

## TRANSITIVIZATION IN HOPI

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### 0. Introduction.

In 1975, Jeanne wrote a paper entitled *A note on the causative in Hopi*, which focussed on the derivational suffix *-na*, typically glossed 'causative' (CAUS) and customarily associated with the semantics of causation in the literature on her language. She noticed, however, that this element deviated from the straightforward causative meaning under certain conditions. The present paper is a preliminary and tentative study of this phenomenon, with the purpose of seeking an explanation of the fact that the so-called causative suffix, under certain circumstances fails to function as a direct causative, that is to say, as the canonical causative in which the object of the derived transitive verb corresponds to the subject of the source intransitive.

The following examples of the transitivizing suffix *-na* are taken from Jeanne (1975)—we use the Hopi morpheme itself to gloss the transitivizing morphology, and certain other suffixal morphology as well, in the interests of terminological neutrality at this point in our investigation:

- (1) (a) Pòokyaya munu.  
Pokyaya fall  
'Pokyaya fell.'
- (b) Nu' Pòokyaya-t múnú-k-na.  
I Pokyaya-ACC fall-K-NA  
'I made Pokyaya fall.'
- (2) (a) Pòokyaya wa'ö.  
Pokyaya recline  
'Pokyaya lay down.'
- (b) Nu' Pòokyaya-t wá'ö-k-na.  
I Pokyaya-ACC recline-K-NA  
'I made Pokyaya lie down.'
- (3) (a) Pòokyaya taatayi.  
Pokyaya wake.up  
'Pokyaya woke up.'
- (b) Nu' Pòokyaya-t taatay-na.  
I Pokyaya-ACC wake.up-NA  
'I made Pokyaya wake up.'

- (4) (a) Pòokyaya pak-lawu.  
 Pokyaya cry-LAWU.  
 'Pokyaya cried.'
- (b) Nu' Pòokyaya-t pak-law-na.  
 I Pokyaya-ACC cry-LAWU-NA  
 'I made Pokyaya cry.'
- (5) (a) Pòokyaya taya-ti.  
 Pokyaya laugh-TOYI  
 'Pokyaya laughed.'
- (b) Nu' Pòokyaya-t taya-toy-na.  
 I Pokyaya-ACC laugh-TOYI-NA  
 'I made Pokyaya laugh.'

1. The causative-inchoative alternation.

The examples in (1-5) illustrate transitivization by means of the suffix *-na*, deriving verb forms representing the semantics traditionally associated with the so-called "causative". Accordingly, the verb pairs in (1-5) exemplify the cross-linguistically well known causative-inchoative alternation, the *na*-form being the "causative", the intransitive base being the "inchoative".

Transitivization of this sort is extremely productive in Hopi. With a class of exceptions to be noted, virtually any monadic verb in Hopi can be transitivized in this manner. The following brief lists give a representative example (taken from the *Hopi Dictionary*). In each set, the intransitive is given first followed by the transitive in *-na* and a brief gloss:

- (6) k-Verbs:
- |          |         |                         |
|----------|---------|-------------------------|
| eyo(k-)  | eyokna  | 'ring (of metal, bell)' |
| homi(k-) | homikna | 'shrink'                |
| hoyo(k-) | hoyokna | 'move'                  |
| kola(k-) | kolakna | 'parch'                 |
| wari(k-) | warikna | 'run (sg.)'             |
- (7) yku-Verbs:
- |             |               |                               |
|-------------|---------------|-------------------------------|
| henanàyku   | henanàykina   | 'start to trot'               |
| horaràyku   | horaràykina   | 'start to kick'               |
| kwàlâlâyku  | kwàlâlâykina  | 'start to boil'               |
| tsölöl'öyku | tsölöl'öykina | 'start to sprinkle (weather)' |
| yu'a'àyku   | yu'a'àykina   | 'start to speak'              |

