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PASSIVES AND THEIR MEANING

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This paper proposes an underlying representation for passive sentences in Mojave and in Uto-Aztecan, and explores the broader issues that arise in extending the analysis to other languages and incorporating it in linguistic theory as a substantive language universal. In the introduction, this underlying representation is presented and discussed in relation to previous analyses of the passive. It is claimed specifically that passive sentences in Mojave and Uto-Aztecan are basically impersonal, and derive from structures in which a clause with unspecified subject is embedded as subject complement to the predicate BE. Agentive phrases, when they occur, are said to derive from an external source, and are not considered an intrinsic part of the passive construction. The Uto-Aztecan evidence, primarily comparative and diachronic, is presented in §1. It is argued that reflexive constructions commonly assume passive function because both involve 'non-distinct' arguments, of which coreferential and unspecified arguments are special cases. The concept of non-distinct arguments receives considerable support from various syntactic changes that occurred in Uto-Aztecan. The Mojave evidence, primarily synchronic, is presented in §2. In §3, a variety of related issues are treated, including potential problems in extending the analysis to English, the source of *by*-phrases, the nature and status of unspecified arguments, the semantic claims implied by the proposed underlying representation, and the relationship between passive and perfective constructions.

The preparation of this paper was prompted by the fact that the authors, working independently and with very different subject matter, arrived at essentially identical conceptions of the underlying structure of passive sentences. The research reported in Langacker 1974b is a comparative and diachronic study of the Uto-Aztecan family of American Indian languages.¹ That reported in Munro 1974 is a synchronic study of Mojave, a Yuman language with broader Hokan affiliations.² The convergence in our analyses (which are based on a broad range of evidence) is striking, since the languages are genetically unrelated, and there is no reason to suspect that borrowing could be responsible for the similarities in the underlying representations of passive constructions in the two families. The works mentioned above are long and complex, dealing with a wide variety of matters, and the analysis of passive sentences is deeply embedded in the other material they contain. In view of the prominence and significance of passive constructions in theoretical discussions, we therefore felt that a concise presentation of our findings would be helpful and appropriate.

Theoretical consideration of passive constructions has naturally focused on English. Consequently, we must address ourselves to the question of whether our

¹ This research was supported by a Senior Fellowship from the National Endowment for the Humanities.

² This research was supported by a NSF Graduate Fellowship and a Woodrow Wilson Dissertation Fellowship. The fieldwork on which it is based (primarily with Nellie Brown and the late Robert S. Martin of Parker, Arizona) was supported at various times by the Phillips Fund of the American Philosophical Society, The Woodrow Wilson National Fellowship Foundation, and the Department of Linguistics, University of California, San Diego.

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evidence, which pertains to languages of other families, is relevant to previous analyses involving passives—and if so, how. It strikes us as being pointless, however, to argue on a-priori grounds for the relevance of cross-linguistic evidence to the analysis of English and the formulation of an adequate linguistic theory; this relevance should be obvious to most scholars, and for those to whom it is not, a-priori arguments will hardly suffice. The issue must be decided on empirical grounds, by bringing cross-linguistic evidence to bear on specific problems and showing that it leads to insightful results.³ The positions which we outline in the following paragraph appear self-evident to us on the basis of our collective experience with a considerable variety of languages from a number of different families. We do not assert them as doctrine or dogma, but merely to make explicit our working assumptions.

First, we assume that an adequate linguistic theory must incorporate an extensive account of substantive language universals; the specification of substantive universals will ultimately prove much more important than the study of purely formal universals (which has tended to dominate the attention of transformational grammarians), and will greatly facilitate the definition and clarification of formal problems. Second, we assume that passivization is a universal phenomenon, and that at least certain aspects of passivization will be specified among the substantive universals in linguistic theory.⁴ Third, though we do not assume that the most abstract linguistically relevant underlying representations are necessarily identical for all languages, we do believe that all human languages are sufficiently similar to one another, especially at more abstract levels of representation, so that well-motivated results concerning one will be of heuristic (if not evidential) value concerning the abstract properties of another.

Here we are content to emphasize the heuristic import of our research. Our specific claims concerning the underlying structure of passive sentences will pertain only to Mojave and Uto-Aztecan. We have not extensively investigated the adequacy of this underlying structure for English or for other languages, and we will not prejudge the results of such investigation. We nevertheless feel that the underlying structure we propose merits serious consideration for English and for the theoretical characterization of passive constructions, and we will be surprised and disappointed if it proves totally wrong. We will make a number of comments on the appropriateness of our analysis for English and other languages, but these are meant to be suggestive rather than definitive.

The basic underlying structure which we propose for passives in Mojave and Uto-Aztecan is sketched in Figure 1.⁵

³ See Perlmutter & Orešnik 1973 for an instructive example.

⁴ We are, of course, assuming that linguistic theory specifies both 'absolute universals', those found without exception in every human language, and 'universal tendencies', which are provided for by the innate linguistic equipment of the human child but are not necessarily exploited in every language. When the universal tendencies are arranged in a continuum according to the likelihood of their implementation in individual languages, absolute universals may be viewed as the strongest.

⁵ V stands for a predicate of some kind, and N for an argument. Since we are dealing with verb-final languages, we use verb-final structures for sake of discussion; but our conclusions are essentially independent of choices made in regard to various theoretical issues, such as whether

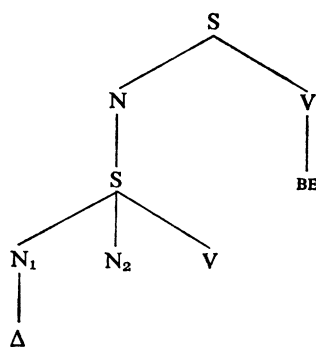


FIGURE 1

This structure involves a subject complement clause embedded to the predicate *BE*. The underlying subject of this complement clause, N_1 , is unspecified. Normally N_2 , the direct object of the complement clause, will be substituted for the unspecified N_1 and appear as the surface subject of the lower *V*. If it does, we will speak of the sentence as being 'passive'; if it does not (and the surface subject remains unspecified), we will speak of it as being 'impersonal'. The lower *V* will normally function as the main-clause predicate in surface structure, with *BE* reduced to the surface status of a passive suffix (perhaps through predicate raising—cf. Langacker 1973) or an auxiliary verb.

Several aspects of Fig. 1 merit preliminary comment. First, *BE* is considered as a predicate with real semantic content, not simply a semantically empty grammatical marker that could be inserted transformationally. For now, we say only that it may be regarded as a stative or existential predicate—one that contrasts with and (in many instances) occurs in lieu of the abstract active predicate *DO* (Ross 1972). Second, the underlying (logical or semantic) subject is said to be unspecified. An unspecified argument is to be sharply distinguished from a deleted argument, or from an argument that is specified only by means of a referential index of some kind; and it cannot necessarily be equated with any pro-form in the language (such as Eng. *somebody*). Rather, an unspecified argument is one whose existence is semantically implied, but which is identified by neither reference nor lexical content. Third, no instrumental or agentive phrase (equivalent to the *by*-phrase of English passives) is posited as an integral part of the passive construction per se. When such a phrase does occur, it is taken to be derived from some external source, such as a clause conjoined to the structure in Fig. 1. From these properties, it follows that passive sentences have distinct underlying structures: a passive sentence does not derive from the same abstract representation that underlies the corresponding active sentence (if there is a corresponding active), but rather from

linear order is pertinent to underlying representations, the manner in which the distinction between subject and direct object is to be formally represented, or the choice between phrase trees and dependency trees.

one with special semantic and syntactic properties. It also follows that there is no single rule that can felicitously be referred to as a 'passive transformation'.

We therefore characterize passive sentences in terms of a cluster of properties, which include embedding to a stative-existential predicate, unspecified semantic subject, and topicalization (or at least 'foregrounding') of the underlying object (e.g., by virtue of its movement to surface subject position). There is no necessary relationship among these properties; and while there are constructions that display all these properties and may therefore be regarded as prototypical passive constructions, we may also recognize the existence of 'semi-passive' constructions,⁶ which combine two of these properties but lack the third. Thus impersonal sentences (as defined above) involve embedding a clause with unspecified subject to the predicate BE, but the underlying object does not become the surface subject. Our characterization, then, while accommodating the intuitive unity and coherence of the notion 'passive', permits the flexibility needed to relate this notion to the disparate versions of passive or passive-like constructions found in natural language.

So far as we know, previous analyses of English passives have always assumed a specified underlying subject that surfaces as the object of the preposition *by*.⁷ The *by* which accepts this nominal as surface object is either introduced as part of (or subsequent to) the passive transformation, as in Chomsky 1957; or else it is present with dummy object in underlying structure, sometimes as one exponent of the manner-adverbial constituent, as in Chomsky 1965 (criticized in G. Lakoff 1970). If one applies our analysis to English, however, the underlying subject will always be unspecified, while the surface object of *by* will also be the underlying object of *by*, which may be viewed either as a predicate or (equivalently for most present purposes) as a meaningful underlying preposition, but not as an empty grammatical marker.

Be has received various treatments in previous analyses of English passives. Often it is treated as a meaningless auxiliary verb employed for purely grammatical purposes, either inserted transformationally (Chomsky 1957) or present in deep structure. Much more in line with our approach is that of Hasegawa 1968 and R. Lakoff 1971 (further supported in Bouton 1973), in which *be* is treated as a main verb taking a complement clause. Under Hasegawa's analysis, the passivized clause

⁶ We prefer this term to 'pseudo-passive' or 'medio-passive'. 'Pseudo-passive' implies a greater difference from 'true' or 'prototypical' passives than the facts warrant; and it is obviously desirable to avoid the confusion and controversy surrounding the term 'medio-passive'.

⁷ Hasegawa 1968 posits unspecified subjects for 'statal' passives, such as *The door was already shut when I got there*, but not for regular passives. Emonds 1970 posits an unexpanded subject NP for passives that lack *by*-phrases (such as *Germany was defeated*) in order to avoid the awkwardness of *by*-phrase deletion; however, he derives passives with *by*-phrases from underlying structures having specified subjects. The unexpanded NP nodes which he introduces are posited for narrowly syntactic purposes, and are not necessarily to be attributed either semantic value or semantic significance—in contrast to the unspecified arguments which we discuss here. Consider also the following statement by Seiler (1973:840): 'In active sentences the term OBJECT is marginal, while the term AGENT is non-marginal. In passive sentences the AGENT is marginal, the OBJECT non-marginal.'

originates as an object complement, while in Lakoff's it originates as a subject complement. Thus, under these analyses, the sentence

(1) *Bill was hit by John*

has the respective underlying structures shown in Figures 2 and 3.⁸

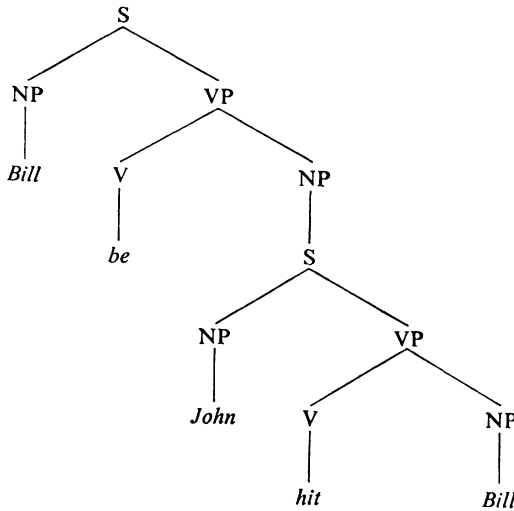


FIGURE 2

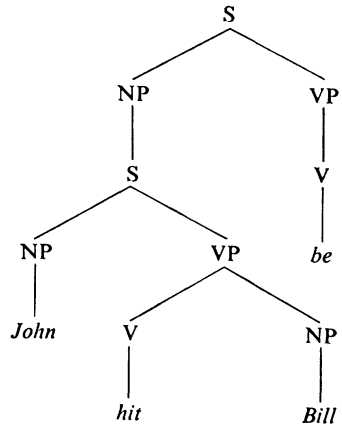


FIGURE 3

If our analysis is applied to English, however, 1 will have an underlying structure like that in Figure 3 (irrelevant details aside), except that the lower subject will be unspecified, and *by John* will have an external source.

It should be emphasized, of course, that we apply our analysis to English only in the exploratory way outlined above. Even if our characterization of passives should turn out to be correct in terms of substantive universals, its relationship to the English passive construction will still be a matter requiring detailed investigation in various syntactic domains. In particular, there is no a-priori assurance that the English construction will turn out to be a true passive rather than a semi-passive; i.e., Figure 1 might prove appropriate for Mojave and Uto-Aztecan, but Figure 3 for English. We will return below to the applicability of our analysis to English, and for the sake of discussion will examine it in terms of a true passive analysis for sentences like 1; but the tentative character of the discussion should be kept in mind.

The Uto-Aztecan evidence will be presented in §1 below, and the Mojave evidence in §2. In §3 we will return to more general discussion. Langacker is primarily responsible for the material in §1, and Munro for that in §2.

