theory. The V-NP, V-AP, and V-VP projections attribute the property they represent to their subjects: the subjects of V-NP and V-VP are interpreted as initiator or causer; the subject of V-AP/PP as theme or delimiter (see Tenny 1987). The NP, AP/PP, and VP predicates (underlined in (10)) and their relation with their subjects form the bases of the aspectual structures and of their interpretation (and render unnecessary a theory of thematic roles).

The nucleus type itself also affects interpretation. Each verbal nucleus has its 'dictionary' meaning that includes its identification (i.e. the relation it denotes), as exemplified in (12). This basic relation furnishes the nucleus' *unmarked* structural association:

[4] The idea of one verb base associated with different structures is found also in Hoekstra and Mulder (1990), Pustejovsky (1991), and Borer (1994).

(12)	nucleus	identification	→	unmarked association
	BREAK, CUT:	dynamic-state		V-AP
	RUN, HAMMER:	dynamic-instance		V-NP

In principle, there are no restrictions on the association of nucleus type with structure type. There are, however, constraints on the interpretation of the various associations.

3.2 *AS Focus*

One element that affects interpretation is the aspectual focus, the focussing of a particular structure or part of a structure (and the consequent defocussing of other parts of a structure). In general, AS focus is freely assigned. As discussed in Section 6, this focus also affects the interpretation of modifiers: only a focussed (part of a) structure is available for modification.

As an illustration, consider the case of the nucleus RUN, an instance verb. When RUN is associated with structure (10a), its unmarked association, AS focus is on the V-NP, that is, on the (type of) activity itself. The result is an activity reading, such as that of (13a).

(13) a. Jones ran.
b. Jones ran to school.

When, on the other hand, the same nucleus is associated with structure (10c), AS focus is on V-PP, i.e. the endpoint of the action, since that is the only component structurally represented. In (13b), a sentence that is a possible result of such an association, it is, then, the resulting goal and not the manner of arriving there that is focussed (as has been noted in, for example, Levin and Rapoport 1988; Levin and Rappaport Hovav 1995). (13b) is thus interpreted as: 'John arrived at school by running'[5], an achievement in AS terms (and thus a departure from a strict Vendlerian model). ((13b) also has another interpretation, that resulting from association with the accomplishment structure. In such a case, AS focus on the upper part of the structure would be possible, as would modification of manner, for instance, a modification not possible with the focus of the achievement interpretation.)

The resultative construction offers another illustration of a shift in aspectual focus. Consider the sentences in (14), examples of activities, and the parallel sentences in (15), resultatives.

(14) a. Jones hammered the metal.
b. Jones wiped the dishes.

(15) a. Jones hammered the metal flat.
b. Jones wiped the dishes dry.

With an instance verb like HAMMER or WIPE, association with structure (10a) results in

[5] One illustration of this difference in meaning is noted in Levin and Rappaport Hovav (1995), who point out the different auxiliaries used for sentences like (13a) and (13b) in Italian.

a typical activity, as in (14). When the same nuclei are associated with the accomplishment structure (10b), on the other hand, a complication arises. Because these verbs are instance (as opposed to state) verbs, the final state AP of the accomplishment structure is not identified. Such a situation is ruled out in AS theory: for an AS structure to be interpretable, all positions must be identified. The only way to accomplish this in such a case is by association with the AP of an overt phrase, such as, for instance, *flat* or *dry*.

The result of the associations of both the activity verb and the final phrase with structure (10b) is sentences like those in (15). The difference between these and simple accomplishments (like (11a)) is in the manner of the AP's identification. If the AP is identified by a state verb, as in (11a), the result is a simple causative construction with a covert final state. If the AP is identified by association with another element, we derive what is known as the resultative, a causative construction with an overt final state.[6] Since such identification of AP can happen only in the structure containing an AP, the AS model thus explains why all (transitive) resultatives are necessarily causative.

In principle, the accomplishment structure (10b) allows AS focus on either of its two components, the upper cause or the lower change of state. The upper part of the structure crucially includes the initiator. I assume, adapting Van Voorst (e.g. 1988), in which the beginning of an event is identified by the subject, that the presence of an initiator/causer subject identifies the initial state of an action. AS focus on the upper part of the accomplishment structure, then, can focus the initial state. The lower part of the structure, like the achievement to which it is identical, includes the endpoint or final state. Thus, AS focus on the lower part of the structure focusses this result state, the endpoint of the action.