(8)	va-Verbs:		
	hongva	hongvana	'stand up (pl.)'
	kuyva	kuyvana	'sprout (of plant)'
	tokva	tokvana	'fall asleep (pl.)'
	yesva	yesvana	'sit down (pl.)'
(9)	ti-Verbs:		
	alöngti	alöngtoyna	'change'
	apiti	apitoyna	'be of use, do one's part'
	hamànti	hamàntoyna	'become embarrassed'
	kyaahakti	kyaahaktoyna	'get rich'
(10)	ta-Verbs:		
	hotsitsita	hotsitsitoyna	'be zigzagging'
	kwalalata	kwalalatoyna	'be boiling'
	mururuta	mururutoyna	'be twisted together'
	nàmötötöta	nàmötötötoyna	'be turning repeatedly'
	làngta	làngtoyna	'be stretching out'
(11)	i-Verbs:		
	kyaktayi	kyaktayna	'hurry'
	laaki	lakna	'dry'
	momori	momorna	'swim'
	o'oki	o'okna	'stop crying'
	qöövi	qöpna	'pout'
	haani	hanna	'descend'
(12)	ø-Verbs:		
	hukya	hukyana	'cool off'
	waaya	waayana	'escape (sg.)'
	watqa	watqana	'escape (pl.)'
	yooha	yoohana	'fracture, break'
	peekye	peekyena	'decay'

There are two observations to make here which are relevant to our discussion.

First, verbs which transitivize in this way are morphologically complex, consisting in a root (R) of indeterminate (possibly verbal) category followed by a verbal suffix (to be glossed V in what follows). The latter element is the "verb" in the true sense, since it is the element which bears subsequent verbal inflection in finite clauses. Verbs in the final set, (12), are exceptions to this observation, since no detectable verbalizing suffix appears. We assume, for present purposes, that these verbs are not in fact exceptional but take a phonologically non-overt verbal suffix, symbolized  $\emptyset$ .

Second, the transitivity alternation exemplified in (6-12) corresponds to the canonical, or standard, causative-inchoative alternation illustrated in the sentences of

(1) through (5). Specifically, they have the property that the subject of the intransitive corresponds straightforwardly to the object of the transitive.

2. The problem—verbs of manufacture and preparation.

The issue which we wish to address in this work is an extremely small and narrow one, but it is one which has implications for a general study of argument structure relations in Hopi and in Uto-Aztec languages and in general.

Consider the following sentences ~~from the Hopi dictionary~~:

- (13) (a) Um yan-wat kii-ta-ni.  
2sg thus-WAT house-TOYA-FUT  
'Build the house this way.'
- (b) Itàa-ti qa na'önani-qa ita-mu-y kii-toy-na.  
1pl-child NEG lazy-COMP 1pl-PL-ACC house-TOYA-NA  
'Because our child is not lazy, he built a house for us.'
- (14) (a) Itàa-taha inu-gnam tots-ta.  
1pl-uncle 1sg-for shoe-TOYA  
'My uncle made shoes for me.'
- (b) Pu-t tiyòoya-t katsin-na-'at pu-t tots-toy-na.  
3sg.ACC little.boy-ACC kachina-father-3sg 3sg-ACC shoe-TOYA-NA  
'The little boy's godfather provided him with shoes.'
- (15) (a) Pam piiki-t nitkya-ta.  
3sg piki-ACC journey.food-TOYA  
'He prepared piki for the journey.'
- (b) Pam koongya-y piiki-t nitkya-toy-na.  
3sg husband-3ACC piki-ACC journey.food-TOYA-NA  
'She prepared journey food for her husband.'
- (16) (a) Pam pas-ta.  
3sg field-TOYA  
'He prepared a field.'
- (b) Nu' pu-t a-ngqw pas-toy-na.  
1sg 3sg-ACC 3sg-from field-TOYA-NA  
'I gave him a piece of (my) field.' (HD: pastoyna)
- (17) (a) Pam itàa-ki-y paas qeni-ta.  
3sg 1pl-house-ACC carefully place-TOYA  
'She cleaned/prepared our house carefully.'

- (b) Pas pu-ma nu-y qa qeni-toy-na-ya.  
 PRTL 3-PL 1sg-ACC NEG place-TOYA-NA-PL  
 'They don't make (any) room for me.'
- (18) (a) Itàa-tumtsoki-y qa panaptsa-'y-ta.  
 1pl-piki.house NEG window-'Y-TA<sub>2</sub>  
 'Our piki house doesn't have a window.'
- (b) Ita-m tumtsoki-t panaptsa-toy-na-ya.  
 1-PL piki.house-ACC window-TOYA-NA  
 'We made a window for the piki house.'
- (19) (a) Nu' taapalo-t us-ta.  
 1sg shawl-ACC drape-TA  
 'I am draped in a shawl.'
- (b) Ita-m mööwi-t taapalo-t usii-toy-na-ya.  
 1-PL sister-in-law-ACC shawl-ACC drape-TOYA-NA  
 'We draped our sister-in-law with a shawl.'
- (20) (a) Pam saana-t moy-ta.  
 3sg gum-ACC swallow-TOYA  
 'She swallowed gum.'
- (b) Pam mööyi-y saana-t moy-toy-na.  
 3sg niece-3ACC gum-ACC swallow-TOYA-NA  
 'She made her niece swallow gum.'