1. UTO-AZTECAN EVIDENCE. The Uto-Aztecan evidence to be presented is

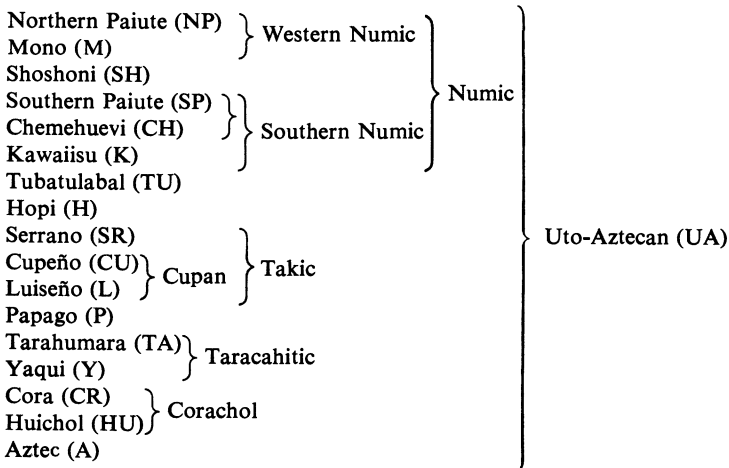
⁸ Fig. 2 is not precisely the structure which Hasegawa posits, but rather a rephrasing of his structure in more contemporary terms. He did not posit the node V above the higher *be*, and he did not treat object complement clauses as NP's.

primarily comparative and diachronic.⁹ No single UA language will be analysed here in any detail, but the facts on which the argument rests are relatively clear and uncontroversial. There is no serious doubt that underlying subjects become surface passive subjects in UA as in English, and we will take this aspect of passivization for granted.¹⁰ Instead, we will focus on the potentially more controversial claims embodied in our analysis: that the underlying subject of a passive clause is unspecified; that an instrumental or agentive phrase is not an inherent part of the passive construction per se; and that the passive clause is embedded to the predicate BE.

1.1. Our first claim, that the underlying subject is unspecified, is controversial only in the context of previous analyses of English (and other familiar languages). Freed from these preconceptions, the analyst of UA would posit unspecified underlying subjects without hesitation and would feel no need to defend his choice, for there is direct evidence in favor of this analysis and no cogent reason to consider any other.

The passive suffix reconstructable for Proto-Uto-Aztecan (PUA) occurred in several dialectal variants, including **-tiwa*, **-tiwa*, and **-liwa*. This suffix was originally bimorphemic, and in its most primitive form we can write it as **-ti-wa*. The *t ~ l* alternation derives from a process of intervocalic consonant lenition, still preserved as an active process in the Numic languages. **-wa* is one of a set of PUA suffixes which had the effect of ablauting the preceding vowel to *i* (Heath 1973), accounting for the *i ~ i* alternation. The first syllable of the passive suffix

⁹ The genetic relationships of the languages to be discussed are sketched in the chart below. This sketch is highly conservative; larger subgroupings are probable but have not as yet been conclusively demonstrated.



¹⁰ Langacker 1974b presents evidence for the surface-subject status of the underlying object of passive sentences in UA. This work justifies in greater detail various reconstructions and hypotheses concerning diachronic development whose validity can be supported only very briefly in the present paper. It also gives more extensive data and pertinent bibliographical information.

was probably optional by PUA times, and the suffix has naturally been modified in various ways in the daughter languages.

The designation of **-ti-wa* as a passive suffix, while standard, is fully appropriate only for transitive clauses. While there are exceptions, the predominant pattern throughout the family—one clearly reconstructable for the proto-language—is for this suffix to occur with both transitive and intransitive verbs; with the latter, at least, the suffix is better described as impersonal. Representative examples of the intransitive impersonal construction are given in 2, and corresponding transitive passive sentences are given in 3:¹¹

- (2) a. TU *Panaŋ-iowa -t* 'There is crying.'
cry -IMPRS-PRES
- b. TA *we ce noca-ria Penay* 'Here one works a lot.'
much then work-IMPRS here
- c. Y *tuisi yiPi -iwa -k* 'There was much dancing.'
much dance-IMPRS-PAST
- d. CR *yest-iwa* 'A wedding takes place.'
wed-IMPRS
- e. A *mik-oa -ya* 'There was dying.'
die -IMPRS-PAST(DUR)
- (3) a. TU *Paašin-iowa -t* 'He is being bathed.'
bathe -IMPRS-PRES
- b. TA *ke ne co ruwe -riwa* 'I'm not even informed.'
NEG I either inform-IMPRS
- c. Y *mesa-m Pama ho- hoa-wa* 'The tables are put there.'
table-PL there RDP-put-IMPRS
- d. CR *nakamu-riwa* 'be heard'
hear -IMPRS

¹¹ The passive/impersonal suffix has alternate phonological shapes in a number of the daughter languages; all those presently under consideration derive from the PUA suffix described above. The variation in shape does not correlate with the transitive/intransitive (or passive/impersonal) distinction; rather, the same variation is found for both transitive and intransitive forms. This is strong corroboration of the claim that the same suffix is involved in 2-3.

The following abbreviations are used for grammatical categories: ABS = absolutive; ACC = accusative; ASSR = assertive; AUX = auxiliary; CAUS = causative; DISTR = distributive; DUR = durative; IMPRS = impersonal; NARR = narrative; NEG = negative; NOM = nominative; NR = nominalizer; PASS = passive; PERF = perfect; PL = plural; PNCT = punctual; PRES = present; QUOT = quotative; R = realized; RDP = reduplication; REFL = reflexive; STAT = stative; SUBR = subordinator; TNS = tense; UNR = unrealized.

The absolutive, roughly speaking, is a suffix that occurs on a noun lacking other inflection. By accusative we mean the case inflection normally associated with non-oblique verbal objects; not all of these correspond to English direct objects, and accusative inflection may be used with non-objects in certain syntactic constructions.

Phonetic symbols are used here with their standard values. The Numic languages of UA display a three-way contrast for medial consonants; depending on the preceding element, a consonant may be manifested in lenis, fortis, or nasalized form (cf. Sapir 1930, where the terms 'spirantized' and 'geminated' are used in lieu of lenis and fortis, respectively). Here lenis medial consonants are unmarked. Fortis medial consonants are preceded by the diacritic ['], and nasalized ones by the diacritic [°].

- e. A *ʔoo- ni-k^wawi-lo -k* 'I was beaten.'
 PERF-I- beat -IMPRS-PAST

We have glossed the pertinent suffix as impersonal in both 2 and 3 in accordance with our claim that the passive construction of 3 is properly viewed as a special case of the more general impersonal construction illustrated in 2, the case that arises when the impersonal verb happens to be transitive. In both constructions, the underlying subject is unspecified—as is the surface subject in 2. When there is a direct object, this substitutes for the unspecified nominal and functions as the surface subject, as in 3; so the resulting sentences meet our definition of (true) passives.¹² The data in 2–3 are quite typical of that found in UA. The suffixes that descend from **-ti-wa* mark clauses with unspecified subjects, whether these clauses are transitive or intransitive; and there is no cogent reason, from the UA perspective alone, either to doubt that the same suffix is involved with both transitive and intransitive clauses, or to investigate any alternative analysis (such as one involving a specified underlying subject).

The relevance of these observations to English passives might at first be questioned; the UA transitive impersonal construction might be said to bear no relationship to English passives, since these have no intransitive counterpart, but do have *by*-phrases said to derive from specified underlying subjects. However, the equivalent of a *by*-phrase is also attested in UA. In all respects other than the existence of an intransitive counterpart, then, the constructions are basically the same in English and UA: in both cases BE is involved (to be discussed subsequently), the underlying object becomes surface subject, and the construction can be expanded by means of an agentive phrase. Thus we judge it likely that the constructions are in fact closely related, and that the similarity is obscured by the language-specific restriction of the construction to transitive clauses in English.

The *by*-phrase in English is so common with passives that it is invariably treated as an intrinsic part of the passive construction, though it can of course be omitted (as in the English translations for the sentences in 3). This is decidedly not the case in UA. The equivalent of a *by*-phrase is possible in various UA languages; but such expressions are quite uncommon in those languages where they are permitted, and in some languages none at all is allowed.¹³ The examples in 3 above are typical in that they lack an agentive phrase; those in 4 show that such a phrase is, however, permitted in various daughter languages:

- (4) a. M *ʔeti ni -paa'tu na- ca'ti¹kiʔi-ti* 'The gun was fired by me.'
 gun me-by REFL-fire -PRES
 b. SP *pa'ka-ŋu -l^{ti} -ca -aŋa k^wiyaci-ŋ^wanaⁿk^wa* 'He was killed by
 kill -PNCT-PASS-PAST-he bear -by the bear.'
 c. CU *nəʔə-n nə- taxwi qəʔ-ni -qət kukə -t pə-čⁱ*
 I -I my-self bite-CAUS-gonna spider-ABS it -with
 'I'm gonna get myself bitten by a spider.'

¹² The derived subject may, of course, surface as zero by virtue of other principles. For example, non-emphatic personal pronouns may be realized as zero in various UA languages. Langacker 1974a offers a functional explanation for the promotion of the underlying object to surface subject position.

¹³ Wick Miller reports this to be the case for Shoshoni (Second Uto-Aztecan Working Conference, California State University, Long Beach, 18–19 June 1974). It is also true in some dialects of Hopi.

- d. Y *hu kuču b^waʔa-wa -k ʔim ʔusi-m-mea*
 that fish eat -IMPRS-PAST my child-PL-by
 'The fish was eaten by my children.'

The Mono example illustrates the use of a reflexive prefix to indicate passive sense; this phenomenon will be discussed in detail below. The Southern Paiute suffix *-ʔii* is restricted to true passives (another suffix has assumed impersonal function); but Yaqui *-wa* can be passive or impersonal, as already seen. The Cupeño example involves a complex sentence construction that will not be investigated further; it is included only to illustrate the instrumental phrase.

Besides their infrequency, the striking thing about the instrumental or agentive postpositions of these constructions in the various daughters is that they are very dissimilar in form, and in fact bear no historical relationship to one another. In contrast to the very clear and straightforward reconstruction of the PUA passive-impersonal suffix and the constructions illustrated in 2–3, there is no non-arbitrary way to reconstruct an agentive phrase as part of this construction. The sentences in 4 differ so much, both in syntax and in the form of the postposition, that we are forced to conclude either that PUA allowed no agentive phrase at all in passive-impersonal sentences, or that such a phrase was allowed but was so incidental to the construction that it disappeared in some daughters, was retained only as an infrequently chosen option in the others, and could be replaced freely by other semantically appropriate postpositions (while the passive-impersonal construction itself tended to be retained essentially without modification).

It is apparent, then, that underlying structures with unspecified subjects are appropriate for the passive-impersonal construction in PUA, and in most if not all of its daughters. The derivation of passive-impersonal sentences from such underlying structures poses no difficulties, apart from whatever problems may inhere in the derivation of agentive phrases from an external source (to be discussed in §3 below). At the same time, however, the mere existence of sentences like 4 might tempt some to impose on the data an analysis like that normally assumed for English. Such an analysis would posit a potentially specified underlying subject that is extracted transformationally from subject position and made into a postpositional object. If this underlying subject is in fact specified, it and the postposition will surface; if not, they are deleted or left unlexicalized.

This specified subject alternative must, we think, be rejected, not only because it seeks to apply a poorly motivated analysis from English, which the UA material would not itself suggest, but also on more narrow grounds of descriptive adequacy. While a specified subject might be proposed for passive sentences, since it may surface at least sporadically as a postpositional object, the analysis fails totally for intransitive impersonal sentences like those in 2. Here the putative specified subject can never surface, either as a subject or as a postpositional object. The specified subject analysis would therefore require an ad-hoc constraint to the effect that the **-ti-wa* suffix (or its reflex) requires the subject of an intransitive verb to be unspecified, but that with a transitive verb the character of the subject is irrelevant. No uniform characterization of the constructions in 2–3 would be possible, despite the fact that they are marked in the same manner: neither in underlying structure nor at the surface level would it be possible to make the generalization that **-ti-wa* requires an unspecified subject. The generalization could not be stated at the level of underlying structure because of sentences like 4b and 4d; and it

could not be stated at the level of surface structure because the underlying object becomes the surface passive subject.¹⁴

1.2. The claim that BE is an intrinsic part of UA passive-impersonal constructions will be discussed only briefly, since the existence of a special relationship between BE and passivization is apparent from more familiar languages. For the moment, we will not argue directly for the higher-predicate status of BE; but subsequent discussion will bear on this matter at numerous points, either directly or indirectly.

Considerable evidence supports the reconstruction of a PUA morpheme **ti* 'be', which can be equated with the first syllable of the passive-impersonal suffix **-ti-wa* (**-wa* will be dealt with below). This morpheme had a variety of uses. Very probably it could occur as a main verb, as its Huichol reflex *tee* still can:¹⁵

- (5) HU *hiipati hiiki we- kan- a- nu- tee -ni*
 some today they-NARR-toward-otherside-exist-NARR
 'There are some today.'

As a bound form, it served as a derivational suffix forming verbs from nouns and other categories. This suffix usually translates as 'be' in these derived forms, but it has taken on additional senses such as 'make' and 'give' in certain daughter languages. Here are a few examples: TA *rosa-re* 'be white', Y *peesote* 'be a prisoner', CR *sai-re* (one-make) 'unify', HU *Pinia-ri* (symbol-be) 'symbolize'. The active participial ending *-ti*, most clearly attested in the northern UA languages, can also be related to **-ti* 'be' by considerations beyond the scope of this paper.

More significant, perhaps, are those instances in the evolution of the daughter languages where new passive suffixes have been innovated. At least three clear examples can be found, and in each the innovative passive suffix can be directly related to BE. Two of the three cases involve the PUA derivational suffix **-tu* 'become', which occurred either alone or with the transitivizing suffix **-a* in the combination **-tu-a* 'make'. This reconstruction is non-problematic, though various semantic shifts have occurred in the daughter languages. In Tarahumara, *-tu/-ru* retains the sense 'become' in its use as a derivational suffix. However, it has also assumed passive-impersonal function, as shown in 6, and shares this function with the descendants of **-ti-wa*:¹⁶

- (6) a. TA *taši goči -ru* 'One doesn't sleep.'
 NEG sleep-IMPRS
 b. TA *gao ne pa -ru* 'I was given a horse.'
 horse I give-IMPRS

We take the semantic representation of 'become' as something approximating INCEPT [BE]; i.e., inchoation can be regarded as the inception of the existence of a

¹⁴ A uniform characterization of sentences with **-tiwa* can of course be concocted—e.g., the generalization could be stated with respect to an intermediate level of structure, after the subject has been extracted and before the direct object replaces it. But the naturalness of any such statement is open to serious question, as is the formal apparatus required.

