

12. Proto-Roles and Intransitives: The Unaccusative Hypothesis¹

An enormously influential idea which has now been adopted into several syntactic theories is the *unaccusative hypothesis* of Perlmutter (1978) (actually earlier put forth in Barbara Hall Partee's dissertation, Hall 1965): the thesis that some surface intransitive clauses, the so-called *unaccusative* ones, derive from underlying clauses with grammatical objects but no subjects, while others, the *unergatives*, derive from underlying clauses with grammatical subjects but no objects.

A fact which was I think was probably quite significant to the prima facie plausibility of this hypothesis, though not always explicitly emphasized as one of its features, is that the intransitive predicates argued to be unaccusative on syntactic grounds usually turned out to entail relatively patient-like meanings for their arguments (e.g. *arrive, die, fall*), while those argued to be syntactically unergative were usually agentive in meaning (*smile, walk, talk, etc.*). That is, given the assumption that direct objects are somehow inherently patient-like (and/or vice versa), it is plausible that the former but not the latter are "underlying" objects promoted to subjects.

However, as Rosen (1981, 1984) first clearly pointed out, it is apparently not possible to predict easily (if at all) from a given intransitive verb's meaning whether it will turn out to be unaccusative or unergative, in a given language, for no single semantic criterion (volition, agentivity, presentational meaning) or combination of them seems to determine this correctly for all verbs. Much less can the classes be defined semantically across all languages--certain pairs of corresponding verbs with meanings like *bleed, suffer, be afraid, talk in a delirium* can be observed to behave as syntactic unaccusatives in one language, unergatives in another. Some examples cited by Rosen from various sources are (Rosen 1984:61-67):

¹ This section owes much to the verbal conference presentation Bach (1988), which in turn commented on an earlier version of the present paper, in that Bach proposed that the proto-role hypothesis was relevant to unaccusativity phenomena, a topic I had not by that time addressed. My conclusions here are not necessarily the same as Bach's, however. Bach suggested a parallel (undoubtedly worth further pursuit) between unaccusativity and Whorf's (1945) notion of a *covert category* but proposing that grammaticized unaccusativity contrasts might be a case of a covert category becoming overt, not overt becoming covert. Cf. also Clark and Carpenter's (1989) views on *emergent* categories.

(74)	Unergative	Unaccusative
die	Choctaw	Italian
sweat	Italian	Choctaw
bleed	Italian	Turkish, Eastern Pomo
suffer	Italian	Choctaw
be hungry	Lakhota	Choctaw
sneeze	Italian, Dutch, Choctaw	Eastern Pomo, Choctaw

Another problem that has been observed with the unaccusative hypothesis is that sometimes different syntactic phenomena or "tests" which supposedly distinguish unaccusative from unergative verbs within a single language actually draw the boundary in different places. For Dutch, Perlmutter (1978) had originally claimed that (i) unergative but not unaccusative intransitives can appear in impersonal passives, and to this Zaenen (1988) adds, (ii) unergatives select the perfect auxiliary *zijn* ("be") while unaccusatives select *hebben* ("have"), and (iii) only unaccusatives allow for a past participle in prenominal position. However, Levin and Rappaport (1986) and Zaenen (1988) point out that the correlation does not hold up well; many verbs have no impersonal passive but take *hebben*.

I propose that the thematic proto-role hypothesis offers both an explanation of why a semantic distinction among intransitives of the unergative-vs.-unaccusative sort should have a grammatical correlation in the first place, but more importantly, that it goes a long way toward explaining both problems of "variation" in membership in the two classes.

As may have already occurred to the reader at this point, Proto-Agent and Proto-Patient are arguably the two (fuzzy) categories of arguments that semantically characterize unergatives versus unaccusatives, to the extent that the distinction has any clear semantic characterization. If, as I have proposed in this paper, these proto-categories describe argument selection, possibly play a role in language acquisition (in learning the coding of grammatical relations and as lexical semantic defaults), may correspond to something like Clark and Carpenter's "emergent categories", and have typological reflexes, then they must be important factors in the semantics-syntax interface and are probably cognitively salient at the time of language acquisition. Hence the fact that languages can make a bifurcation along this line among intransitives (according to their SINGLE argument), parallel to the use of the contrast to distinguish AMONG the arguments of individual transitives and ditransitives, should not be surprising but is rather almost to be predicted. (It for reasons of pointing this out, of course, that I delayed the discussion of unaccusatives until after the preceding sections.)