The last three sentences, i.e., (18-20), represent uses of the transitivizing suffix *-na* which, despite their importance for a complete study of Hopi transitivization, we will set aside for the purposes of the present study. We include them here simply to illustrate that fact that the sequence glossed *-TOYA-NA* enjoys a wide range of uses and, specifically, that it is not limited to the use which we are able to discuss at present.

The use of this combination which interests us in this work is that which is exemplified in the sentences, or rather in the sentence pairs, (13) through (17). The verb of the second sentence in each pair in (13) through (17) bears the familiar transitivizing suffix *-na*. But the relation between the first and second sentence in each pair is *not* the one which we are led to expect on the basis of the transitivity alternation exemplified by sentences (1) through (5) in the introduction—that is to say, (13) through (17) do not represent the same simple causative-inchoative alternation seen in the verbs of (6) through (12).

Unlike the standard causative-inchoative alternation, the alternation involved in (13) through (20) has the characteristic that the object of the derived transitive is, so to speak, an "introduced" argument and therefore does not correspond to the subject of the corresponding underived verb. Thus, the object of *kiitoyna* is not a "causee" and does not

correspond to the subject of *kiita*. The semantic "role" of the object of the derived verb is that which is customarily termed "beneficiary," "recipient," or "goal" in current usage. We list now the verbs of (13) through (17) with glosses reflecting the semantic roles involved in an approximate manner (with x corresponding to the referent of the object of the derived verb):

(21)	<i>kiita</i>	'build house'	<i>kiitoyna</i>	'build house for x'
	<i>totsta</i>	'make shoe'	<i>totstoyna</i>	'make show for x'
	<i>nitkyata</i>	'make journey food'	<i>nitkyatoyna</i>	'make journey food x'
	<i>pasta</i>	'prepare field'	<i>pastoyna</i>	'give field to x'
	<i>qenita</i>	'prepare space'	<i>qenitoyna</i>	'make room for x'

Semantically, we have here the relation expressed by the dative in many languages—e.g., Spanish, German, Warlpiri. This is the relation expressed by the prepositions *to* and *for* in English and, also in English and many other languages, by the "indirect object" in the so-called double object construction with verbs which permit that construction.

Let us use the term *benefactive* in referring to the derived *na*-suffixed verb of the Hopi alternation represented in (13) through (17). This is intended as a reference to the semantic role of the introduced argument. The problem which we wish to address here can be stated in terms of this vague semantic label, as in (22):

- (22) Why does the derived form of the verbs in (21) have the *benefactive* meaning, instead of the simple transitive, or causative, meaning associated with the derived verbs of (6) through (12)?

There are two issues here, in fact. First, why do the verbs of (21) have the benefactive meaning. And second, why *can't* the verbs of (21) have the causative meaning? That is to say, for example, why must (23) have the benefactive meaning and *not* the causative meaning:

- (23) Nu' i-ti-mu-y kii-toy-na.  
 I 1sg-child-PL-ACC house-TOYA-NA  
 'I provided my children with a house.'  
 ≠ 'I had my children build a house.'

The answer that we wish to explore will require us to examine the internal structures of both kinds of *na*-derived transitive verbs and to determine the lexical argument structure configurations projected by the items of which both the transitive and intransitive verbs are composed. We are concerned in particular with the grammatical, or structural, aspects of the problem and, accordingly, we are especially interested in accounting for the syntactic observation embodied in (24):

- (24) The object of the derived na-verbs of (21) is an internal argument *not* present in the corresponding underived verb. In particular, the object of the verbs of (21) does not correspond to the subject of the underived verb. This is in contrast with the situation represented in the canonical causative-inchoative of the verbs of (6) through (12).