¹⁵ The Tarahumara verb *re* 'be' no doubt also continues PUA **ti*, although **i* normally becomes TA *i*.

¹⁶ The fact that *-tu/-ru* was innovated for both transitive and intransitive clauses is strong evidence corroborating the unity of the transitive passive and intransitive impersonal constructions.

state. This semantic representation was quite possibly simplified to BE when *-tu/-ru* was adapted to impersonal use; it is also conceivable that INCEPT [BE] was retained as the semantic representation of the new passive-impersonal suffix, with INCEPT adding an aspectual nuance to sentences like 6. In either case, there would seem little doubt that 'be' and 'become' are closely related semantically (granted that 'be' is not semantically empty), regardless of what specific structures one posits.

A similar extension of this suffix took place independently in Southern Numic. Here **-tu-a* was involved, reflected in Southern Paiute as the derivational suffix *-tuʔa* 'become/turn into'. In reconstructed Proto-Southern Numic, as well as in Southern Paiute, this suffix could be used for (transitive or intransitive) impersonal sentences, but not for true passives (the underlying object does not become the surface subject). The adoption of this new, specifically impersonal suffix caused the Southern Paiute descendant of **-ti-wa*, namely *-ʔii*, to be restricted to true passives (cf. 4b). In Kawaiisu, on the other hand, the new suffix generalized to assume passive function, appearing as *-ʔoʔo* due to vowel harmonization. Examples are:

- (7) a. SP *tiʔka-ʔka-ʔtuʔa-yi* 'People are eating.'
eat -PL-IMPRS-PRES
b. SP *paʔka-ŋu -ʔtuʔa-yi -aŋa* 'One is killing him.'
kill -PNCT-IMPRS-PRES-him
c. K *kaʔa-ʔtoʔo* 'be eaten'
eat -IMPRS

In Cupeño, a new passive construction evolved, using the stative suffix *-yax* or *-yax* on verbs that normally require the active suffix *-in*:

- (8) CU *gəyiinə təm -pə-yax -wə* 'A chicken was cooped up.'
chicken enclose-it -STAT-DUR

Usually in the expanded form *miy(a)x*, *-yax* is the basic copular verb in the Cupan languages. It takes subject complement clauses overtly marked as subordinate, and occurs in a variety of other constructions as well. *-yax* itself was originally an independent verb (see Langacker 1973 for evidence pertaining to its verbal status), probably deriving from **yika* 'be' (cf. HU *yeikaa* 'be').

Thus we find a consistent relationship between passive-impersonal suffixes in Uto-Aztecan and the predicate BE, whether these suffixes derive from PUA **-ti-wa* or are innovative. Let us turn now to **-wa*, the second syllable of the PUA impersonal suffix. **-wa* does not reconstruct as 'be', but rather as a nominalizing suffix. This finding might at first be surprising, but on deeper examination it provides further support for our analysis.

1.3. In most of the daughter languages where it is attested, **-wa* derives 'abstract' nominalizations; i.e., they designate the activity described by the nominalized verb, rather than the agent, patient, instrument, product, or location of the activity. In Shoshoni and Serrano, this suffix has come to be used with agentive and instrumental nominalizations respectively, perhaps due to the incorporation of an absolutive suffix following the reflex of **-wa*. Here are some representative examples: SH *niʔka-wa-ʔpi* (dance-NR-ABS) 'dancer'; SR *ʔöšan-ih^wa-t* (write-NR-ABS) 'pencil/brush'; H *wari-k-iw* (run-PNCT-NR) 'running'; P *maak-ig* (give-NR)

‘giving’; TA *biči-wa* (have faith-NR) ‘faith’. Note that this suffix **-wa*, like that of **-tiwa*, tends to cause *i*-ablaut of the preceding vowel.

Why would an abstract nominalizing suffix be incorporated into the pre-PUA passive-impersonal suffix **-ti* to form PUA **-ti-wa*? The answer lies in the similarity between the underlying structure of a passive-impersonal sentence and that of an abstract nominalization. As the examples above indicate, the subject of an abstract nominalization is unspecified. The underlying representation of an abstract nominal such as ‘running’ will therefore be something like Figure 4, while that of an impersonal sentence such as ‘One runs’ or ‘There is running’ will approximate Figure 5.

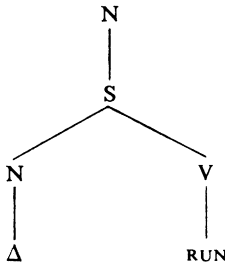


FIGURE 4

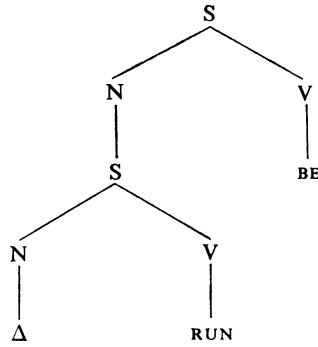


FIGURE 5

Provided that passive-impersonal sentences are attributed unspecified underlying subjects, their underlying structures properly contain those of the corresponding abstract nominals. It is not surprising, in view of this similarity, that a suffix used for the configuration in Fig. 4 should be extended to mark that in Fig. 5 as well. We see, then, that the **-ti* of **-ti-wa* corroborates the claim that passive-impersonal sentences involve BE, while **-wa* corroborates the claim that the subordinate clause subject is unspecified.¹⁷

1.4. To conclude this section, we consider another kind of evidence supporting the claim that the underlying subject of passive sentences is unspecified. This evidence involves a phenomenon found in many languages of the world, namely the extension of a reflexive morpheme to mark passive sense in addition to its basic reflexive use. So common is this phenomenon that regarding it as a mere repeated accident of linguistic history would be out of the question. Instead, a natural explanation must be sought; and an explanation is readily available in terms of the unspecified subject hypothesis. It requires the introduction of a new theoretical concept, one which receives considerable support from diachronic UA syntax and elsewhere.

The phenomenon is illustrated by Spanish sentences such as 9, and by UA examples such as those in 10:

¹⁷ Langacker 1974b discusses the incorporation of **-wa* in the PUA passive-impersonal suffix in somewhat greater detail.

- (9) *Se rompió la ventana* 'The window was broken.'
- (10) a. NP *nopi na- a'taa -lki -lti yaʔa* 'Houses are put up here.'
house REFL-sit(PL)-CAUS-PRES here
- b. P *jíwid ʔa -t ʔi- moihu* 'The ground was plowed.'
ground AUX-PERF REFL-plow (PERF)
- c. A *mo- tesi* 'They are ground.'
REFL-grind

In each case, the passive use is clear and well-attested; it involves a grammatical morpheme which is also used in straightforward reflexive sentences, and for which the reflexive function is definitely known to be historically prior.

Letting N_1 designate the subject and N_2 the direct object, we can schematize the underlying representations of reflexive and passive clauses as shown in Figures 6 and 7 respectively.¹⁸

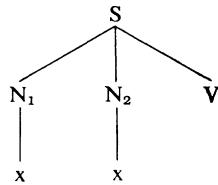


FIGURE 6

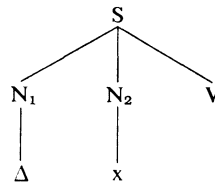


FIGURE 7

Our question, then, is why it is so common in natural languages for a morpheme which marks the configuration in Fig. 6 to be extended to mark the one in Fig. 7. We offer the following answer: in both configurations, the subject and direct object are non-distinct. In Fig. 6, they are non-distinct by virtue of coreference. In Fig. 7, the subject is unspecified, and hence cannot contrast with the object in either reference or lexical content. Coreference is seen to be a special case of non-distinctness, and the extension of a morpheme from reflexive to both reflexive and passive use can be viewed as a generalization in function—since the morpheme comes to mark, not just a special case of non-distinctness, but the general case.¹⁹

¹⁸ We will ignore the question of whether the structure of Fig. 7 is embedded to BE in reflexive-marked passive sentences, both because this question is not crucial to the point at hand (all that is at stake is whether 9 and 10 are true passives or semi-passives) and because we have nothing very cogent to say about the matter. Langacker 1974b provides some discussion.

¹⁹ The notion of non-distinct arguments is not meant to include the case where there is only one argument—i.e. intransitive clauses, where the subject and object are non-distinct because there is no object, specified or otherwise. Thus one would not expect a reflexive prefix to generalize to intransitive clauses with unspecified subjects in addition to transitive clauses like that in Fig. 7. In UA, this is borne out: reflexive prefixes can be used for transitive (passive) clauses, but not for intransitive (impersonal) clauses. The same is true of Fr. *se*.

However, once a reflexive prefix has come to mark structures like Fig. 7, it is susceptible to further re-analysis, in which it comes to mark unspecified subjects per se (as at least one of its functions). When this happens, as it has in Spanish (but not French), it can be used with intransitives: *Se trabajó* 'One worked.' A similar re-analysis has taken place in Aztec, where the prefix *ne-*, originally used to indicate coreference between unspecified human subject and direct object, has come to be used also with intransitive verbs having unspecified human subjects. Our analysis correctly predicts, then, that a reflexive morpheme will assume intransitive impersonal use in only a subset of those languages in which it acquires passive function.

In the derivation of sentences like 9–10, therefore, the reflexive prefix may be attached to the verb just in case the subject is non-distinct from the object by virtue of being either coreferential to the object or unspecified. We may say that the prefixes in question have ‘subject focus’, in the sense that the subject must be unspecified or coreferential to the object; other elements in a language might have ‘object focus’.²⁰ We might view the insertion of the reflexive prefix as involving a transformational operation—namely, in the case of subject focus, the attachment of the non-distinct subject nominal to the verb, where it is lexicalized as the appropriate affix, leaving subject position vacant; however, we have no reason to believe that this way of viewing matters necessarily reflects the optimal formalism, and we will not insist on it. In any event, the underlying object in Figure 7 (and possibly Figure 6) is promoted to surface subject position by the same operation that derives the surface subject in passive sentences like 3.²¹

1.5. If the notion of non-distinct arguments is valid, the extension of reflexive markers to passive use provides support for the claim that passive sentences involve unspecified underlying subjects; with such subjects, the extension is simply a generalization in function, from marking coreferential subjects to marking non-distinct subjects. However, this explanation would not be available with specified underlying subjects, for if the underlying subject were specified, a passive sentence would have non-distinct subject and object neither in underlying representation nor at the level of surface structure. To conclude the argument, we must now justify the notion of non-distinct arguments. Unless we can show that this notion must be defined in linguistic theory, the extension of morphemes from reflexive to passive use will not constitute a generalization or simplification in the conditions on their use.

There is no question that coreference plays a role in grammar, and must be specified somehow in linguistic theory. Similarly, there should be no question of the existence in natural language of unspecified argument phenomena, though these are less widespread and perhaps less obvious than coreference phenomena. In UA, for example, a number of daughters have affixes whose explicit function is to indicate unspecificity of the subject or direct object, and such affixes must definitely be reconstructed for the proto-language (examples and details are provided in Langacker 1974b). All that strikes us as being potentially controversial is the claim that the notions of coreference and unspecificity can be grouped as

²⁰ With coreference, as in Fig. 6, there is no real difference between subject and object focus; it makes no difference whether we say the subject is coreferential to the object or the object to the subject. With unspecified arguments, however, the difference has direct consequences. An affix used to indicate unspecified subjects will not in general be used with unspecified objects, and conversely.

²¹ This explanation for the extension of reflexive marking to passive use is similar in spirit to that offered in Langacker 1970, but it differs in detail. It is similar in spirit in that the marker has the same source in the two functions; i.e., there is only one morpheme involved, not two homophones, and the same process is responsible for its insertion in both functions. It differs in detail in that the generalization uniting the two functions is stated directly over structures like Fig. 7, employing the notion of non-distinct arguments, rather than by first converting Fig. 7 to Fig. 6 by means of a copying transformation. The non-distinct argument approach is superior, since it can be extended to cases where a copying analysis would be impossible.

special cases of a broader notion of non-distinctness, such that two nominals can be regarded as non-distinct either if they are coreferential or if one of them is unspecified, and such that non-distinctness per se can be referred to by conditions on the insertion of grammatical markers. The extension of reflexive markers to passive function provides one kind of diachronic evidence in support of this theoretical construct. If the construct is valid, it should not be terribly difficult to find independent evidence for it. And indeed, diachronic UA syntax provides a number of cases that support the notion of non-distinct arguments. This notion predicts various kinds of potential diachronic changes that could not otherwise be easily explained, and such changes are in fact attested.

Formula 11a schematizes the extension of a reflexive prefix to passive use. Just as the notion of non-distinct arguments predicts this extension as a possible diachronic development, so it predicts the development in 11b, where a reflexive marker is extended to non-distinct arguments with object focus:

- (11) a. $x \ x \ V > \left\{ \begin{matrix} x \\ \Delta \end{matrix} \right\} x \ V$
 b. $x \ x \ V > x \ \left\{ \begin{matrix} x \\ \Delta \end{matrix} \right\} V$

Grimes 1964 reports precisely this sort of development for Huichol. With certain stems, reflexive prefixes in Huichol, besides their original reflexive use, have come to indicate unspecified objects:

- (12) HU *we- p- te- yu- ka- naakiPeeri* 'They love.'
 they-ASSR-DISTR-REFL-down-love

Without the concept of non-distinct arguments, it is difficult to imagine how or why a reflexive prefix could come to assume this additional function.