But just as we saw that the Proto-Agent/Proto-Patient distinction was not a

discrete one in argument selection but one of degree, we can see that the "cut" between unergative and unaccusative arguments is indeterminate, varying, I argue, according to the same parameters. From the list of Proto-Agent properties, the most important for the unergative/unaccusative contrast seems to be volition (or "protagonist control" in the unaccusativity literature, i.e. a presupposition that volition is possible for this type of action); volition necessarily involves sentence, and verbs with both these entailment are ALWAYS unergative, it seems. The slightly broader presupposition of "being predicatable of a human being" sometimes but not always put a verb in this class, as does movement. As Rosen (1984:65-66) points out, predicates which are restricted to humans and involve some movement but in which volitionality can either be present or absent (or for which it is "marginal") seem to vary from one language to another as to which class they belong to: this class includes *sneeze, bleed, vomit, snore, blush*. That is, whether sneezing is a volitional activity is less clear than whether singing or dancing is (or, on the other hand, whether being six feet tall is): while one does not normally deliberately decide to sneeze, one can if one wishes deliberately perform an action that is outwardly indistinguishable from ordinary sneezing, and one can sometimes avoid sneezing by trying not to do it (whereas in most cases acts or states that are not volitional are also not really "avoidable").

Among the Proto-Patient entailments, incremental themehood (or slightly more generally, whether the argument is an incremental OR holistic theme, i.e. is telic) seems to be highly significant for the distinction between unaccusatives and unergatives, just as it was often found to be the most significant proto-patient entailment for object selection of transitives (cf. §9). But the appeal to two entailments each from a different proto-role gives us two possible loci for a semantic boundary (in addition to any vagueness in the criteria individually, e.g. that in "Agency" already alluded to):

(75)	Atelic	Telic
Agentive	1. definitely unergative	2. ?
Non-Agentive	3. ?	4. definitely unaccusative

If the most important distinction is between agentivity and lack of it, then verbs in square 1. and 2. are unergative (2. would include e.g. *stand up, retire*), and those in 4. and (most) in 3. and 4. are unaccusative (3. includes e.g. statives like *exist, be in the room*). But if the distinction between telicity and lack of it is primary, then

verbs in 2. and 4. are unaccusative, while most in 1. and 3. are unergative. (Perhaps "active" languages like Lakhota, where the notable grammatical realization of the contrast is in case or agreement marking for the subject NP, are closer to exemplifying the former, while unaccusativity as manifested in Italian is more like the latter.) A prediction made by associating the Proto-Role hypothesis with unaccusativity is that in any language with manifests unaccusativity, predicates that are "high" in agentivity AND "low" in patient properties are invariably unergative, while those low in agent properties and high in patient properties are invariably unaccusative; only those high in both kinds of entailments, or low in both, should be unstable. As far as I am aware, this is correct.

Before going any further, we must distinguish two different ways that an unergative/unaccusative distinction could enter into a grammar:

(i) the distinction is a grammatical one between two classes of intransitive verbs, having a correspondence with some partitioning of the continuum from Proto-Agent to Proto-Patient (though possibly only a rough correspondence). But each individual verb is assigned once and for all to one of the two grammatical classes (in each language).²

(ii) Certain grammatical constructions have certain meanings associated with them (entailments or conventional implicatures) involving Proto-Agent or Proto-Patient properties, hence a given intransitive verb is appropriate in such a construction only if it has the right kind of meaning. The set of grammatical rules/constructions appropriate to one semantic class, versus that appropriate to the other class, thus isolate two classes of verbs, but via semantic constraints originating in the rules themselves.