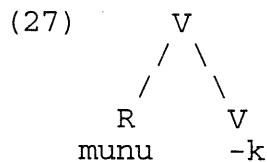
The verbs exemplified by (21) share a property which is perhaps obvious at this point. Like the standard causative-inchoative verbs, the verbs of manufacture upon which the benefactive construction is based are complex, consisting of a root plus the verbalizing ending *-ta* (< *-toya*). This ending also occurs in verbs of the standard causative-inchoative alternating sort (cf., set (10) above). But there is a systematic difference, the root element in verbs of manufacture is consistently *nominal*, while the root component of causative-inchoative alternating verbs is either verbal or categorially underdetermined (hence the noncommittal of R for the gloss of those elements). Thus while *kwalalata* 'be boiling' is composed with a verbal root (glossed R), *kiita* 'build a house' is composed with a nominal root (glossed N):

- (25) (a) R-based verbal theme:  
           kwalala-ta (< kwalala-toya)  
       (b) N-based verbal theme:  
           kii-ta (< kii-toya)

We will assume that the verbs of (6) through (12) and all others like them are R-based; by contrast, the verbs of (21), and their like, are N-based. This is relevant to the problem at hand, we believe.

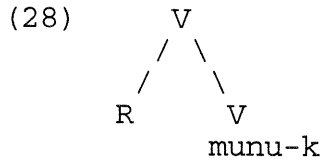
We make the further assumption that these verb words are composed in the first instance through the process called Merge in recent work in the minimalist framework developed in Chomsky (1995). Thus, for example, the verb of (1a), repeated here as (26), has the lexical syntactic structure depicted in the configuration (27):

- (26) Pòokyaya munu.  
       Pokyaya fall  
       'Pokyaya fell.'



This is, of course, the *abstract* representation of the result of selecting the root *munu* 'fall (sg.)' and the verbal head *-k* from the lexicon and applying Merge, to form the syntactic configuration labeled V, in accordance with the principle that the head "projects" its

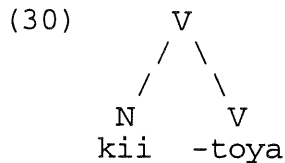
category, labeling the construction formed by Merge. The actual word which receives phonological shape implicates another process, conflation, a variety of the operation better known as "incorporation." This will take the root element and adjoin it to the head, producing a single word. We will abbreviate the result of this operation somewhat, simply placing the phonological matrix of the root element under the head V into which it conflates, as in (28):



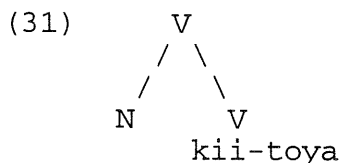
The R-node left behind on the left branch is the trace of the incorporated element *munu*. Of course, in the actual pronunciation of the verb in (26), the *-k* suffix, being word-final, is not pronounced, a fact of Hopi morphophonology. If the word is further suffixed, as in the transitive (1b), this element is pronounced. The same is true, for example in (29), the future form of (26), in which the *-k* element is followed by the future ending *-ni*:

- (29) Pòokyaya munu-k-ni.  
 Pokyaya fall-K-FUT  
 'Pokyaya will fall.'

The verb *kiita* 'build a house' is likewise composed by Merge, giving the same bipartite syntactic configuration, with the verbal head *-toya*: and the nominal complement *kii* 'house':



Here again, conflation (incorporation) applies, adjoining the nominal complement to the verbal head, forming a single phonological word:



Independent phonological processes reduce the verbal suffix to *-ta* in this case, giving *kiita*.

With this background, we can begin to consider answers to the questions posed in (22) and, correspondingly, an explanation for the structural observation in (24). We emphasize that this is a mere beginning, since we are investigating only a small part of a large domain. We seek answers which are consonant with general principles of



universal grammar. It will be necessary, therefore, to look at related phenomena in other languages. Because of time constraints, we must limit ourselves to Hopi and English in our cross-linguistic remarks.

### 3. A cross-linguistic observation.

Transitivity alternations of the type represented by the Hopi verbs of (6) through (12) are extremely common among the languages of the world. In English, for example, de-adjectival verbs, like *clear* in (32), easily participate in the alternation:

- (32) (a) The sky cleared.  
(b) The wind cleared the sky.

Other English alternating verbs include the following:

- (33) English alternating verbs:  
bend, break, close, crack, darken, drop, lengthen, narrow, open, rip, sink, split, tear, thicken, thin, whiten, widen, ... .

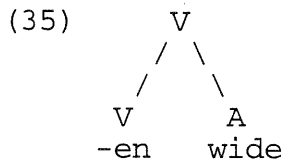
By contrast, the following verbs, typical members of the so-called "unergative" class, fail to alternate:

- (34) English non-alternating verbs:  
blossom, calve, cough, cry, fawn, foal, giggle, groan, laugh, pup, scream, shout, sing, sleep, smile, sneeze, sweat, twinkle, ... .