The changes in 11 both involve generalization from coreference to non-distinctness. The concept of non-distinct arguments also predicts the possible generalization from unspecificity to non-distinctness, as follows:

- (13) a. $\Delta \ x \ V > \left\{ \begin{matrix} x \\ \Delta \end{matrix} \right\} x \ V$
 b. $x \ \Delta \ V > x \ \left\{ \begin{matrix} x \\ \Delta \end{matrix} \right\} V$

These are cases where a passive or unspecified argument marker generalizes to indicate coreference as well. The change in 13a is attested by Tarahumara, in which the passive-impersonal suffix *-ru* (illustrated in 6 above) has been extended to reflexive use:

- (14) TA *muhe pago-ru* 'You wash yourself.'
 you wash-IMPRS

We presently have no examples of type 13b, where an unspecified object marker comes to indicate coreference, but this could easily be an accident of the limited data. In the domain of passives and reflexives, generalizations of type 11 are more common in UA than generalizations of type 13.²² This may be significant for future

²² Also, the (a) changes, involving subject focus, are more common than the (b) changes, involving object focus. We suspect that this is not accidental, but the best we could offer at present would be vague intimations of its possible theoretical significance.

refinements of the ideas introduced here, in light of further evidence. However, it may also stem from simpler factors. The reflexes of the PUA passive-impersonal suffix **-ti-wa* disappeared in various daughters; and by and large, these are the daughters in which change 11a took place, to fill the need for a new passive marker. However, all the UA languages have had specific markers for the reflexive at all stages in their history; hence there would be little pressure for the changes of 13 to take place.

In all the examples presented so far, the arguments involved have been the subject and direct object of the same predicate. The concept of non-distinct arguments is not inherently tied to non-oblique clause-mates, however; and when we extend its application, we find further examples of generalization from unspecificity to non-distinctness. The first example is provided by quotatives in Luiseño (Davis 1973:41). Normally, a sentence containing the quotative clitic translates with 'one says', 'they say', or 'it is said', i.e. with a reportative verb having an unspecified subject:

- (15) L *čaam-kunu-š paacič-um* 'They say we are crazy.'
 we -QUOT-we crazy -PL

However, Luiseño has also developed a usage of the quotative clitic in which the unspecified subject is understood to be coreferential to the subject of the surface main clause:

- (16) L *wunal-kun moya-q* 'She says she is tired.'
 she -QUOT tired -PRES

There may be some doubt about the underlying structure of quotative sentences, but there seems little question that 15–16 represent the extension of the quotative morpheme from a usage involving an unspecified argument to one involving coreferential arguments. Quite possibly these two arguments are (a) the subject of a higher verb SAY, or the like, and (b) the subject of the lower object complement clause, which surfaces as the main clause.

Two further UA examples will illustrate the generalization from unspecificity to non-distinctness. Both involve relative clauses, which we will assume without discussion to have the basic underlying structure indicated in Figure 8.

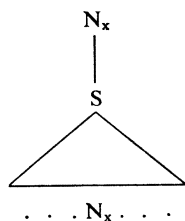


FIGURE 8

That is, the essential property of a relative clause construction is the embedding, to a nominal N_x , of a clause containing an occurrence of a nominal coreferential to N_x . In English and most UA languages, the upper N_x is lexicalized as a head noun appearing as a sister to S in surface structure. In many languages, however,

it is the lower occurrence of N_x that is lexicalized; the 'head' of the relative clause is internal to that clause. We take this latter structure to be basic.²³

In the Cupan languages, a construction has arisen in which the relative clause is marked by a nominalizing suffix on the verb; the subject of the relative is unspecified, and the clause has passive force. One exponent of this construction in Luiseño involves the suffix sequence *-i-č*, where *-č* is an absolutive suffix otherwise found on non-possessed nouns:²⁴

- (17) L *noo-n-il tiwP-yax Pawaal-i* [*poP mamayuw-i -č -i*]
 I -I-PAST see -PAST dog -ACC SUBR help -NR-ABS-ACC
 'I saw the dog that was helped.'

Note that this construction qualifies as at least semi-passive by the definition given above. The subject of the relative clause is unspecified, and the underlying object is rendered more prominent by being extracted and assuming the role of head to the relative clause.

Apparently, the *-i-č* relative ending has been extended to cases where the subject of the clause is relativized:

- (18) L *čaam-ča* [*k^wiil čip*i* -ŋi-i -č -um*] *wukoPax-on*
 we -we acorn gather-go-NR-ABS-PL arrive -PRES(PL)
 'We who left from acorn-gathering are arriving.'

The subordinate subject in 18 is not unspecified; rather, it is coreferential to the nominal containing the relative clause, and is ultimately extracted to become the head of this clause.²⁵ The extension of *-i-č* from relatives like 17 to those like 18 is represented in Figure 9 (p. 806).

We can say, then, that this ending has generalized in function. Originally it required an unspecified subordinate subject, but now it requires only a non-distinct subordinate subject. The non-distinctness holds between the subordinate subject and the nominal to which the clause is embedded.

The remaining UA example involves the nominalizing suffix **-wa*, already discussed in relation to PUA passive-impersonal **-ti-wa*. This suffix clearly reconstructs as an abstract nominalizer, resulting in forms like 'running', 'giving',

²³ See Platero 1974 for extensive discussion of internal-head relative clauses in Navajo. We are assuming, with various other scholars, that external-head relatives are derived by extracting the lower N_x and adjoining it as a sister to S. However, this analysis, while convenient for the presentation of our argument, is in no way crucial to it.

²⁴ The subject is clearly unspecified, since it cannot surface, even as a postpositional object. When the object of the subordinate clause is relativized, as in 17, the verb obligatorily takes a possessor prefix that agrees with the subject; being possessed (at least morphologically), the nominalized verb does not take an absolutive suffix. The lack of a possessor prefix in 17, and the presence of the absolutive suffix, therefore constitute syntactic evidence that the relative clause lacks a specified subject. *poP* is an optional subordinator, irrelevant to the point at hand.

²⁵ No possessor prefix appears on the verb of a Luiseño relative clause when the subject of the clause is relativized.

Further research suggests that a preferable gloss for 18 might be 'We just came from (our) picking acorns; i.e., 18 may contain a nominalization rather than a true relative clause. This affects the details but not the substance of our argument, since there is still generalization of the subject from unspecificity to non-distinctness. The non-distinctness holds between the lower subject and the subject of the main clause.

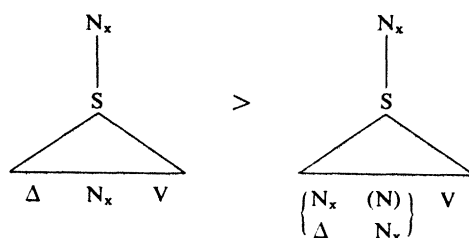


FIGURE 9

'faith' etc., with underlying representations analogous to Figure 4. In Shoshoni, this suffix has assumed agentive force, and in Serrano, instrumental function: SH *ni'ka-wa-lpi* (dance-NR-ABS) 'dancer'; SR *ʔöʃan-ih^wa-t* (write-NR-ABS) 'pencil/brush'. It is significant that the suffix has come to designate the agent or instrument of the verbal activity in certain daughters—but not the patient, product, or location of the verbal activity. Of the various 'case' roles a noun may have, the agentive and instrumental are precisely those most likely to characterize the subject of a verb (in an unmarked construction), in clear contrast to the others mentioned. Thus it is not unreasonable to represent the Shoshoni and Serrano extensions of **-wa* as in Figure 10.²⁶

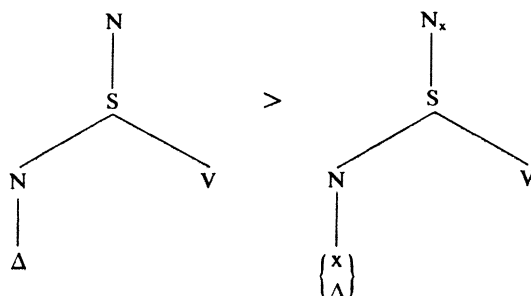


FIGURE 10

That is, the suffix has been generalized in function, from requiring an unspecified subject to requiring a non-distinct subject. As in the previous example, non-distinctness is required, not between a subject and direct object, but between a nominal and the subject of a clause embedded to it.

1.6. We see, then, that considerable diachronic evidence supports the concept of non-distinct arguments and its validity as a construct in linguistic theory. This is not the place to explore the synchronic utility of this notion, or its significance

²⁶ We are assuming that the shift in function of **-wa* in Shoshoni and Serrano occurred in two stages: first the generalization shown in Fig. 10, then the loss of the original abstract nominalizing function. The force of the example is not appreciably altered if this view is rejected in favor of a single-stage shift, since one must still posit a special relationship between the two structures abbreviated in the second tree of Fig. 10—a relationship neatly captured by the notion of non-distinct arguments.

for the description of English and other familiar languages; but it is worth pointing out some areas of English syntax which might profitably be re-examined with this notion in mind.

One area is complement subject deletion. Thus 19 is ambiguous—it can mean either that Raquel does not herself like to dance, or that Raquel dislikes dancing by anybody, in the abstract:

(19) Raquel dislikes dancing.

Under the first interpretation, the complement clause subject is coreferential to the main clause subject; under the second interpretation, it is unspecified. Under either interpretation, the main and subordinate clause subjects are non-distinct.

The second area is omission of an implied direct object with certain verbs. With certain predicates, object omission is possible when the object is coreferential to the subject, as in 20; in others, it is possible when the object is unspecified, as in 21:

- (20) a. Met washed.
 b. The lumberjack shaved.
 (21) a. My mother smokes.
 b. Penelope drank quickly.

In both cases, once again, the subject and direct object are non-distinct. We have not conducted detailed research on these constructions, and we make no specific descriptive claims about them. Both merit much more careful attention than they have received thus far, and we hope the concept of non-distinct arguments will prove helpful in coming to grips with what is going on in them. At the very least, however, examples like 19 and 21 suggest that unspecified argument phenomena are not the exclusive province of 'exotic' languages.

2. MOJAVE EVIDENCE. The Mojave language has three passive or semi-passive constructions, each of which can be related in some way to the general passive structure of Figure 1. Before these can be examined, however, some general remarks on the language are in order. Mojave is an SOV language. Subjects are marked with the nominative suffix *-č*, while objects are unmarked:

(22) *hatčog-č poš taver -m* 'The dog chased/chases the cat.'
 dog -NOM cat chase-TNS

With 3rd person subjects and objects, as here, a Mojave verb has no pronominal prefix; the 3rd person prefix is \emptyset . But 1st and 2nd person subjects or objects are marked on the verb:

(23) a. *P-tapuy-m* 'I kill(ed) him.'
 I- kill -TNS
 b. *n^y- tapuy-m* 'He killed/kills me.'
 me-kill -TNS

The tense suffix *-m* on the verbs of 22–23 marks a sentence with present or past reference which is not imperfect or progressive. A specifically perfective sentence receives the tense suffix *-pč*:

- (24) a. *suupaw-pč* 'She knew/knows it.'
 know -TNS
 b. *ʔ-tapuy-pč* 'I killed him.'
 I-kill -TNS

(Stative verbs with the *-pč* suffix may receive either a present or past tense translation; active verbs with *-pč* always have past reference.) The derivation of sentences with the *-pč* suffix is significant for our consideration of some types of Mojave passives—since the derivation of *-pč* sentences, like that of some passive sentences, involves the deletion of a higher auxiliary verb.

Sentences like 24 are synonymous with longer sentences in which the tensed verb is followed by an auxiliary verb BE or DO:

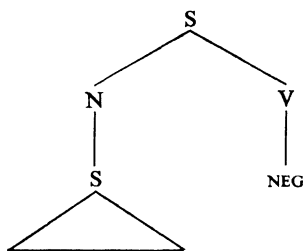
- (25) a. *suupaw-p iduu-č* 'She knew/knows it.'
 know be
 b. *ʔ-tapuy-p ʔ-aʔwii-č* 'I killed him.'
 I-kill I-do

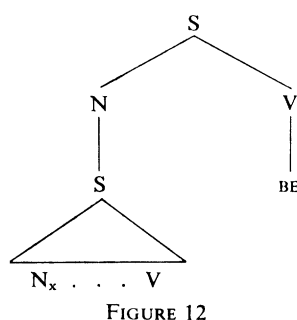
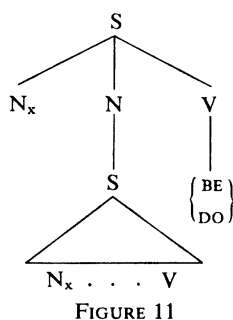
Selection of the auxiliary to follow a given lexical verb is automatic. BE is the auxiliary for stative (or, sometimes, intransitive) verbs; DO is used with active or transitive verbs. Sentences like the (a) and (b) pairs in 24–25 are related transformationally: sentences with the *-pč* marker are derived from the longer ... *-p* ... *-č* sentences by deletion of the higher auxiliary verb.

The sentences of 25 have the structure shown in Figure 11. The verb of the lower clause is marked to agree with its subject N_x , which is deleted by virtue of coreference to the main clause subject. With a higher verb DO, this structure seems unexceptional (cf. Ross 1972). With BE as the higher verb, on the other hand, the structure is somewhat peculiar. It is presumably derived from Figure 12—in which the lower sentence is a subject complement—by raising or copying the subject of the lower clause into the higher clause.²⁷ Such a process has the effect of putting BE auxiliary sentences like 25a into the same pattern as DO auxiliary sentences like 25b.

The *-p* which appears on the lower verbs in 25 can be identified as an object marker of rather restricted use (cf. the words *ʔin^yeč* 'I', *ʔin^yep* 'me', with subject *-č* and object *-p*). Isolated cognates suggest that *-p* was a kind of object marker

²⁷ This transformation continues a widespread avoidance of sentential subjects in Yuman, the reasons for which are not clear. In a number of Yuman languages, a similar process of raising or copying derives a structure much like Fig. 11 from the underlying Yuman negative structure (see Munro 1973):





at the level of Proto-Yuman. The use of *-p* as a sentential object suffix in Mojave is well illustrated in sentences like

- (26) *ʔin^yeč k^wəloyaw tapuy-p ʔ-iyuu-č* 'I saw him kill the chicken.'
 I chicken kill -ACC I-see

In Mojave, a case marker always follows the last element of the nominal to which it applies. In 26, *-p* follows the verb *tapuy*, because the whole sentence of which that verb is the final element serves as the object of the following verb.