In resultatives like those in (15), the additional association of the overt final state forces AS focus on the result, and the activity part of the base verb is backgrounded (or subordinated, in Levin and Rapoport's 1988 term). The interpretation of (15a) is thus 'Jones caused the metal to become flat by hammering it'.

3.3 *Resultatives, true and false*

The AS model explains an additional constraint on resultatives. Resultative predicates hosted by the subject of an unergative or transitive verb are impossible (at least in English), as noted in, for example, Hoekstra (1992) and Levin and Rappaport Hovav (1995):

(16) a. Jones_i ran sick_i. (* as resultative)
b. Jones_i hammered (the metal) exhausted_i. (* as resultative)

The sentences of (16) are fine as depictives, but do not allow a resultative reading such as, for example, 'Jones became exhausted as a result of hammering (the metal)'. In the AS model, this results from the restricted number of structures and positions: there is no AP position in structure (10a) or (10b) (the closest representation to (16a) and (16b)) that

[6] Resultatives based on intransitive verbs (or verbs in their intransitive use) such as *Jones worked herself sick* and *The crows ate the trees bare* are yielded by the same accomplishment structure.

is related to the relevant subject and that can represent its final state; that is, there is no position whose identification could yield a resultative like those in (16).[7]

True (causative) resultatives, then, are based on instance verbs and are derived when one of these verbs is associated with the accomplishment structure (10b). When, on the other hand, a state verb like CUT is associated with (10b), the final state AP is identified by the verb and nothing, therefore, can be further associated with that position. Given this, the following accomplishments, with a sentence-final AP/PP, are not true resultatives (as Pustejovsky 1991 argues for similar examples):

(17) a. Jones cut the bread thick/into thick slices.
b. Jones broke the glass into tiny pieces.

The sentences in (17) are simple accomplishments in which the (non-overt) final state of the entity denoted by the object NP has been modified. (17a), then, is not some kind of double resultative meaning 'Jones caused the bread to go into thick slices by causing the bread to go into a cut state'. The PP *into thick slices* is a modifier of the final state rather than a realization of the final state itself. I therefore term such false resultatives 'modified result constructions'.

In modified result constructions, the AP/PP modifier is not associated with a position of the original AS structure, unlike the AP of true resultatives, and so its presence does not affect the aspectual interpretation of the predicate. Both the unmodified simple result and the modified result constructions are accomplishments. This AP/PP modifier is also unlike the true resultative predicate in that it is not required for identification purposes; it is optional.[8]

The AS framework, then, forces a distinction among types of secondary predication. This is in addition to the constraints it imposes by allowing verbs to be associated only with a small variety of structures and so have only a limited number of interpretations. Because of such restrictions, the AS model can also account for the restriction on the depictive adjunct predicate.

4. The D-adjpred host constraint

Recall the problem of precisely constraining the host of the d-adjpred. The assumption of the AS model now allows the following statement of the restriction:

(18) The host (subject) of a depictive predicate must be an AS subject.

Consider the AS structures in (10): the subjects of activities and accomplishments are AS subjects and so can be hosts, as shown in (3) and (1) above. The object of an accom-

[7] In this way, the AS model obviates the need for such constraints on resultatives as Levin and Rappaport Hovav's (1995) Direct Object Restriction.

[8] I assume that despite its optionality, the final PP in such constructions is not likely to behave like a full adjunct, given its function as a modifier of a particular AS position.

plishment verb is also an AS subject (of the AP/PP) and so also a potential host, as illustrated in (2) above. The object of an activity, however, is an object in AS structure and so by (18) cannot host a d-adjpred, as the illformedness of the examples in (4) demonstrates. We have then, without resorting to thematic role labels, a simple statement of the d-adjpred host restriction.[9]

The AS framework also explains why many informants get a resultative reading with (some of) the unacceptable examples of (4): When confronted with an AP that cannot, by (18), be hosted as a depictive, they assign to the whole string the only structure containing a legitimate position (and interpretation) for the AP — the accomplishment structure (10b). The only acceptable possibility, then, is a resultative reading.