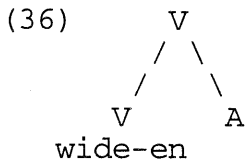
The relevant observation to be made here is this. The non-alternating verbs of (34) are all denominal—*laugh, sleep, foal*, etc. are not only verbs, they are nouns as well. Alternating verbs, on the other hand, involve a range of categorial sources, adjectives being very prominent among them.

The English situation just described is reminiscent of that seen in Hopi; denominal verbs resist simple transitivization. This suggests that there is something about nouns which is responsible for the inability of denominal verbs to undergo simple transitivization. If this is so, then part of the puzzle formulated in (22) may receive an answer. And more, the answer is based on general principles, not limited to one language. Before pursuing this line of thought, we present our conception of de-adjectival and denominal verb formation in English.

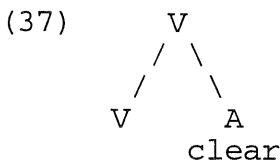
De-adjectival verbs often involve the suffix *-en*, functioning as the verbal head, as in the diagram (35), representing the abstract configuration corresponding to intransitive *widen*, resulting from the application of Merge to the pair *wide* (A) and *-en* (V)—head-initial in accordance with the general pattern of the language:



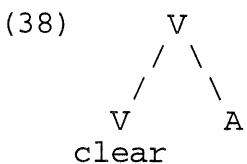
Conflation derives the actual verb *widen* by right-adjoining the adjective to the verbal head, as depicted in the abbreviated conflation (36), the stranded A node being the trace of the conflated adjective:



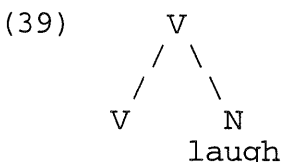
For many adjectives, the derived verb employs a phonologically null head, as in the case of *clear*, whose initial structure (abstracting away from conflation) is shown in (37):



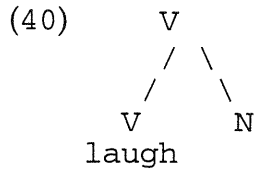
Conflation adjoins the adjective to V, giving (38)—an abbreviation, as before:



Denominal verbs arise in parallel fashion. Here, however, the verbal head is standardly null phonologically. The Merge operation combines the verbal component with a noun (N) in the familiar left-headed configuration, as in (39), the structure for *laugh*:



The noun conflates with the verbal head, giving (40)—as in previous example, this abbreviates the configuration resulting from conflation by simply reproducing the phonological matrix of the noun under the verb, leaving the original N-node to mark the original position, i.e., that of the trace, assuming the operation leaves a trace:



What we have proposed here for English and for Hopi is, of course, hypothetical. But let us assume it is real for present purposes. If it is, then we might have some handle on the asymmetry which has been observed. In general, setting aside certain exceptions which must eventually be dealt with, the two languages agree in the following respect:

- (41) (a) Denominal verbs resist simple transitivity—i.e., they fail to participate in the alternation represented by such Hopi transitivity pairs as *munu-k/muni-k-na* 'fall/make fall' and by such English pairs as *clear/clear* 'become clear/make clear'.
- (b) Verbs which do permit simple transitivity—i.e., verbs which participate in the standard transitivity alternation exemplified by the verbs cited in (a)—are typically composed with roots which are not nominal.

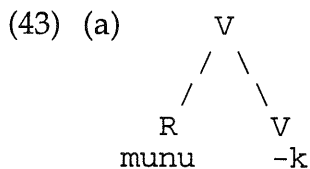
These formulations are not exceptionless, it should be noted, but they point in a direction which we feel compelled to examine, namely, that expressed in (42):

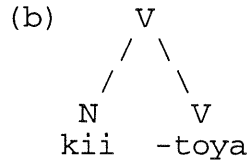
- (42) The behavior of a given verb in respect to simple transitivity is determined by the properties of the elements of which it is composed.

That is to say, whether a verb undergoes simple transitivity depends upon its make-up. Thus, for example, verbs built upon nouns generally fail to undergo simple transitivity (i.e., transitivity with conventional causative semantics). Their failure to do so has something to do with the fact that they are denominal. Conversely, verbs whose composition involves, say and adjective or, in Hopi, a verbal root, readily transitivity, other things being equal.