In the derivation of sentences like 24 whose verbs have the *-pč* tense marker, the auxiliary BE or DO is simply deleted from more complex sentences like 25. Note that, although the whole auxiliary verb is deleted, its suffix *-č* is retained as a suffix on the *p*-marked lower verb.

Actually, this *-č* suffix can be identified with the subject-case marker *-č* whose use in simple sentences was exemplified in 22. This is demonstrated by sentences like 27, which occurs in either the basic variant (a) or the derived variant (b):

- (27) a. *havasuu-p iduu-č iduu-m* 'It's blue.'
 blue -ACC be -NOM be -TNS
 b. *havasuu-p-č iduu-m*

Such sentences show that the perfective structure of Figure 11 is itself embedded beneath a higher BE. The *-č* suffix on the auxiliary verb of a perfective sentence, as in 25, therefore indicates that the sentence of which that verb is the last element serves as the subject of a following higher verb BE. Figure 13 thus shows a fuller underlying structure for DO-auxiliary perfective sentences, and Figure 14 one for BE-auxiliary sentences (see p. 810).

The higher BE of Figures 13–14 generally does not surface; sentences like 27 are fairly uncommon. In a variant construction, the *-m* tense marker on the highest verb may be retained, even when that verb is deleted:

- (28) *suupaw-p-č-m* 'She knew/knows it.'

In the remainder of this section, we will present three Mojave passive or semi-passive constructions—which, like the UA structures in §1, show the validity of connecting passive or impersonal sentences in these languages with a structure like Figure 1. These passive structures share two important characteristics. First, attention is drawn to the logical object of the 'passivized' lower clause, either by a movement of that object into surface subject position, or simply by prohibiting the appearance of any logical (underlying) subject. Second, the derived passive

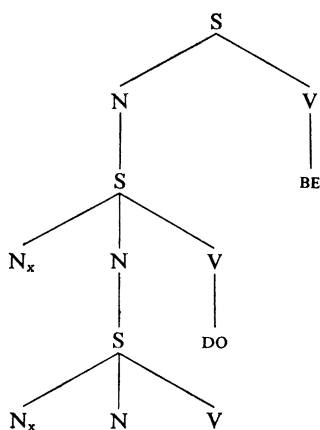


FIGURE 13

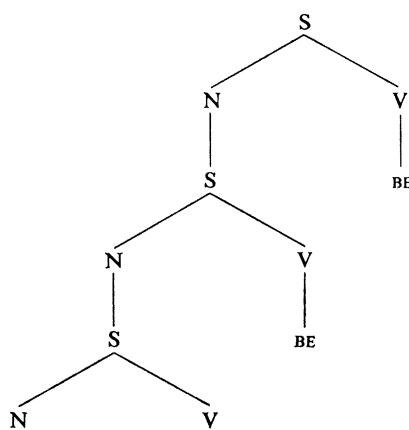


FIGURE 14

sentence tends to be stative rather than active, as suggested by the higher verb BE in Figure 1. Though the lower verb of the passive sentence is generally active, the sentence does not so much describe an action, but rather states the existence of a relationship between an action and the patient of that action.

2.1. The first type of Mojave passive construction to be considered is illustrated by sentences like 29, in which an apparent passive suffix *-č* appears between the passivized verb and any following morpheme:

- (29) a. *John tapuy-č -m* 'John got killed.'
 kill -IMPRS-TNS
 b. *nʷ- tapiʔipay-č -m* 'I was saved.'
 me-save -IMPRS-TNS
 c. *tunay masahay čuqam-č -pč* 'The girl got hit yesterday.'
 yesterday girl hit -IMPRS-TNS

This illustrates an impersonal, rather than strictly passive, construction. No agent is ever expressed in this construction, but the logical object of the *č*-marked verb does not function as the derived subject of that verb. The Mojave nouns corresponding to the subjects of the English passive sentences used to translate 29a and 29c are not marked with the usual Mojave nominative *-č*, but rather appear in the unmarked accusative case. Similarly, the passive *č*-marked verbs are object-marked to agree with their logical objects: thus in 29b the *č*-marked verb has a 1st person object (rather than subject) prefix.

Sentences like 29 may be derived directly from Figure 1. The lower sentence in Figure 1 is the subject of the higher verb BE; hence its final element, the verb, is marked with the normal nominative *-č*. Thus an earlier stage in the derivation of 29a might be:

- (30) [_N [_S Δ *John tapuy* _S] _N] *-č* BE *-m*
 kill NOM TNS

After the stage represented in 30, the higher verb BE is deleted, leaving behind its tense marker (here *-m*), just as the higher verb is deleted in the derivation of the perfective sentences discussed at the beginning of this section.

The surface form of 30, *John tapuy-č-m* 'John got killed', is considered impersonal rather than truly passive. Because nominative *-č* has become part of the verb ending, the sentence appears to have no surface subject; and the logical object *John* appears unmarked (in object form). The absence of a surface subject ensures that the object is given special prominence in this construction. This suggests that relative prominence of the object nominal, rather than application of a specific rule (such as the one moving an underlying object to subject position) is crucial for our formulation of a valid cross-linguistic description of the passive construction.

2.2. In the second type of Mojave passive to be considered, the logical object is actually marked with nominative *-č*. Historically, this second construction is also derived from a structure like Figure 1, but with added emphasis being given to the object of the lower clause by moving it into the higher BE clause, as shown in Figure 15.

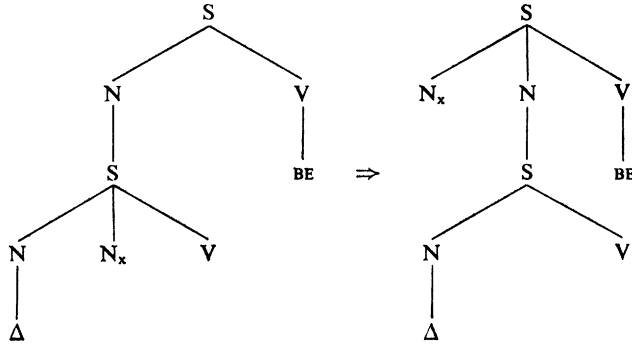


FIGURE 15

Note that this second type of passive structure shows all the characteristics of passive sentences noted earlier: the underlying agent is unspecified, the passive sentence is the complement of a higher BE, and the underlying object of the lower sentence becomes the derived (*č*-marked) subject of the surface passive sentence (Note also the similarity between the raising rule in Fig. 15 and the one posited earlier to derive Fig. 11 from Fig. 12.)

The derived passive structure in Fig. 15 is very similar to the perfective structure of Fig. 11 (we will reconsider such similarities in §3 below). The derivation of surface sentences from both structures involves marking the lower clause with a suffix *-p*, which serves in each case as an object marker.

In the derivation of passive sentences from the structure of Figure 15, as in the derivation of the impersonal passives described above, the higher verb BE is deleted. Thus the string corresponding to Figure 15 might be 31a, which eventually surfaces as 31b:

- (31) a. $N_x - \check{c} \quad [N [s \Delta V_s] N] - p \quad BE-TNS$
 NOM ACC
- b. $N_x - \check{c} \quad V - p - TNS$

The *V-p* sequence comes to be felt as a lexical unit, apparently because it takes a *č*-marked subject, like any other verb in the dictionary. The *-p* passive suffix has thus been analysed as derivational rather than inflectional in previous descriptions of Yuman languages, even where its use is reasonably productive.²⁸

In Mojave, the fusion of the passive suffix to the verb evidently preceded a widespread phonological change by which many Proto-Yuman **p* suffixes became *-v*. (The change of passive *-p* to *-v* in Mojave is further indication that verbs with this suffix function as synchronic lexical units. Note that, when the sentential object marker *-p* is synchronically meaningful, as in 25–26 above, it remains *-p*.) Transitive/passive verb pairs in Mojave are of sufficient antiquity that their meanings have often diverged somewhat:

- (32) a. *hova-č Pahaa uumar -k* ‘He irrigates it (He brings a desirable
 he -NOM water bring(?)-TNS substance [water] to it.)’
 b. *hova-č uumar -v -k* ‘He wins at cards (He gets brought a
 he -NOM bring(?)-PASS-TNS desirable substance [money].)’

2.3. The third type of Mojave passive construction to be considered includes an overt higher BE, and may have a specified agent:

- (33) *Pavaa vidan^y Pin^yep P- nakut uučoo-č ido-pč*
 house this my my-father make-NOM be -TNS
 ‘This house was built by my father.’

This follows the normal Mojave copular construction. *N₁ BE N₂* appears in Mojave as *N₁ N₂-č BE*, with the subject-marker *-č* appearing on the predicate rather than the subject noun. An example of a simpler copular sentence is:

- (34) *John k^waθə Pidee-č ido-pč* ‘John is a doctor.’
 doctor -NOM be -TNS

In 33, *Pavaa vidan^y* ‘this house’ is the subject *N₁* of the copular sentence, and the partial sentence *Pin^yep P-nakut uučoo* ‘my father made (it); made by my father’ is the *č*-marked predicate noun *N₂*, corresponding to *k^waθə Pidee* ‘doctor’ in 34. (In Mojave, the noun subject of an embedded clause is generally not marked with nominative *-č*). The predicate nominal clause *Pin^yep P-nakut uučoo* has the form of a type of embedded complement or (headless) relative clause. Thus 33 might be paraphrasable as ‘This house is (of) my father’s making’ or ‘This house is the one which my father made’, although the passive translation given above is standard.

Independent evidence indicates that a copular *N₁ N₂-č BE* string actually reflects a structure like Figure 16.²⁹ The BE which shows up in 33–34 is the general stative auxiliary (just like the auxiliary BE in 25a), rather than a true copula. Essentially, Mojave has no surface copula. The lower sentence in Fig. 16 is represented without a verb because no verb ever intervenes between *N₂* and the *-č* suffix in

²⁸ One such analysis is that of Langdon 1970 for Diegueño. She describes the Diegueño *-p* suffix as ‘medio-passive’; it specifically de-emphasizes the role of any outside agent.

²⁹ This evidence includes the following facts: (a) the BE of a copular sentence may be unmarked, indicating a 3rd person (i.e. sentential) subject, even when both arguments of the copula are not 3rd person; (b) certain processes apply to copular BE which otherwise affect only auxiliary verbs; and (c) copular BE—like the auxiliary verbs but unlike any non-auxiliary—may freely be deleted.

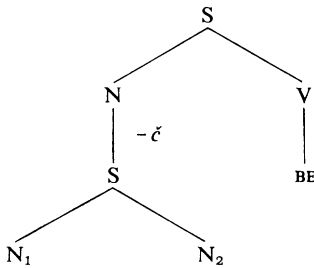


FIGURE 16

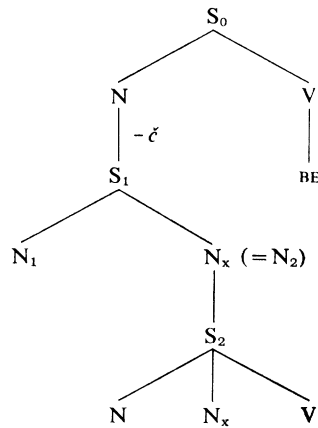


FIGURE 17

surface structure. Although N_2 is of course semantically predicative, it acquires none of the morphological characteristics of a verb.³⁰ The embedded equative sentence, consisting simply of the subject and predicative nouns, serves as the subject of the auxiliary BE. The structure of a sentence like 33, then, is that given in Figure 17. (As noted above, the predicate nominal N_2 of Fig. 17, i.e. the higher N_x , has the form of a headless relative or complement clause.)

Like the higher BE's in the other Mojave passive constructions, the BE of any copular sentence may be deleted:

(35) a. *Mary k^waθəɹidee-č* 'Mary is a doctor.'
 doctor -NOM

b. *modiil^y vidan^y Pin^yep P- intay uučoo-č* 'This bread was made
 bread this my my-mother make-NOM by my mother.'

In sentences like 33 and 35b, as with the Mojave passives described earlier, the fact that BE replaces DO as the higher verb above an active sentence helps give the sentence passive force, making it a statement about (the existence of) an action rather than the statement of an action. Note that the appearance of the object N_1 in the higher clause is effectively the equivalent of a topicalization.

The type of (semi-)passive structure being considered here, however, is different in several ways from the passives discussed above. First, an agent may be specified, as in 33 and 35b. Second, if no agent is specified, the construction becomes more complex. Consider a sentence like this:

(36) *Pičamaa vidan^y tunay uul^yul^y-č -č* 'This food was cooked
 food this yesterday cook -IMPRS-NOM yesterday.'

This is actually a blend of the equative 'passive' structure of Fig. 17 and the impersonal construction of 29. Down to the S_2 level, the structure of 36 is that of Fig. 17; but the embedded S_2 which constitutes N_2 is essentially another instance of the impersonal Fig. 1 structure. (Consider the alternate paraphrase for 36,

³⁰ An alternative analysis might show Fig. 16 with an underlying (but obligatorily deleted) predicate BE_{COPULA}, or perhaps SAME.

'This food is that [food] which was cooked yesterday', which includes a passive.) The structure of 36 is given in Figure 18.