The AS framework thus allows an explanation for the interpretation of sentence-final predicates, as well as a nice distinction and a simple expression of the subject constraint. What remains to be explained is the reason behind this constraint. This explanation requires a discussion of the structure of adjunct predicate constructions, a topic to which I now turn.

5. The Structure of depictives

I will assume without further discussion that the d-adjpred is in VP. I base this assumption on the evidence in (19) (adapted from Andrews 1982 and McNulty 1988, whose arguments I will also assume, and which are applicable to surface subjects as well).

(19) a. Smith said that Jones would cut the bread hot and
cut the bread hot she did.
*cut the bread she did (hot)
b. Cut the bread hot though Jones did, nobody was tempted to eat.
*Cut the bread though Jones did hot, nobody was tempted to eat
c. What Jones did was cut the bread hot.
d. *Jones cut the bread hot and Smith will __ cool

I assume too, following Hoekstra 1984 and Larson 1988, that all arguments of a head must be realized within the maximal projection of that head. (This restriction actually follows from the structures of the AS model but bears repeating.) In the case of adjunct predicates, it means that at the point that an adjunct predicate (the projection of an argument-taking head) is attached to the V projection, it already contains all its arguments, just as the V projection does. Adjunct predicate constructions are thus an instance of the merging of two independently-constructed projections, the A projection and the V projection.

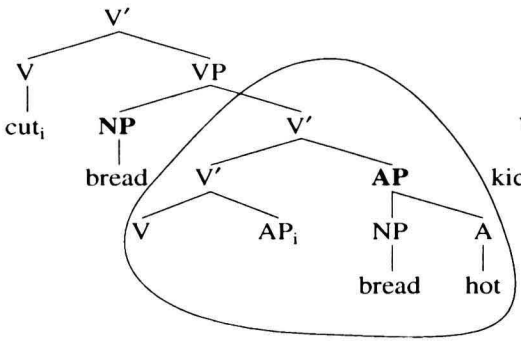
Given such a merger, two different explanations for the constraint in (18) offer themselves. First, let us consider the possibility that the constraint derives from a

[9] See Section 6 for an account of the unacceptable depictives of (8).

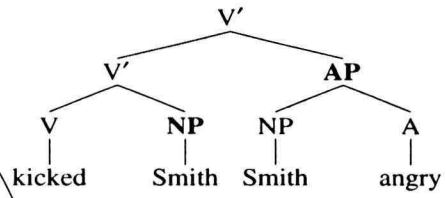
c-command requirement, that is, that the host c-command the adjunct structure.[10] Under this analysis, the adjunct structure combines with V' and yields an adjoined structure, as shown in (20a) (as the circled part of the complete structure) and in (20b):[11,12]

(20) analysis I: licensing by c-command of **adjunct structure** by **host**

a. AS subject host



b. *AS object host



(2a) Jones cut [the bread]$_i$ hot$_i$. (4c) *Jones kicked Smith$_i$ angry$_i$.

In (20a), the NP *the bread* c-commands the adjunct AP structure (*the bread hot*) and so sentence (2a) (repeated here) is fine.[13] In (20b), on the other hand, the object NP *Smith* does not c-command the adjunct structure (*Smith angry*); sentence (4c) is therefore unacceptable.

A c-command account does, then, supply the requisite subject-object distinction. However, this account offers no simple explanation for several of the facts of these constructions, which are discussed below.[14] I believe that an alternative account offers more.

I propose a parallel-structures strategy to account for the facts of adjunct predication. This approach is inspired by Goodall 1984 and Speas 1990. Speas argues (assuming May's (1985) definition of a projection set) that adjoined elements can be viewed as on a different structural plane from the base phrase marker to which they are related (p. 234–5).[15] She notes that this is consistent with Goodall, who shows that structures

[10] A c-command or m-command constraint on the relation between host and adjunct predicate has been argued for in, for example, Williams (1980), Rothstein (1983), Rapoport (1987), and McNulty (1988).