#### 4. A preliminary theory of simple transitivity.

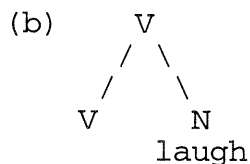
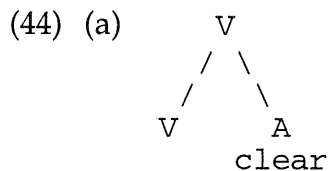
If a verb's ability to undergo transitivity depends upon the properties of the lexical elements of which the verb is composed, then what are these properties? The Hopi verb *munu(-k)* 'fall' is composed of a verbal head V (-k) and a verbal root R (*munu*), as depicted in (43a), and the Hopi verb *kii-ta* 'build a house' is composed of a verbal head -*toya* and a noun *kii*, as depicted in (43b):





What is it about the combination in (43a) that permits simple transitivity, and what is it about the combination in (43b) that prevents it?

The same questions apply to the English alternating verb *clear* and the denominal verb *laugh*, whose basic intransitive lexical structures are shown in (44), abstracting away from conflation:



The order of elements in Hopi and English is represented as different in these configurations, in recognition of the general head-final character of Hopi and head-initial character of English. From our point of view, this difference is of no consequence. We are interested not in linear order but in basic syntactic relations. Here, what we wish to express is the head-complement relation, defining the complement relation as in (45):

(45) The complement is the immediate sister of the head.

It follows that the head and the complement are immediately dominated by the same node. The head is defined as follows:

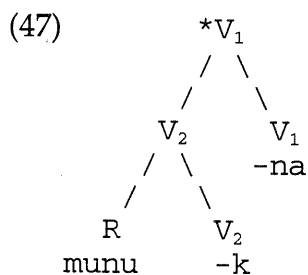
(46) The head is the constituent *C* which determines the label attached to the node immediately dominating *C* and its immediate sister.

Another terminological practice, one which we will follow, employs the verb *project*. We can say that the head (H) "projects" its category to the node dominating it and its immediate sister. In this usage, the verbal head in (43) and (44) projects its category *V* to the node dominating the verbal head and its complement. This is why *V* appears both in the head position and in the dominating node. Various notational devices are sometimes used to distinguish the various "level" of projection—*V'* for intermediate, *VP* for maximal. These notational conventions are essentially redundant, however useful.

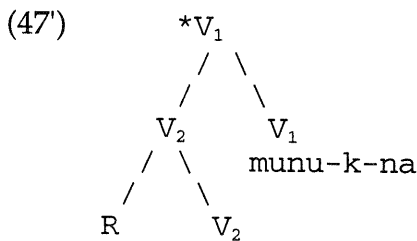
Let us now consider how transitivity takes place. In English, as we have seen, transitivity does not involve extra morphology—the verb appears without

transitivizing morphology morphology but within a configuration which permits it to take an object, the latter corresponding to the subject of the intransitive counter part, as exemplified by the uses of *clear* in (32). In Hopi, however, the transitive member of a given transitivity pair bears overt transitivizing morphology, to wit, the suffix *-na*. We will assume for both languages that transitivization involves a verbal head, null V in English, overt *-na* in Hopi. And we will assume that in both languages, this transitive verbal head takes the intransitive construction as its complement. This is the basic notion of transitivization.

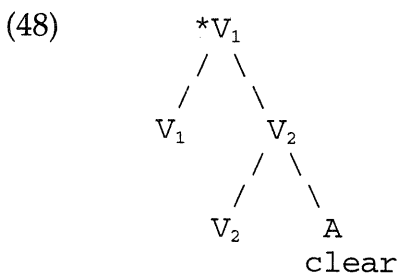
However, it will not do simply to insert, say, (43a) or (44a) into the complement position of the transitivizing verbal head, as in the hypothetical (47), Hopi, and (48), English:

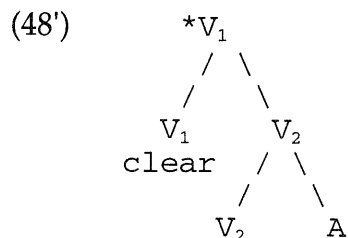


With conflation, applying cyclically to  $V_2$  and  $V_1$ , we derive the correct form of the transitive verb *munu-k-na* 'make fall':