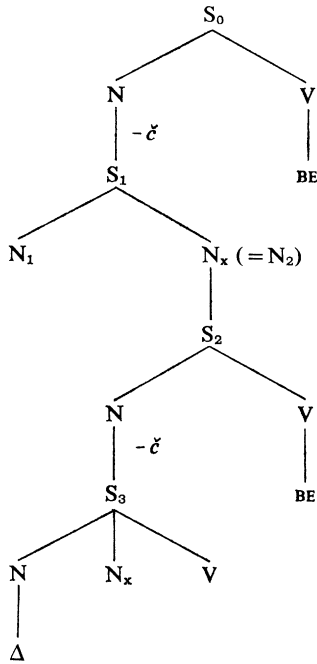


FIGURE 18

Thus the structure of an equative passive sentence like 36, in which the subject of the 'passivized' verb is unspecified, is considerably more complex than a corresponding sentence like 35b, in which a subject appears. It seems that the specified subject in 33 and 35b is a well-integrated constituent of the derived passive sentence. This conclusion is supported by the fact that the agents in those sentences are not marked with oblique case markers.³¹

The question now is: how are copular passive sentences like those described here related to the type of passive whose underlying structure is given in Fig. 1? One possibility is that a structure like Fig. 17 might be derived somehow from one like Figure 19 by some kind of complicated topicalization of N_1 .

It is difficult, however, to see what would trigger the development of Fig. 17 from Fig. 19; it may be better to consider that the two trees bear only an informal semantic relationship. A much more likely possibility is that the Fig. 17 structure is close to an underlying representation—i.e., that suggested paraphrases like 'This house is the one my father built' are closer to the basic meaning of such a construction than true passive translations. Passive force might then be merely 'acquired', due to the fact that the construction shares with true passives the higher

³¹ The same observation may hold for some types of Luiseño and Chemehuevi passives to be described in §3 below.

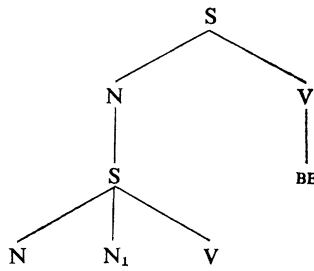


FIGURE 19

BE and emphasized logical object. These are evidently two very important characteristics of passive or passive-like constructions. Either possibility supports the general scheme outlined earlier.

3. DISCUSSION. The preceding sections have established the plausibility of structures analogous to Figure 1 as the underlying representations of passive-impersonal sentences in at least some languages. Now we will attempt to clarify in various ways the issues involved in proposing Figure 1 as a prototypical passive-impersonal configuration having cross-linguistic significance, to be specified among the substantive universals of general linguistic theory.

3.1. We begin by commenting on certain 'problems' that seem to us to be more apparent than real. The first of these is the behavior of idioms, which has been taken as strong evidence for the existence of a passive transformation. Examples like 37, for instance, are supposed to show that passive sentences must be transformationally derived, since *tabs* can be inserted only as part of the idiom *keep tabs on* and cannot be inserted independently as a subject nominal (in the same sense):

(37) *Tabs were kept on Patrick by the FBI.*

However, it is now generally recognized that passivization, under the assumption that the underlying subject is specified, may involve not one but two transformational operations—subject postposing and object preposing. The oft-cited evidence from idioms bears only on object preposing, which is retained under our analysis, and does not support subject postposing, which our analysis renders superfluous. Moreover, since idioms commonly consist of a verb-object combination, but seldom if ever consist of a subject-verb combination, it is quite possible that evidence from idiomaticity for subject postposing will simply never be forthcoming.

Suppose, however, that occasional examples were found where the subject of a subject-verb idiom was postposed to become a passive *by*-phrase object.³² Would this invalidate our analysis? We think not, at least not without a great deal of additional evidence and argumentation. First, our analysis explicitly provides for the existence of semi-passive constructions; it is quite possible that

³² Such examples would most likely involve whole sentences phrased in the passive, such as *A good time was had by all*. This particular example is, of course, not a good one, since the meaning is not truly idiomatic, and the object of *by* is not rigidly fixed (e.g. *A good time was had by most of the younger children*.) Note that passivized subject-verb idioms become irrelevant to the issues at hand for anyone who accepts the synchronic functioning of analogy in grammar.

passive-like sentences in certain languages have specified underlying subjects, even though the prototypical passive configuration involves an unspecified subject. Beyond this, however, we have severe doubts about the definitive character of arguments from idiomaticity, at least in their present form. They presuppose what to our minds is a highly oversimplified concept of the character and insertion of idioms, one that does not really begin to come to grips with the essence of the phenomenon.³³ Basically, this concept is that idioms are to be listed in the lexicon as specified lexical sequences, inserted as a unit. (In more sophisticated treatments, they may be inserted instead into portions of a derived tree that descend from part of an earlier tree in the derivation in which they could have been inserted as a unit.) This approach may be appropriate for some or even most idioms; but even in its most elaborated form, it deals with only one aspect of the far more general problem of metaphor and its interaction with linguistic structure. This interaction is so little explored at present that any current analysis of idiomaticity can at best be considered only a first approximation. Occasional examples of apparently passivized subject-verb idioms, should any such creatures turn up, must be examined in this perspective.

The second potential problem pertains to selectional restrictions. It might be argued that the object of *by* (or its equivalent in other languages) must be derived from a specified underlying subject in passive sentences, in order to account non-redundantly for the fact that the selectional restrictions on the object of *by* are identical to those on the subject of the corresponding active sentences. However, there is no reason to suppose that the required selectional restrictions would not be properly imposed in an adequately formulated description deriving *by*-phrases from an external source and leaving the underlying subject unspecified. Selectional restrictions, it is now generally agreed, amount to nothing more than semantic congruence; and judgements of semantic congruence must take into account the sentence as a whole. Hence the object of *by* will impose selectional restrictions—unless one makes the gratuitous assumption that the passive *by* is semantically empty, and that the phrase it heads does not participate significantly in determining the semantic well-formedness of the whole sentence. We make precisely the contrary assumption. We assume that *by* does have intrinsic semantic content in passive sentences—content which in some way imputes responsibility or agency to its nominal object. Exactly the same imputation must be made for periphrastic locutions such as *at the hands of* or *through the actions of*, so it can hardly be maintained that this treatment of *by* will complicate grammars unduly or require semantic principles of an unprecedented sort. We claim, in short, that the sentences in 38 are well-formed or deviant for the same reasons as the corresponding sentences in 39–40:

- (38) a. Homer was executed by the terrorists.
 b. *Homer was executed by the average distance between Mercury and Venus.
- (39) a. Homer was executed at the hands of the terrorists.

³³ Pertinent references include Chafe 1968, 1970, Fraser 1970, Langacker 1972, Newmeyer 1972, Gorbet 1973, and Nagy 1974.

- b. *Homer was executed at the hands of the average distance between Mercury and Venus.
- (40) a. Homer was executed through the actions of the terrorists.
- b. *Homer was executed through the actions of the average distance between Mercury and Venus.

Let us be somewhat more specific in regard to the possible source of *by*-phrases or their equivalent. For 38a, we would propose an underlying representation roughly like Figure 20 (tense and other irrelevant details are omitted, and the linear order of constituents may be considered arbitrary).

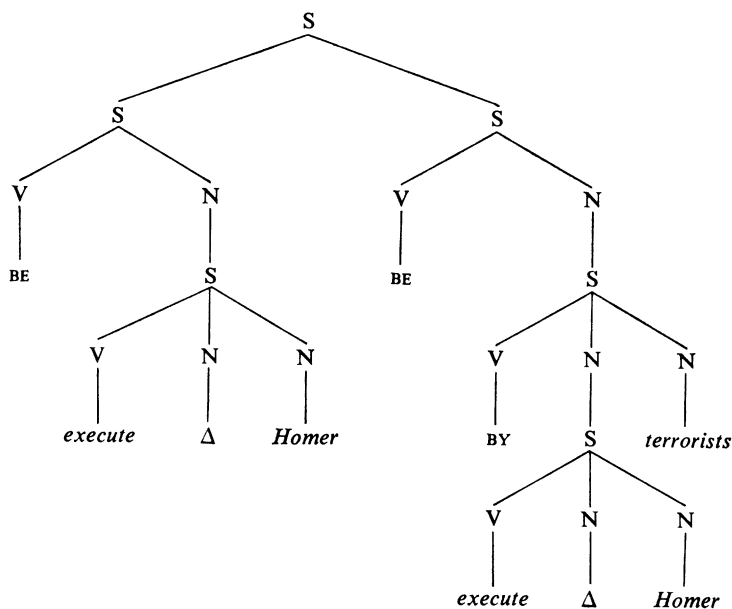


FIGURE 20

That is, *Homer was executed by the terrorists* is said to derive from a structure that might be more directly lexicalized as something approximating *Homer was executed, (and) his execution was by the terrorists*. *By* is treated as a predicate relating a sentential subject and a typically non-sentential object, and the clause defined by this predicate is embedded as a subject complement to *BE*. In the derivation of 38a, the second instance of *execute* Δ *Homer* is pronominalized by virtue of identity to the first, and the derivation of the surface structure results from further contraction and subsequent incorporation of the second conjunct into the ultimate main clause. We suggest this type of derivation as plausible for other kinds of oblique and adverbial complements as well.³⁴ We do not expect other scholars

³⁴ We are not terribly concerned about the possible objection that such a derivation might constitute a violation of the coördinate structure constraint. For one thing, the term conjunct is applied loosely here; the type of juxtaposition required for the two highest clauses may or may not meet the narrowest definition of conjunction when this is properly defined. Second, this violation of the coördinate structure constraint is of a special kind, since it involves the

to accept structures like Fig. 20 without considerable discussion and further evidence. However, since the source of oblique complements is somewhat tangential to our main concerns in this paper, we will not attempt to provide adequate discussion here.

If *by*-phrases have the source suggested in Fig. 20, the selectional restrictions on the object of *by* will be correctly imposed. This predicate states a relationship between a nominal and a proposition, and imputes agency (or similar 'case' relations) to the nominal; under any reasonable analysis of the meaning of *by*, therefore, a sentence will be semantically anomalous if the nominal is one that is incapable of agency or responsibility with respect to the proposition.³⁵

To conclude this discussion of *by*-phrases, we note that *by* does function overtly in English the way Fig. 20 suggests, though its use is somewhat restricted:

- (41) a. The matches are by the fireplace.
 b. This sonata is by Vinteuil.
 c. The applause was by everyone in the room.
 d. ?The killing of the duckling was by farmer MacDonald.
 e. ?The student was savagely beaten, and it was by an unruly mob of policemen.

Some might consider the locative *by* in 41a to be irrelevant to a study of passives, but the use of *by* in examples (b)–(e) clearly seems pertinent. Example (d) reflects the second conjunct of structures analogous to Fig. 20, and (e) both conjuncts; and while these sentences are less than impeccable, they are certainly not resoundingly ungrammatical, and their meaning is readily grasped. These constructions obviously merit much more attention than we are able to give them here.³⁶

elimination of one conjunct and hence of the configuration over which the constraint is stated. There is ample precedent in transformational grammar for allowing syntactic rules to violate constraints so long as the derivation results in a surface structure in which the violation is no longer apparent. Third, little is actually known about the proper formulation of principles such as the coordinate structure constraint and their interaction with other aspects of grammar; thus dogmatic application of such principles to discredit otherwise promising analyses strikes us as being somewhat premature.

³⁵ Semantically, *by* seems quite similar to the agentive *DO* posited by Ross 1972 for active sentences, with the arguments reversed. A pre- or sub-lexical rule similar to psych-movement may therefore be involved in its derivation. Although the agentive relation is intuitively the most unmarked for passive *by*-phrases, objects of the passive *by* are not always agentive in any narrow sense of this term: *The shot was heard by everyone in town; That claim is supported by massive evidence; His sloth is exceeded only by his greed.* If *by* is to be given a uniform reading in passive sentences, this reading must be quite general, in contrast to the more specific reading of Ross's active *DO*. It may be significant that *do* itself has a dual function, one specifically agentive and restricted to active sentences, the other general and not thus restricted (this latter is the *do* of 'do-support' treated in Chomsky 1957). The fact that *by* also functions as a locative element, like its counterparts in many languages, is potentially significant for pinning down its meaning.

³⁶ It might be objected that sentences like 41e are not strictly synonymous with the simple passive sentences said to derive from them (e.g. *The student was savagely beaten by an unruly mob of policemen.*) However, it is by now generally accepted that the surface form of a sentence can influence its meaning in subtle ways. The problem is essentially the same for generative and interpretive semantics; it makes little difference whether we say that surface-structure semantic interpretation rules adjust the semantic representations of sentences after they have

3.2. Having discussed certain potential problems for our analysis, we now consider its naturalness—and more specifically, the semantic appropriateness of structures like Figure 1. Assuming that the external source of agentive phrases poses no insurmountable problem in this regard, we observe that two aspects of Figure 1 merit comment: the unspecified underlying subject, and the higher predicate BE. As to the former, we must consider the general naturalness of unspecified arguments as a descriptive device (especially at the level of semantic representation) as well as their particular semantic appropriateness for the underlying subjects of passive sentences.

In evaluating the naturalness of unspecified arguments in semantic representations, it is important not to confuse this construct with the empty or 'dummy' nodes that have sometimes figured in previous transformational descriptions. As the term is used here, an unspecified argument is always one that is semantically implied by a predicate; it is a genuine subject or object that is semantically 'there' but happens not to be elaborated by lexical or referential content. It is not (like the dummy object of the manner adverb proposed in Chomsky 1965) an 'extra' node, a 'placeholder' or 'slot' into which a 'real' nominal may be inserted transformationally; rather, it is itself a 'real' argument, one that happens not to be identified. It does not occur IN ADDITION TO the semantically implied arguments of the predicate, but rather IN LIEU OF one of them.