[11] The adjunction to V' is under the assumption that structure is built up, by Merge, for example. For the analyses here, it is immaterial precisely how the complete VP structure is arrived at.

[12] In the complete structure, the lower AP of the V structure is necessarily identified by the (state) V *cut*, so nothing else, including *hot*, can be associated with that position.

[13] For present purposes, we may assume that the doubled NP gets deleted under identity at PF, perhaps in the way the copy of a moved element does in Chomsky (1993).

[14] We find the same drawbacks in an analysis with a PRO subject of the adjunct AP.

[15] This is because an adjoined element is not dominated by any category: the node that apparently dominates it is just one member of a projection set (i.e. one token of a projection that is identical

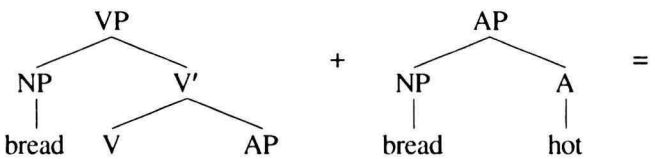
which show across-the-board (ATB) effects (coordinate constructions, for example) contain nodes which do not stand in a domination relation to each other — hence parallel structures.[16]

In the case here, the relevant nodes are the AP, the adjunct structure which is adjoined, and the VP, the node adjoined to. Crucially, these two phrases are of the same type: both are predication phrases, that is, they consist of the subject-predicate relation. Because of their parallel character, the two predication structures to be combined into the same phrase marker are subject to the parallel-structure format.

Consider the case of the AS subject host, exemplified by (2a). The two predication phrases to be combined are shown in (21); the result of the merger is shown in (22).

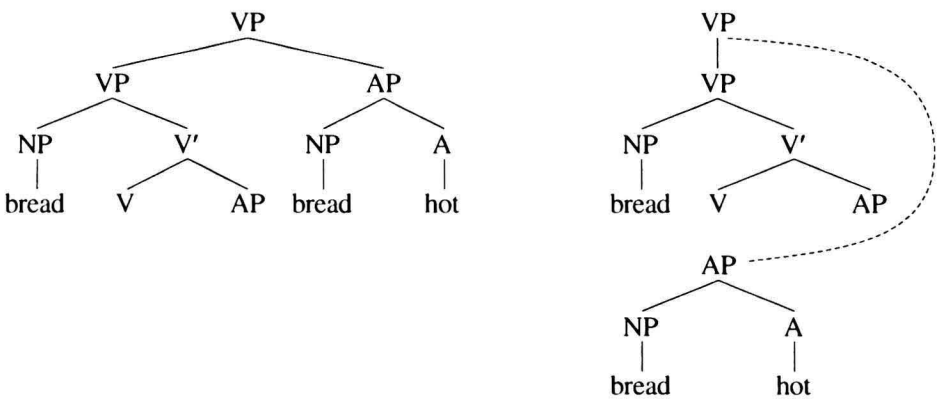
(21) AS subject host:

lower VP of *cut* structure adjunct predicate



(22) analysis II: parallel AS predication phrases

a. adjoined structure b. parallel structures view



(22) shows two ways of viewing the result of this merger. (22a) shows a typical adjunction structure. (22b) shows this adjunction structure from another angle, that of parallel structures, a view which is anyway more illuminating for our purposes.

In the alignment of the two structures in the parallel format, the verbal AS subject *the*

to another token, the two of which constitute one node). As Speas notes, an adjoined phrase seems not to bear any particular structural relation to the rest of the tree.

[16] And see Zubizarreta (1987) for a parallel-structures analysis of French and Spanish causatives.

bread lines up with the adjectival AS subject *the bread*. This is sketched again in (23), in a manner similar to that illustrating the ATB alignment of Williams 1978.