The difference between (i) and (ii) is the same as that between grammatical and semantic gender: in grammatical gender, each noun is permanently assigned to one gender, but gender does not (synchronically) play a role in semantics, though it may reveal its historical semantic roots in a partial correlation with semantics. In the case of semantic gender, gender does make a real contribution to meaning, and certain distributional facts, for example, that *he* cannot normally be co-indexed with *she* in *He thinks she is intelligent* can be given an explanation in terms of

² As Rosen (1984) mentions, there is of course the possibility of assigning certain verbs to both classes in a language, e.g. *fall* and *sneeze* in Choctaw (as mentioned in (74)). If however this should turn out to be necessary for more than a few verbs, and if the occurrence of the verb in the two syntactically diagnostic frames should turn out to correlate with a difference in the verb's interpretation of an agent-vs.-patient sort, then I would argue the correct analysis is of the second, "semantic", type below, instead of or in addition to the syntactic type. Hypothesizing that a large semantically coherent group of verbs have duplicate categorization in unaccusative and unergative syntactic classes (and with corresponding different semantics in the two frames) would be, I argue, missing the point.

meaning, not syntax. Likewise, if the difference between the syntactic distributions of ergative vs. accusative predicates is of the second sort, then it is not necessarily a syntactic distinction at all. The possibility of an analysis like (ii) of course presupposes that a grammatical construction (or some morpheme serving as head of the construction) can be analyzed as having a meaning (and/or conventional implicature) of its own, but it is a feature of compositional semantic theories since Montague (1974) that they permit constructional as well as lexical meaning.

One way of distinguishing the latter way of drawing the distinction from the former way is that the class of predicates permitted to appear in constructions specific to one class can be extended beyond the normal class in certain contexts, to convey some fanciful, metaphorical humorous, or otherwise non-literal effect. For example, English *is being* ADJ presupposes that the property ADJ is under volitional control of the subject (cf. *Mary is being quiet* vs. *#Mary is being pregnant*), and yet a speaker may utter *This Xerox copier is being stubborn again* without either violating a grammatical categorization of *stubborn* or being taken to seriously believe that the Xerox machine has malevolent intentions. The classes of adjectives permissible in *is being* ADJ is thus semantically delimited, not syntactically determined.

Zaenen (1988) argues that the Dutch impersonal passive construction is just such a case, conveying that the property denoted by the verb is an intentionally controllable one. "Abnormal" sentences like (76) (Zaenen 1988: 14) and (77) (Perlmutter 1978) can be and are uttered by native speakers of Dutch, though understood as conveying an atypical assumption as to what actions can be intentional and are therefore a kind of joke:

(76) Er werd door de krenge gestonken
"There is stunk by the nasty women"

(77) In het tweed dedrijf werd er door de nieuwe acteur op het juiste ogenblik
"In the second act there was fallen by the new actor on cue"

German impersonal passives likewise have a volitional implicature and permit extended use with non-agentive verbs for humorous effect (John Nerbonne, p.c.); in fact, Nerbonne (1982, 1984) analyzed German impersonal passives as having such an implicature. By contrast, a syntactic account of unaccusativity does not immediately predict that such "violations" should be any more permissible than any other kind of syntactic ill-formedness.

If an "unergative/unaccusative" contrast effect arises from an implicature of a syntactic rule rather than a syntactic/lexical categorization of intransitive

predicates, then insofar as different syntactic rules each have their own interpretation rule, "semantic" unaccusative/unergative contrasts isolated by different rules could in principle have slightly different implicatures (at least, under the Proto-Roles hypothesis, where there are predicted to be various semantic properties for demarcating the classes) and so in principle isolate different "unaccusative" verb classes in the same language. And Zaenen (1988) argues this possibility is the source of the above-mentioned bifurcation in Dutch: while she claims the impersonal passive construction has an (atelic) volitionality implicature (thus distinguishing verbs in cell 1. above from the other cells), telic but not atelic predicates are argued to select *hebben* rather than *zijn* (i.e. distinguishing verbs in cells 3. and 4. from the others). Of course, telicity in predicates is determined not only by the lexical class of the verb but also the aspectual adverbials that accompany it (Verkuyl 1972, Dowty 1979), and this is Zaenen's argument that a sensitivity to aspect in the semantics of *hebben* vs. *zijn*, rather than a fixed syntactic category of unaccusative predicates, is at issue in this second distinction in Dutch as well as the first. The broader point is of course that the semantic analysis explains how two "different" divisions between unaccusatives and unergatives are made in the same language, while the position that the distinction is a necessarily syntactic one cannot readily accommodate such a situation. ³

Rosen (1984) clearly takes the position that unaccusativity as a syntactic phenomenon really exists, as have a number subsequent writers. While I think the question deserves to be examined more closely via a closer semantic scrutiny of the "tests" observed in each language, I will assume for purposes of this article that syntactic unaccusativity occurs, and address briefly the implications of the Proto-Role hypothesis for it. (The above discussion does not in any way rule out the possibility that both syntactic and semantic unaccusativity could be found in the same language, and this may well occur: for example, Holisky (1987) cites the case of Tsova-Tush, where case marking interacts with unaccusativity in a complicated way involving markedness, but a way that appears to include both syntactic categorization of verbs and semantic entailments of constructions, neither reducible to the other.)