We have severe reservations about the mechanical use of arbitrary nodes in syntax, and we believe the unspecified arguments we posit are neither semantically arbitrary nor mechanically used. In regard to semantic arbitrariness, we note that nominal constituents vary widely in information content, even when we restrict our attention to single-word nominals. Fully specified nouns like *oak* lie toward one end of a continuum; progressing toward the other end, we find generic nouns like *tree* or *plant*, then still more general terms such as *thing*, *entity*, or *one*; unspecified arguments, in the sense the term is used here, are simply nominals at or near the far end of this continuum (and which happen not to be identified by deixis or reference). Viewed in this manner, the concept is semantically quite natural. Uto-Aztecan data provide further support both for the existence of unspecified arguments as a natural language phenomenon, and for placing such arguments at one end of a continuum of specificity or information content. As noted earlier,

been transformed, or whether we say (by means of a global rule) that certain transformations can apply only when the semantic representations incorporate the semantic nuances displayed by the structures resulting from the transformations in question. Even the most fundamental transformations (e.g. subject raising, tough movement, relative clause reduction) entail slight shifts in meaning (see Jacobs 1973 for examples and discussion), so it is hardly a liability for the analysis that the incorporation of a *by*-phrase from a conjunct does also; if transformational grammar does not allow this, it will be a theory with virtually no subject matter. We take the relationship between surface form and corresponding subtleties of meaning to be one aspect of the broad problem of metaphor in grammar alluded to earlier. In this instance, the condensed, single-clause passive structure gives the semantic effect of greater unity and compactness in the conceptualization of the grammatical relations involved than does its multi-clause, more periphrastic counterpart. This is quite parallel to the relationship between *kill* and *cause to die*, the former tending to imply an immediacy between the causation and the dying which is lacking in its periphrastic variant.

UA languages have verb prefixes whose sole function is to indicate the unspecified character of the subject or object. In Aztec, these prefixes have undergone a re-alignment in function, so that *te-* serves to mark an unspecified human object, and *la-* an unspecified non-human object; i.e., they have changed from having no lexical content to having very minimal semantic content (human vs. non-human only).

Granted the existence and naturalness of unspecified arguments, we ask whether this device is mechanically used in our analysis. We believe the answer is clearly negative. We have shown that the facts of UA and of Mojave dictate unspecified underlying subjects for a variety of passive constructions; and we have shown that this analysis allows us to explain the cross-linguistic tendency for reflexive constructions to assume passive function. But beyond this, several broader considerations can be used to argue that unspecified underlying subjects are at least as natural as specified underlying subjects for passive sentences, and probably more so. For one thing, our underlying structures reflect the information structure of passive sentences more directly than do specified subjects. It is often observed that passive sentences are used when the speaker wants to say something about the logical object of a predicate. Our proposed underlying structures reflect this directly, for the logical object is the only specified argument in the passive clause itself; the logical subject (when present) is introduced as added information by means of a second conjunct. Our analysis in a sense explains the common occurrence of passives with omitted *by*-phrase; these are simply unmarked passive sentences where no extrinsic information is added, where no second conjunct is chosen in semantic structure. It is not necessary to posit a special deletion rule to eliminate *by someone* or the like, as it is with specified subjects. An expected consequence of our analysis is that passives without *by*-phrases should occur; but with specified underlying subjects it is accidental, and requires some special rule. Finally, we note that all the rules our analysis requires have the effect of enhancing the surface prominence of objective content (this is argued to be a general characteristic of movement rules and other transformations in Langacker 1974a); with specified subjects, however, the rule of subject postposing has the opposite effect, and therefore runs counter to a general and quite natural tendency.

3.3. As is to be expected, the semantic significance of BE in passive sentences is somewhat elusive, and what follows is intended more to hint at what may be going on than definitively to establish and defend a position. To facilitate discussion, we limit our consideration to stative declarative sentences and to active declarative sentences involving agents.

We claim that every such sentence pertains in some way to the existence of some process or state of affairs. Such existence may be asserted, denied, qualified by a modal, located temporally or aspectually, and so on. An existential notion is therefore implicit in every declarative sentence, and we will claim that it constitutes a simple semantic predicate or a component of a complex one. In stative sentences, existence is typically expressed by means of the predicate BE (which may or may not have independent lexicalization); in other words, BE asserts the existence of a state. In active sentences, existence is typically expressed by means of the complex predicate DO (or ACT). We suggest that DO combines two strands of meaning: it

asserts the causation of existence of a process, and it implies the directness of this causation through action on the part of the subject of DO.

Ross 1972 has provided very strong evidence to justify positing the predicate DO in the semantic representation of all active sentences in English; in his analysis, a sentence like 42a derives from an underlying representation like 42b through complement subject deletion and deletion (or non-lexicalization) of DO, which however surfaces as *do* in many constructions:

- (42) a. Marvin jumped.
 b. PAST [DO MARVIN [JUMP MARVIN]]

Just as DO embeds an object complement in the underlying structure of active sentences, we will claim that BE embeds a subject complement in the underlying structure of stative sentences. A sentence like 43a will therefore have the underlying structure shown in 43b (note Fig. 20 as well):

- (43) a. Marvin was under the table.
 b. PAST [BE [UNDER MARVIN TABLE]]

If every declarative sentence contains a predicate of existence in underlying structure, we can begin to explain why passive and impersonal sentences involve subject complement clauses embedded to BE. Embedding to BE rather than DO is a natural consequence of the unspecified character of the subject. Passive sentences are about something that happens to a logical object, not about something that a logical subject or agent does; existence is therefore more naturally expressed by BE than by DO, which focuses on agency. To phrase things somewhat differently, it is meaningful and informative to indicate agency in a sentence when the agent is specified. In a passive sentence, on the other hand, the agent—the underlying subject of the lower verb—is unspecified; and while it is semantically consistent to speak of an unspecified agent, reference to such an agent is hardly informative. Semantically, there is little difference between structures like (b) and (c) for sentences such as (a) in 44; both assert the existence of the process described by the lowest clause—but while (b) expresses agency, it does so almost vacuously, because the agent is unspecified:

- (44) a. The apple was eaten.
 b. PAST [DO Δ [EAT Δ APPLE]]
 c. PAST [BE [EAT Δ APPLE]]

Since these two structures are effectively equivalent, languages could choose either one; and (c) is the optimal choice because it involves a simpler predicate (BE is simpler than DO) and because passive sentences focus not on agency but on something that happens to the logical object.³⁷

3.4. We have established this: the fact that the subjects of passive sentences are unspecified is related to the association of the existential predicate BE with these sentences. Yet some semi-passive sentences have a specified subject, and still have a higher BE. If the preceding discussion is valid, there must be a different explanation for the appearance of BE in semi-passive sentences with specified subjects.

³⁷ See the Appendix, below.

The type of sentence to which we refer is exemplified by the Mojave example 45 (and was discussed in §2):

- (45) *modiil^y vidan^y Pin^yep P-intay uučoo-č ido-pč*
 bread this my my-mother make-NOM be -TNS
 'This bread was made by my mother.'

Sentences like this are also found in UA. We have examples from only two languages, Luiseño and Chemehuevi, but this may be because such sentences seem to represent a periphrastic substitute for the passive rather than an independent 'construction', and may consequently have been overlooked in some of the grammars we have consulted:³⁸

- (46) a. L *Poonu-p nu-taa Paš ne -yk pu- Pooovi*
 this -it my-uncle me-to his-give
 'This was given to me by my uncle.'
 b. CH *Pič kwasu-n piya -ya -n maha-^lkay-n*
 this dress -my mother-ACC-my wash-PAST-NR
 'My dress was washed by my mother.'

Such sentences are characterized by the appearance of the logical object noun phrase (e.g., in 45, *modiil^y vidan^y* 'this bread') outside the passivized clause (in 45, *Pin^yep P-intay uučoo* 'made by my mother'). In all three examples, these two nominals—the object noun and the nominalized passive clause—appear in the form of a copular or equative sentence.

As we will see, these examples qualify as semi-passive by the criteria outlined earlier. Although the sentences contain a specified subject for the 'passivized' verb, the logical object of that verb is emphasized in surface structure. The Mojave object *modiil^y vidan^y* appears in the normal Mojave copular subject form. In the Luiseño and Chemehuevi examples, the logical objects *Poonu* 'this' and *Pič kwasu-n* 'my dress' appear in initial (subject) position without the accusative endings they would have in normal active sentences. The remainder of the 'passivized' clause in each sentence has been nominalized, as indicated in different language-specific ways. Thus the prefix *uu-* on the embedded Mojave verb 'make' (non-embedded form *ičoo*) in 45 is associated with nominalization. The nominalization of the Luiseño verb *Pooovi* in 46a is shown by the appearance of the prefix *pu-* on that verb, since in Luiseño possessive prefixes like *pu-* appear only on embedded verbs. The object marking on the Chemehuevi logical subject noun *piya* in 46b also shows that nominalization has taken place (as does the suffixation of the nominalizer *-n* to the verb of that sentence), for in Chemehuevi it is typical for the logical subjects of embedded verbs to be marked as objects.

The nominalized passive clauses in all three sentences have the form of possible relative clauses in these languages. Mojave *Pin^yep P-intay uučoo* can mean '(the one) which my mother made'; Luiseño *nu-taa Paš ne-yk pu-Pooovi*, '(the one) which my uncle gave me'; and Chemehuevi *piya-ya-n maha-^lkay-n*, '(the one) which my mother washed'. Note that each relative clause has as its semantic head the object of that clause.

³⁸ Chemehuevi data were elicited from Mrs. Pearl Eddy. Luiseño examples like 46a are discussed in Davis 1973.

As indicated in §2, the structure for sentences like 45–46 could be represented as in Figure 21 (taking a simplified version of 45 as our example).

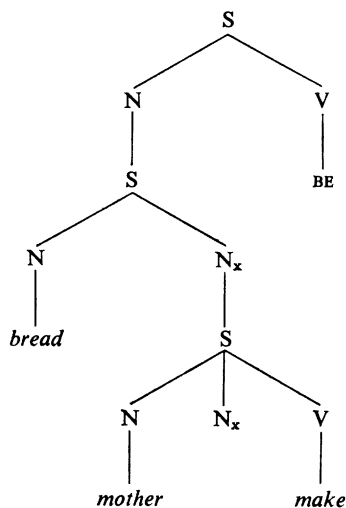


FIGURE 21

Fig. 21 represents an assertion of the identity, or sameness, of two nominals—the logical object of the ‘passivized’ verb and the nominalized ‘passive’ clause. Note that this equative or copular embedded sentence, which serves as the subject of BE in Fig. 21, has no verb. Ordinary copular sentences in Luiseño, Chemehuevi, and Mojave consist simply of two juxtaposed nominals, N N, without an overt copula. The BE which appears in Mojave sentences like 45 is an optional surface manifestation of the higher existential BE of Fig. 21, not a copula (as discussed in §2); this BE does not show up in Luiseño or Chemehuevi. (As indicated in fn. 30, one might wish to posit an abstract predicate such as SAME in the middle clause of Figure 21.)

A higher BE is required in semi-passive sentences like 45–46 because such sentences, like true passives, refer to the existence of a state. Although these sentences contain a subject, object, and active verb, they do not assert the occurrence of an event, but rather the identity of two nominals. BE, not DO, is therefore chosen as a higher existential predicate, since sameness or identity is a stative rather than active notion. The structure of Figure 21 is thus to be regarded as semi-passive: the object of the lower verb is in effect topicalized, and BE replaces DO as the existential predicate. The activity described by the lower verb is designated, but is not what is asserted to exist.

There is a certain semantic indeterminacy about sentences derived from structures like Figure 21; this is reflected in the multiplicity of available translations. In addition to the passive translations given (which are generally preferred by native speakers of all three languages, so far as we can tell), more literal translations like ‘This bread is the bread that my mother made’, ‘This bread is that which my mother made’, or ‘This bread is what my mother made’ are suggested by the structure of

Figure 21. Our use of the node subscript N_x in Fig. 21 and in Fig. 17 of §2 may in fact have the effect of unjustifiably restricting the semantic range of sentences like 45–46. The nominalized verbs of all such sentences could be used in many types of complements, not just in relative clauses.³⁹ If the nominalized clause which serves as the predicate nominal in sentences with the structure of Fig. 21 is not necessarily to be classified as a relative clause, we might wish to relate it instead to other possible paraphrases like ‘This bread is of my mother’s making’ (or even ‘This bread was made by my mother’!) in which BE links the logical object or derived subject noun with a nominalized but non-relative remnant of the clause with which it belongs semantically.

Sentences like 45–46 often seem to acquire the force of true passives with expressed semantic subjects. It is easy to see why the more direct passive translation might come to be preferred over a more literal but also more awkward paraphrase. Possibly, also, re-analysis has occurred, giving sentences like 45–46 genuine synchronic status as passive sentences, equivalent to true passives with *by*-phrases. In this event, Figure 21 would probably have only diachronic validity; but our analysis would still help explain why a relative clause structure could be subject to re-interpretation as a passive.

3.5. The last matter to be treated in this section is the relationship between passives and perfectives. In §2 we remarked on the strong formal similarity between Mojave perfective structures and the source for the Mojave *-v* passive (cf. Figures 11 and 15). Many languages, it seems, have similar or identical passive and perfective structures—for reasons which, we believe, are a natural consequence of our characterization of the passive. A possible problem, however, is whether our analysis can distinguish between underlying passive and perfective structures while still capturing and explaining their similarity.

The passive/perfective similarity is, of course, not restricted to Mojave. In Chemehuevi, one perfective construction follows exactly the same pattern as the semi-passive sentence 46b above:

- (47) a. CH *taʔwac ʔuŋ nini puniʔkay-ʔkay-n* ‘I’ve seen the man.’
 man he me see -PAST-NR
 b. CH *paʔpaw hini paʔka-ʔkay-n* ‘Who killed the bear?’
 bear (NOM) who (ACC) kill -PAST-NR

These sentences, like 46b, follow an N N copular pattern: the logical object appears first, in subject form; the nominalizer *-n* follows the ‘passivized’ verb; and the logical subject noun appears in the object form, as is usual for the subjects of embedded clauses in Chemehuevi.