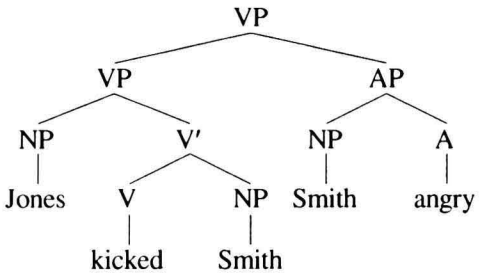
(23) [[bread] [V']]
[[bread] [A']]

In Williams, coordinated sentences are generated in ATB format.[17] Williams argues that *wh*-movement is restricted so that only a factor containing an identical part in each conjunct can be moved or deleted. Adjunction structures are also in ATB format; here it is interpretation that requires identical factors: only a factor with an identical part in each 'conjunct' (i.e. each of the predication structures related by adjunction) can be interpreted. Because the factor in (22)/(23) contains identical phrases in each predication structure, the structure is interpretable and sentence (2a) is acceptable.[18,19]

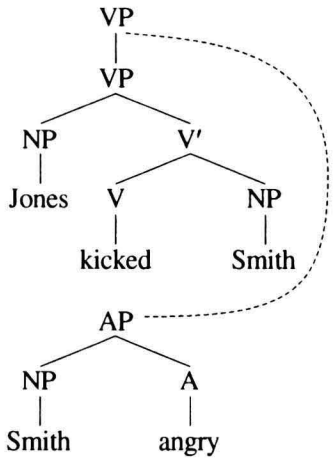
Next, consider the AS object host case, exemplified by (4c). Here, the same combining of predication phrases takes place, as shown in (24).

(24) *AS object host:

a. adjoined structure



b. parallel structures view



[17] Put roughly: in a coordinate structure, the conjuncts are listed one on top of the other (as shown in (23)) and then split by factor lines.

[18] Deletion of one of the two NPs can also follow an ATB line, as well as that suggested in note 13.

[19] Under this parallel-structures analysis, the modification of d-adjpreds is analogous to the phenomenon of coordination, as noted. In this aspect, my analysis is comparable to that in Hoekstra (1993) and in Guéron and Hoekstra (1995), which have a conjunction analysis of modification. In the latter analysis, for example, the modifier is adjoined to the structure modified and interpreted with it via conjunction. The cotemporality of the two events in a depictive (noted also in Speas 1990 and Rapoport 1991) is thus captured under both analyses, as is the putative restriction to stage-level predicates (for discussion of which see McNally 1993).

In this case, however, it is not the verbal AS object *Smith* that is aligned with the adjectival AS subject *Smith*, but the subject *Jones*. The alignment of the two subjects is outlined again in (25).

(25) [[Jones] [V']]
[[Smith] [A']]

The combining of the two predication structures results in the adjectival subject lining up with the wrong element, the subject, and not that intended for object-hosted predication.[20] The relevant factor in (24)/(25) does not contain identical phrases, and so interpretation is impossible; sentence (4c) is therefore unacceptable. Object-hosted predication is thus not possible, due to the lack of an interpretation.

The parallel-structures analysis thus accounts for (18), the subject constraint on the hosting of d-adjpreds. In addition, this analysis offers a straightforward account of the extraction facts of depictive constructions.

5.1 *Extraction in parallel*

Under a parallel/ATB analysis, as noted, extraction is possible only if from both 'conjuncts': extraction is not possible from one predication structure and not the other. Only identical factors can be moved, that is, identical aligned elements of the structure. We predict, then, that in the case of adjunct predicate constructions, the identical aligned AS subjects (as shown in (22)/(23)) can be moved. And this is so, as the well-formed examples of (26), adapted from McNulty 1988 and Schein 1995, show.

(26) a. Which bread did Jones cut hot?
b. What did Jones freeze fresh (and what did she freeze cooked)?
c. Which lobsters did Jones boil alive?

On the other hand, the aligned predicates of this construction are not identical, and so we predict that they cannot be moved. This prediction is also borne out, as shown in the unacceptable examples of (27) (also adapted from McNulty and from Schein).

(27) a. *Hot is how Jones cut the bread
b. *Fresh is how Jones froze the juice
c. *Alive is how Jones boiled the lobsters
d. *How hot did Jones cut the bread?
e. *How fresh did Jones freeze the juice?