In this paper, I have been at pains to argue that while the way the Proto-Agent/Proto-Patient opposition is CONNECTED to the grammatical opposition between subject and object, neither opposition is REDUCIBLE to the other, nor is the association of subject with (Proto-)Agent and object with (Proto-)Patient a necessary one. There were three reasons for this:

³(Though on a semantic analysis of the distinction it does not literally follow that entailments attached to particular syntactic rules or items taking verbs as complements would tend to cluster even loosely around the "same" two semantic groups of predicates at all, this clustering would seem likely to arise, given the assumption that, as an empirical fact about common intransitive verb meanings, most cluster around one of the end of the Agent-Patient continuum or the other.)

(1) The correlation of proto-roles with grammatical relations in English-like languages is only a TENDENCY, not an absolute, and admits of quasi-violations (under relatively predictable circumstances) like the lexicalization of "conflicting" pairs like *like* vs. *please* and "counterexamples" like *receive* and *undergo*.

(2) Some languages, namely syntactically ergative languages, have the INVERSE correlation between subject/object and Proto-Agent/Proto-Patient from that of English.

(3) there is already some evidence that Proto-Agent (and possibly Proto-Patient) exist as operative categories in language independently of subject and object, namely in Croft's observations about two classes of "oblique roles" (i.e., grammatical positions exclusive of subjects and objects) that are similar to Proto-Agent and Proto-Patient, and Clark and Carpenter's generalized Source category, a super-category of my Proto-Agent realized through grammatical obliques.

To the extent these arguments are correct, then I believe there is much less naturalness (much less necessity) than is often assumed in identifying a "surface" syntactic or lexical category of unaccusative intransitives with "underlying objects that have been promoted to subject". That is, if we know independently that "Proto-Patient" is an influential semantic category that can manifest itself in various ways in language besides merely direct object (and if direct objects are not necessarily Proto-Patients) then why not identify Proto-Patients directly with a syntactic subcategory of intransitive verbs, without the intermediate assumption that because they are Patient-like they must also be, in some sense, direct objects? After all, it is often desirable to distinguish some subcategory of verbs for syntactic or morpho-syntactic purposes, even where the subcategory has partial or complete semantic correlation, by means no more complicated than a syntactic feature: for example, stative predicates are morphologically or syntactically distinct from other verbs in many languages (cf. Comrie 1976:50 and Watters 1985:14, discussed earlier), though the semantic correlation of the syntactic stative class varies not only from one language to another but is apparently inconsistent within languages.

Of course, the hypothesis that unaccusative clauses are derived from sentences with grammatical objects but no subjects has been defended at length with ostensibly SYNTACTIC arguments ---arguments that the overall grammar of a language is improved by this kind of derivation, in spite of the price paid for the additional step of advancing the object to subject in most situations. My purpose here is not to take issue with these arguments (an undertaking far beyond the scope of this paper in any event), but to maintain that they always need to be evaluated in light

of three points: (i) the unaccusative advancement hypothesis must stand or fall on the SIMPLICITY of its syntactic analyses per se; it should not really gain any support (explicitly or implicitly) from the "naturalness" of associating patient-like intransitive subjects with grammatical objects, and (ii) in arguing for an unaccusative derivation, it does not suffice merely to accumulate a variety of ways in which unaccusative predicates behave alike and ways in which they are different from unergatives: the Proto-Role hypothesis, if it can indeed have effects in various aspects of grammar acquisition, would be abundant reason in itself why grammar-learners might tend to be attuned to intransitives with patient-like arguments as a class and hence regularize (and over time increase) coincidental differences between them and agent-like intransitives; distinguishing unaccusatives by a feature [unaccusative] might describe this situation perfectly well. Rather, the only successful arguments for unaccusative advancement will crucially involve grammatical parallels across unaccusative verbs and transitives (and/or unaccusative subjects and objects of transitives) that can be exploited to simplify the grammar without introducing additional complications through the unaccusative derivation. For example, a language in which in which a grammatical rule, say passive, applied to both transitives and unaccusative intransitives but not to unergatives would be such a case.⁴ (By "additional complications" I mean for example, that we must prevent it from following from our unaccusative analysis and the fact that verbs can "share" an argument bearing the same grammatical relation, e.g. *Mary caught and John ate the big fish*, that we predict **Mary saw and arrived the tall stranger* is grammatical.) Above all, (iii) it is necessary to be sure one is dealing with syntactic unaccusativity rather than solely semantic unaccusativity, for semantic unaccusativity does not motivate an unaccusative advancement analysis.