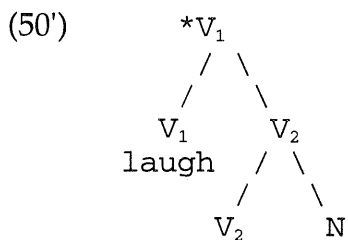
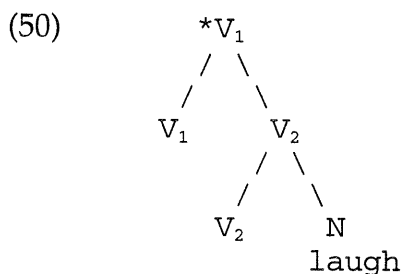
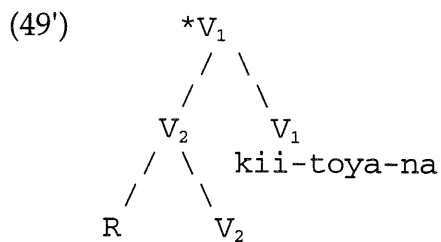
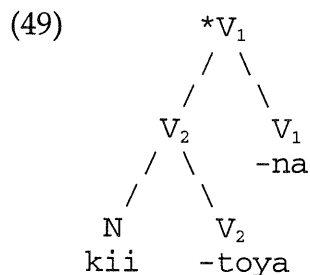
But this structure is nonetheless ill-formed. The derived verbs has no object. There is no nominal argument (DP) within the structure to which the derived transitive verb can assign accusative case. Hence, the structure fails. The same will be true of the English transitive *clear*, and other such de-adjectival verbs, as in (48) and its conflated counterpart—here again, the derived transitive has no object:





We will assume that the failure in (47) and (48) is fundamentally the same in Hopi and English and, further, that it is to be traced to the fact that some property, or combination of properties inherent in the component elements remains unsatisfied.

What *is* the essential property involved here? Notice that we *want* failure in the case of denominal verbs, since that would explain why they fail to participate in simple transitivity. Thus, assuming this line of thought to be correct, the ill-formedness of (49) and (50) is both to be expected and desirable:



Hopi *kiitoyna* and English *laugh* exist as words in the two languages, they do not exist as simple transitives. Hence it is expected that they would not take objects in manner of the transitives of canonical alternating pairs like Hopi *munu(-k)/muni-k-na* and English *clear/clear*. The ill-formedness of (49) and (50) is therefore expected.

What is it about alternating verbs that permits simple transitivization? How does the transitive member of an alternating pair acquire its object? And how comes it that the object of the transitive corresponds to the subject of the intransitive? If the answer to these questions has to do with the lexical properties of the elements involved, as we expect, then we must look at the lexical items themselves. In the clear cases, verbs composed with nouns behave differently from verbs composed with adjectives or verbal roots. What is the nature of this difference?

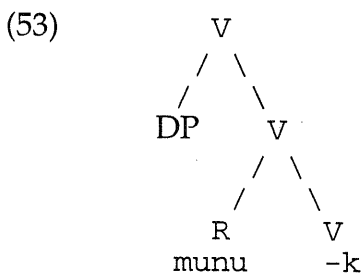
Let us suppose that the basic difference is that set out informally in (51):

- (51) (a) Adjectives and verbal roots have the property that they force the verbal head governing them (i.e., to which they bear the complement relation) to project a specifier position, normally occupied by a nominal argument (a DP).  
 (b) Nouns do not force the projection of a specifier.

The specifier relation is defined informally as follows:

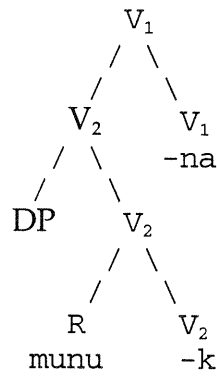
- (52) The specifier is the immediate sister of the first non-trivial projection of a lexical head; the latter determines the label dominating the specifier and its sister.

If the Hopi verbal root *munu* forces the projection of a specifier, then the full lexical structure of the intransitive verb *munu(-k)* is as in (53):



The DP, e.g., *Pokyaya* in (1a), represents the subject in the intransitive use of the verb. If we now transitivize this structure, i.e., embed it as the complement of the transitivizing verb *-na*, we straightforwardly derive the following transitive counterpart (abstracting away from conflation, which produces the phonological word *munu-k-na*):

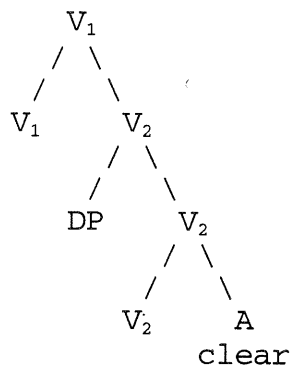
(54)



This gives a successful transitivity, since the derived transitive verb (assembled in  $V_1$  through conflation) locally c-commands and governs DP, to which it assigns accusative case as required in sentential syntax in which DP is the object of the derived verb.