Indo-European also has striking parallels between passive and perfective structures. In English, the past participle is the mark both of passive and of perfective (or ‘perfect’) sentences; in passives, the past participle is used with an auxiliary BE, while in perfectives the auxiliary is HAVE. But BE and HAVE must obviously be similar semantically—since, for instance, either verb can be used to express the notion of possession (*the book is John’s*; *John has a book*). In the Romance lan-

³⁹ Sapir (125) characterized the Southern Paiute cognate to the Chemehuevi nominalizer *-n(a)* as specifically passive, but not necessarily relative.

guages, the formal resemblance between simple passives and present perfect sentences is even stronger, for the verb BE is used with a past participle both with passives and with some perfects, in what amounts to the same construction.

Benveniste 1952 devotes a lengthy discussion to certain perfective constructions in Old Persian and Classical Armenian which have been described as passive in form. In these expressions, the logical subject of the perfect verb appears in the genitive, with an auxiliary BE. Benveniste regards such sentences as possessive rather than passive constructions. Thus, a perfective sentence corresponding to something like OF ME IS IT DONE OR MY DOING IT IS would be considered a periphrastic variant of I HAVE DONE IT, with 'possessive' HAVE.⁴⁰

In our view, such subtle distinctions need not be crucial. Both copular-like structures with BE and possessive-like structures with HAVE show up again and again in perfective constructions. For perfectives as well as passives, a higher stative existential predicate like BE or HAVE commonly appears even above sentences with active verbs, in contrast to the use of DO (or often surface Ø) in non-perfective sentences with such verbs. Like a passive, a perfective sentence makes an assertion of existence—the existence of an accomplished or realized state resulting from an earlier event—so the use of a higher stative verb is most appropriate. We consider the use of BE and HAVE with perfectives essentially equivalent for the purposes of our analysis, since BE and HAVE both make statements of existence—either the 'pure' existence of BE, or the existence of 'possession' expressed by HAVE.⁴¹

⁴⁰ Another such case is described by Ross Clark in a paper entitled 'Passive and surface subject in Maori', delivered at the 1973 Annual Meeting of the Linguistic Society of America. Clark hypothesizes that the passive voice is coming to express a perfective aspect in Maori.

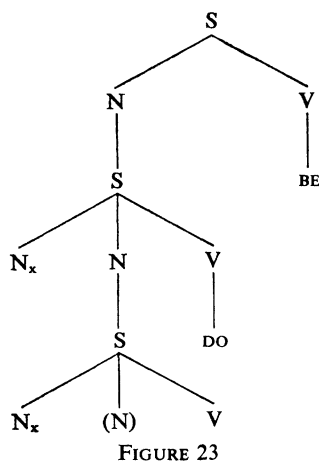
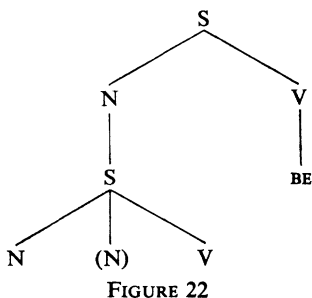
⁴¹ If HAVE is in fact taken to imply possession, perhaps in a very general or metaphorical sense, we might want to posit a higher existential predicate above it, and not attribute the assertion of existence to HAVE itself. In its perfective use, however, we judge it more likely that HAVE has lost its possessive sense, and simply asserts existence of a realized state of affairs.

A refined version of this analysis would probably posit a predicate of realization or completion directly below the existential BE or HAVE in passive and perfective sentences. This predicate of realization (to be contrasted with the 'unrealized' predicate mistakenly labeled FUTURE in the descriptions of so many languages) is lexicalized in English as the past participial suffix. This 'complementizer' is meaningful and contrasts with the present participial *-ing*, which indicates duration. Thus BE asserts pure existence in most of its uses, and apparent variations in its sense are determined by the lower predicates with which it occurs. As corroboration of this analysis, consider the following Luiseño example:

noo-p no- ηee -vo/pi miy-q 'I have left / will leave.'
 I -it my-leave-R/UNR be-PRES

The clause 'I leave' is overtly marked as being embedded to the predicate BE. (This is indicated both by the possessor prefix on the verb and by the subject clitic *-p* 'it', which indicates that the subject of the main clause is 3rd singular, i.e., the subordinate clause is the subject of BE.) With the realized suffix *-vo* on the lower verb, the sentence has perfective sense; with the unrealized suffix *-pi*, it has unrealized or 'future' sense. Thus BE is present in both sentence types, and can only be interpreted as an aspectually neutral predicate of existence. We might note that *-vo* is cognate to the suffix *-pi* in the Numic languages, where it can be either a perfect participial ending or a passive participial ending.

We conjecture in passing that the predominance of the stative BE in passive constructions—even when (as in English) these denote a process rather than a state—is a direct consequence of



The similarities between perfectives and passives are sufficiently great that many perfective sentences would almost qualify as semi-passive by the criteria we gave earlier. But there are enough differences between passives and perfectives for them to be clearly distinguished in underlying structure. The structure we would assume for many perfective sentences (to be contrasted with the passive structure of Fig. 1) would be something like that shown in Figure 22. Normally the subject of the lower clause is raised into the BE clause, or otherwise topicalized. Considering that Fig. 22 represents the embedding of a fully specified active sentence beneath a stative existential predicate BE, we might alternatively represent this structure with an active DO above the lower S, as in Figure 23. We might speculate, even, that Fig. 22 would be appropriate for truly stative perfective sentences like *He is gone*, while Fig. 23 would capture a slightly more active perfective idea like *He has gone*.

For languages in which the perfective auxiliary is stative/existential HAVE, a structure equivalent to Fig. 23 would be that in Fig. 24. (The highest occurrence of N_x in Fig. 24 will be present in underlying structure only if HAVE is accorded a possessive interpretation. If we claim instead that the perfective HAVE is purely existential, the underlying structure will be equivalent to Fig. 23; see fn. 41.) Note that Fig. 24 also results in an effective subject topicalization, since the subject of HAVE (N_x) is the same as the subject of the lower verb.

A comparison of Fig. 1 with Figs. 22–24 reveals several significant differences between passive and perfective structures. For one thing, in passives the active existential DO is essentially replaced or pre-empted by stative existential BE; but as Fig. 23 shows, a perfective structure may contain an active DO beneath stative BE. Second, in passives the object is raised or topicalized, while in perfectives the

the occurrence of the past-participial or realization marker in these constructions. Aspectual markers often take BE as their existential predicate (they are configurational, hence stative, in character), as in the Luiseño example; and passive sentences tend to be associated with the aspectual marker of realization because they portray an event in terms of the object of the verbal activity, rather than the subject—i.e. from the perspective of the completion of the activity, rather than its initiation.

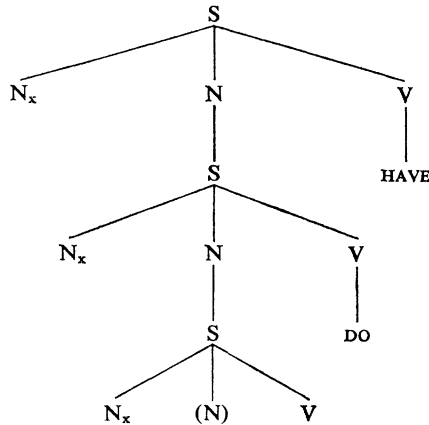


FIGURE 24

subject is emphasized. Our analysis thus accounts for the differences as well as the similarities between the two constructions.

At best, our discussion here is only a first approximation to the task of straightening out some of the semantic/syntactic and synchronic/diachronic confusions which must be dealt with in any analysis of the auxiliary verbs used in perfective constructions. We assume, however, that the higher existential predicates of perfective sentences, like the *BE* of the passive, have intrinsic semantic content, rather than being arbitrarily chosen 'helping verbs'. The assertion of existence which is the real meaning of *BE* (and probably of *HAVE*) is what gives perfective sentences the stative quality which distinguishes them from non-perfectives.

The greatest similarity of passives and perfectives is that both types of sentence express the realization of a relationship between an event and a participant in it, instead of simply recounting the course of that event. Both types of sentence show that this participant (a logical subject, for perfectives; a logical object, for passives) is in the state of having been affected by the event's occurrence. Consequently, both types of sentence have the effect of semantically removing the participant from the actual action of the event.

4. CONCLUSION. This paper has been basically exploratory in nature. We have attempted to justify a certain kind of underlying representation for passive-impersonal sentences in Uto-Aztecan and Mojave, and to sketch the possible universal implications of their similarity; but we would certainly not claim to have justified the analysis presented here to such an extent that it could or should be extended mechanically to other languages and language families. Rather, we have discussed a variety of different passive and passive-like constructions which bear a strong 'family resemblance' to one another and can perhaps be related in terms of their communicative effect, but which differ considerably in syntactic detail. We have singled out one specific construction as being 'prototypical' of passives and impersonals, in the sense that it accommodates the semantic or communicative value of passives in the simplest, most direct, and possibly most typical way. But languages use different strategies to achieve comparable effects; and even if this

prototypical structure is accepted as essentially correct and maximally unmarked, it remains necessary to examine in detail and to justify the rules and underlying representations posited for passive-impersonal sentences in any given language. Moreover, we have examined a number of complex and important semantic and syntactic issues in a tentative and even cursory manner—in the belief that they are crucial to a true understanding of the nature of passivization, but in the realization that an adequate examination of them would carry us far beyond the bounds of what can be accomplished in a single paper. Despite these qualifications, we hope that we have raised many fundamental questions about the character of passives and impersonals, indicated the directions and domains in which the answers lie, and provided some valid insights into the phenomenon.

APPENDIX

If part of the meaning of passives inheres in the occurrence of the stative existential predicate *BE* in lieu of the active existential predicate *DO*, it is natural to ask how to represent the underlying structure of passives formed with the verb *do*, as in *That is (often) done* or *Kissing gorillas (just) isn't done (by debutantes)*. Our explanation for such sentences is quite tentative; clearly, they deserve very careful scrutiny, and are likely to prove crucial in determining whether English passives are true passives or only semi-passives.

We suggest that, when special semantic considerations dictate, speakers of English resort to semantic representations containing an extra layer of embedding with the existential predicate *DO* or *BE*. For sentences like *That is done*, in which the passivized predicate has no semantic content beyond that of the active *DO*, regular passivization becomes almost a contradiction in terms. If *DO* Δ *THAT* were directly rephrased as a passive in the manner here proposed, *BE* would substitute for *DO*, and no trace at all would be left of the passivized predicate. That is, in the limiting case where the active *DO* is exhaustive of the meaning of the predicate being passivized, changing the existential predicate from *DO* to *BE* does more than just change the mode of presentation of the verbal action—it eliminates all indication of this verbal action, and results in a semantically distinct structure. *That is done* therefore reflects a more elaborate semantic representation, *BE* [*DO* Δ *THAT*], which is the passive counterpart of the active structure *DO* Δ [*DO* Δ *THAT*]. Note that this elaborated active structure is needed in any case to derive pseudo-cleft sentences such as *What he did is do that*. In these elaborated structures, *DO* is itself construed semantically as an active predicate, and is embedded to a higher existential predicate. We do not claim that *DO* Δ *THAT* and *DO* Δ [*DO* Δ *THAT*] are the same in meaning, only that they are very similar in meaning; the extra *DO* contributes little information not present in the simpler structure. Oversimplifying, we might say that *One does that* and *That is done* differ semantically (apart from passivization) in that the latter focuses more strongly on the doing, or emphasizes this notion. The distinction comes out more clearly in the case of *Kissing gorillas isn't done*, for which we also posit an extra layer of embedding with *DO* or *BE*. The passive corresponding to the structure with one active *DO* is *Gorillas aren't kissed*; then *Kissing gorillas isn't done* corresponds to the structure with two active *DO*'s, one embedded to the other, so that *DO* is itself the passivized predicate in the scope of *BE*. We claim that the latter sentence focuses more strongly than the former on the doing of the act of kissing, i.e. on its being brought about through intrinsic action on the part of the (unspecified) subject, and focuses less strongly on the concept of kissing itself.

This analysis, though tentative, is not without supporting evidence (in addition to whatever semantic enlightenment the preceding paragraph may provide). For one thing, semantic structures with *DO* embedded beneath another existential predicate are perfectly consistent and interpretable; there is no reason to suppose that such structures cannot exist and find reflection in natural language, though we would of course expect speakers to employ simpler structures with a single existential predicate unless they have some specific reason to emphasize the doing or agency of an action rather than the action itself. This is no different from the iteration of

verbs like *try*, *think*, or *want*, which leads to perfectly meaningful but highly specialized (and hence seldom used) semantic structures: *I tried to try to be serious*; *They think that they think that there are eleven planets*; *I want to want to be respected*. Ross 1972 cites these sentences as possible support for positing two occurrences of DO in order to account for another, related phenomenon (though he does not commit himself to the view that the two DO's are identical). This phenomenon is the existence of sentences such as *What I will do is do some hunting*, where two DO's unexpectedly show up, in contrast to the single DO in *What I will do is some hunting*. He states (103) that 'there may be a slight difference in meaning, or focus, between [such] sentences', and we concur. We further claim that the meaning is precisely what one would expect, given what we claim to be the composition of the sentences. At the very least, Ross's sentences show that the problem of 'extra' DO's is more general, and not necessarily a liability of our analysis of passives per se. As a final bit of evidence to support the plausibility of stacked existential predicates, we note the possibility in Mojave of iterating the auxiliary verb *iduu* 'be' in certain sentence types, apparently without intrinsic limit. Thus as a variant of 27b we find:

havasuu-pĉ iduu-m iduu-m ... 'It's blue.'
 blue -TNS be -TNS be -TNS ...

It was demonstrated in §2 that the TNS suffix *-pĉ* contains the subject marker *-ĉ* indicating that the 'main' verb *havasuu* 'blue' is actually the subject of the following auxiliary BE. The tense marker *-m* can also be a subordinator, used to show that the subject of the verb it follows is different from that of a following higher verb, in this case the next BE. Since any Mojave *iduu-m* may theoretically be followed by another, higher *iduu-m*, some speakers will end the chain of *iduu-m*'s with a non-finite BE: *havasuu-pĉ iduu-m iduu-m iduu*.

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