In this way, the parallel-structures analysis of adjunct predication explains the possibility of extraction of the host of the adjunct predicate and the impossibility of the extraction

[20] In order for the two occurrences of *Smith* to line up, the AP predication phrase would have to be adjoined to a non-predication phrase in the V-structure. In such a case, a parallel-structures strategy and its consequent interpretation would not be possible.

of the adjunct predicate itself.[21] The account follows directly from the parallel-structures configuration. It is hard to see how a c-command analysis of this phenomenon would account for the same facts.

A c-command analysis would also run into difficulties in attempting to explain the extraction contrast between adjunct predicate and pure adjunct constructions. The adjunct predication structure when adjoined to the VP predication structure is subject to the parallelism constraint. Adjuncts that are not of the same type as the node to which they adjoin do not enter into a parallel format on adjunction and so are not subject to an ATB constraint on extraction. We therefore expect that extraction of such adjuncts, as opposed to extraction of the d-adjpred, should be possible. And this is what we find:

(28) a. How/why did Jones cut the bread?
b. How/why did Jones freeze the juice?

The contrast between (28) and (27), between the possible extraction of pure adjuncts and the impossible extraction of adjunct predicates is not easily explained under the c-command analysis.[22] This contrast does, however, fall out naturally under the parallel structures analysis, under which the d-adjpred is subject to a distinct strategy upon adjunction.

6. The Interpretation of adjunct predicates

The interpretation of the d-adjpred falls out under the analysis presented above. In fact, it is not just the d-adjpred whose interpretation is predicted and constrained, but that of adjunct predicates in general.

Under this analysis, there is no restriction at the outset as to which type of adjunct predicate (modified result or depictive) can be added and what its interpretation will be. There are no syntactic or thematic role conditions. Rather, as I demonstrate below, the result of the combining of the adjunct structure with the verbal structure is interpreted according to AS focus and that result is acceptable or not, depending on world knowledge.

The effects of AS focus can be illustrated by the accomplishment structure. As noted in Section 3.2 above, this complex structure offers the option of focussing either the initial state or the final state of the event. If the AS focus is on the upper part of the structure, the initial state is focussed (recall, through the presence of the initiating subject). Thus, any adjunct predicate receives an interpretation relative to this initial state, yielding a depictive, as we see in (29a). If, on the other hand, AS focus is on the lower part of the

[21] As expected under this analysis, we find the same host-predicate contrast in extraction when the host is a (surface) subject:

(i) a. Who fried the potatoes drunk?/Who phoned Smith drunk?
b. *How drunk did Jones fry the potatoes?/*How drunk did Jones phone Smith?

[22] The contrast in the behavior of the two adjunct types is discussed by McNulty (1988), who distinguishes between the two in terms of the presence of a trace (and its g-assignment) at S-structure.

structure, the final state is available for modification. Thus, an adjunct receives an interpretation relative to it, as shown in the modified result construction of (29b).

(29) a. Jones cut [the bread]$_i$ hot$_i$.
b. Jones cut the bread thick/into slices.

(29a), with focus on the upper part of the accomplishment structure, is thus a possible answer to the question in (30a), a question that focusses the action of cutting and therefore the upper, activity, part of the accomplishment. (29b), with focus on the lower part of the accomplishment structure, is not a possible answer to (30a), but is to (30b), in which the question focusses the final state component of the accomplishment.

(30) a. How did Jones cut the bread so easily?
b. What happened to the bread?

In this way, AS focus interacts with interpretation. And so, depending on AS focus, we can find combined with accomplishments either a depictive or a modified result predicate.[23]

A depictive can be predicated of either the surface subject or surface object in an accomplishment; the modified result, on the other hand, can be predicated only of the surface object. This fact receives an explanation in the AS model that recalls that for the absence of (surface) subject-hosted true resultatives: whereas subject-hosted true resultatives are impossible, as argued above in Section 3.3, because (10b) has no AP position to represent the subject's final state, subject modified results are impossible because in the absence of that final state AP, no final state exists to be modified.[24]

Accomplishments, then, demonstrate how AS structure constrains interpretation possibilities and how AS focus can narrow these possibilities still further. An additional requirement on the resulting interpretation of an adjunct is that the interpretation must make sense. In order to explain this requirement, hardly a radical one, let us return to the unacceptable achievements of (8), repeated here in (31).[25]

(31) a. *The potatoes fried raw
b. *The juice froze fresh
c. *The lobster boiled alive

The contrast between the unacceptable examples of (31) and the parallel accomplishments of (2) above is not a trivial one. Indeed, it is not surprising to find that achievements behave differently from accomplishments, given that in the AS framework they

[23] I leave the issue of extraction in modified result constructions for later discussion.