The derivation of transitive clear is exactly parallel, assuming that adjectives force the projection of a specifier in the lexical representation:

(55)



As in the Hopi example just considered, so also here, the derived transitive *clear* (assembled at  $V_1$  through conflation) is in the position required for case assignment to the sentential syntactic object.

The appearance of the specifier, DP, as the sister to V in these structures satisfies two requirements. It satisfies the lexical properties of Hopi R (verbal roots) and English adjectives that they must have a local specifier, forcing the verbal head to project one. And it satisfies the sentential syntactic requirement of the transitivity head that it have an object to which it assigns case (in the normal course of events); this also "forces" the lexical head to project a specifier in the appropriate position. By contrast, in the standard case, nouns do not force the projection of a specifier; and we assume that if a given noun does not force the projection of a specifier, it cannot do so. Such nouns, then, cannot appear in configurations comparable to (54) and (55), in which a DP appears in the inner specifier position. Again, this explains why there is no transitive *laugh* in English with the meaning 'make x laugh' (hence ungrammatical *\*the clown laughed the children*). And it explains why Hopi *kii-toy-na* is not the simple transitive of *kii-ta* 'build a house'; that is to say, *kii-toy-na* cannot mean 'make x build a



house' or 'have x build a house', or the like. We leave for a later time the question of why *kii-toy-na* does mean 'build a house for x', 'build x a house', or 'provide a house for x'. Thus, we have attempted to explain only half of the question posed in (22) above, namely, the part of that question which concerns itself with the observation that Hopi denominal *ta*-Verbs do not permit simple transitivization. We postpone discussion of the other part of the problem, i.e., use of these verbs in the benefactive sense. That discussion will also have a cross-linguistic aspect, implicating the fact that English verb phrases like *build John a house*, while grammatical, cannot mean 'have John build a house'; they do have the "benefactive" sense, of course.

#### 5. A final remark.

The notion that the behavior of the verbs under consideration here stems from properties of their component elements raises the question of the "deep" source of these supposed properties. Is there something more that can be said about the property of nouns that they prevent the projection of a specifier by the governing verb? And what of the other categories, adjectives, for instance, or the Hopi verbal roots? At this point, we can only mention a correlate; a vaguely semantic correlate.

Nouns typically denote entities and, therefore, they normally correspond to arguments of predication. On the other hand, adjectives have the property that they must be attributed of entities; they are predicates or modifiers, demanding an associated entity expression to satisfy this property. It is not surprising, therefore, that adjectives should appear in lexical argument structure configurations in which a DP also appears, in an appropriate position, defining a sort of subject-predicate configuration. Nouns, on the other hand, might be expected to eschew precisely such configurations. The position of verbs is somewhat variable. Evidently, Hopi verbal roots like *munu* 'fall' regularly force the projection of a specifier. In English, the situation is not clear. While the two languages agree on the question in relation to nouns, there is reason to believe that in English verbs, in and of themselves, rarely force projection of a specifier. A verb not otherwise impelled to project a specifier must take an external subject in sentential syntax—this is standard for fully transitive verbs in that language, and in Hopi as well. The languages agree, on the behavior of the verbal heads of denominal verbs. These do not force the projection of a specifier. Thus, Hopi *kii-ta* 'build a house' and English *laugh* cannot acquire an internal specifier in virtue of the verbal head itself. Instead, the sentential syntactic subject of these verbs, like that of fully transitive verbs, is the standard *external subject* (Williams, 1980). If this were not so, *kii-toy-na* could mean 'have x build a house' and *laugh* could mean 'make x laugh', contrary to fact.

#### References

- Hopi Dictionary Project. 1998. *Hopi Dictionary/Hopiikwa Lavàytutuveni*. Tucson: The University of Arizona Press.
- Jeanne, LaVerne Masayesva. 1975. A note on the causative in Hopi. MIT Manuscript.

Williams, Edwin. 1980. Predication. *Linguistic Inquiry*.