How persuasive such syntactic arguments are is, unfortunately, a question that will almost surely depend on one's grammatical theory. If one favors a multi-stratal theory in which "advancement" derivations are already frequently used for other purposes (as in Relational Grammar, Arc Pair Grammar, or Government Binding Theory) and in which mechanisms are already in place to trigger and constrain such advancements, then the unaccusative advancement analysis is relatively "cheap", and even slight simplifications achieved by that analysis would easily justify it. If however one believes that monostratal syntactic theories with structured grammatical categories such as Generalized Phrase Structure Grammar

⁴ In languages like Dutch and German, of course, the facts are the other way around: impersonal passives are found with unergatives, not unaccusatives. Relational Grammar of course has an interesting account of this situation, where Unaccusative Advancement in effect precludes the possibility of passive thereafter, though this involves theory-specific assumptions which one could imagine being otherwise (passive might have had a chance to apply BEFORE unaccusative advancement, etc.). My point is not to quibble with that analysis but simply to point out that the more directly a set of facts reveals the simplifying power of an unaccusative analysis, and the less theory-specific the assumptions that are required to cash in on the simplification, the more persuasively the case for the unaccusative hypothesis itself is made.

(Gazdar et al 1985), Head-Driven Phrase Structure Grammar (Pollard and Sag 1987), or one of various versions of Categorical Grammar (cf. e.g. Oehrle et al 1988), when combined with an explicit semantics, have provided a fundamentally adequate description of natural language syntax, then I suggest that what is known about the unaccusativity phenomenon fails to provide any good reason for rejecting monostratal frameworks. This will be so in particular if the two opposing proto-roles have the importance in various aspects of language that I have suggested here, for they offer a reasonable motivation for the semantic parallel between the existence of two subcategories of intransitives in natural languages and the criteria for selecting direct objects for multi-place verbs, but without invoking "grammatical object" in the description of intransitives at all.⁵ To be sure, the extensively-argued advancement analyses such as those of Rosen (1984), Burzio (1986) and others for Italian demand to be answered in detail (either to argue that each unaccusativity phenomenon is semantic or to provide a plausible monostratal alternative for any grammatical unaccusativity) to follow through on this suggestion

⁵ It has been suggested that certain Italian sentences with unaccusative verbs may be best analyzed as having SURFACE direct objects but no subjects (or having dummy subjects). Such an analysis is not however an ADVANCEMENT analysis, and it is not in conflict with a monostratal syntactic theory or with the proto-roles hypothesis, as far as I can see. One would treat such predicates, like existential dummy-subject verbs, as having meanings which are technically two-place functions but only trivially so, having denotations which give the same values for any subject argument (or alternatively, are well-defined only for the "dummy" argument), so they are equivalent to one-place predicates in semantic effect. If a language makes use of such a possibility to "expand" one-place predicates to two-place, then given the proto-role hypothesis it is not at all surprising to see unaccusatives but not unergative predicates given this treatment, since it permits the association between proto-patients and grammatical objects to be made more widespread, though at the price of a slightly more complex syntax than simple intransitives have --- but not as complex as a multi-stratal analysis. (If the same verb appears sometimes with a subject, sometimes with an object plus dummy, then a lexical rule would be required to relate one subcategorization frame to the other.) Compare this with the case of dummy subjects of existentials, where as suggested in § 5, languages "expand" a one-place to a vacuous two-place relation in order to remove a NP having a newly-introduced referent from the (weak) association of "topic" that the grammatical position of subject would otherwise give it. In both cases, the correlation of grammatical position with a semantic/discourse property that is achieved is a widespread but not a necessary one; indeed, the former conflicts with the latter (the non-subject arguments of existentials created this way, which in English examples like *It's me!* are quite object-like, are not patients).