[24] The same explanation holds for the absence of modified result predicates hosted by the object in an activity AS structure: there is no AP position representing its final state and so no final state modification is possible.

[25] A reviewer suggests that depictives with a middle, such as *This kind of potato fries easily, raw* are better. I will not discuss middles here, but will note that *This kind of potato fries raw (easily)* is considerably worse.

constitute two separate classes, as Mittwoch (1991) has also argued, contra Verkuyl (1989), who argues that there is no reason to distinguish the two.

Verkuyl argues that length of time is not enough of a basis on which to aspectually distinguish verbs. I believe that in this he is right.[26] Thus, it is not the case that achievements are just short accomplishments: in AS terms, achievement *break* takes the same length of time as accomplishment *break*.

However, in the AS model, the two classes are distinguished: each has different structural characteristics and is therefore predicted to behave accordingly. We therefore should expect a difference like that manifested between the accomplishments of (2) and the parallel achievements of (31).

In the AS framework, achievements, as opposed to accomplishments, have no initiator to bring the initial state into the picture; thus only the final state is represented. AS focus is therefore possible only on this final state and so the final state is the only state available for modification. In the examples of (31), this limitation on the interpretation of the adjunct predicate results in impossible sentences. It is not that these sentences are ungrammatical. Rather, they are unacceptable simply because the forced interpretation is nonsense: potatoes cannot be fried until raw, juice cannot be frozen until fresh, and lobsters certainly cannot be boiled until alive; real world knowledge, in other words.

As modifiers of the final state in the events denoted by the verbs in (31), the adjuncts do not make sense. If, however, we substitute these adjuncts with ones that do make sense when associated with the final state of the relevant host, then the result is completely acceptable:

(32) a. The potatoes fried crisp.
b. The juice froze solid.
c. The lobster boiled soft.

The sentences of (32) are fine because the interpretation of the adjunct predicate as a modifier of the *final* state is possible: we know that potatoes can be fried until crisp, juice frozen until solid, and so on. What we have in (32), then, are examples, not of the depictive construction, but of the modified result construction.

With achievements, then, we can get modified result constructions, but we cannot get depictives because no initial state is available for modification in these structures. Thus (31) is impossible because the result of modifying the final state is unacceptable and a depictive, modifying a non-existent initial state, is unrealizable.

Neither type of adjunct predicate is part of the original AS structure and so neither contributes to its aspectual interpretation. The predicate can be interpreted as either a d-adjpred or a result modifier, depending on AS structure type and AS focus. Whether or not a given interpretation is acceptable depends on world knowledge. Grammatical characteristics, then, do not play a determining role in the relation between adjunct predicates and their hosts.

[26] Still, it may well be the case, as Mittwoch 1991 argues, that punctuality is a necessary but not a sufficient condition for distinguishing the achievement class. (Such a view requires the assumption of punctual stages in a degree achievement like *cool*.)

7. Conclusion

By assuming the Aspectual Structure framework, this paper explains the constraints on depictive and resultative predication. The AS model and the proposed analysis affect aspectual classification in general, by arguing in favor of assigning to achievements a distinct aspectual category.

I have argued that in the case of depictives, apparent thematic restrictions, which should anyway be separated from the syntactic component, are inadequate and should be replaced by the availability of an interpretation for the relevant structures. Thus, the acceptability or unacceptability of the adjunct predicate constructions is not a question of grammaticality, but one of interpretation and its feasibility.

The possibility or impossibility of an acceptable interpretation does not drive the syntax. Rather, structures are projected freely and combined freely and AS focus is freely assigned. The onus of explanation should not fall on the syntactic component when dependence on a conceptual component is possible. In the case of adjunct predicate constructions, the burden of acceptability is on interpretation and world knowledge, conceptual components that are required in any case.

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