

THE ENGLISH MIDDLE CONSTRUCTION AND LEXICAL SEMANTICS

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0. Introduction

In a paper on derived intransitives in English O'Grady (1980) stated that: "derived intransitives constitute one of the least studied verbal constructions in English and they are considered to be somewhat idiosyncratic and marginal because of the curious syntactic properties" (1980:60). The construction in question, better known as the middle construction (MC),¹ is illustrated in (1) (all examples come from O'Grady's article):

- (1) a. This oven cleans quickly and effortlessly.
b. The clothes iron well.
c. The book is selling like hot cakes.
d. John terrifies easily.

(A more extensive list of examples is provided by Fiengo (1980).)

Since O'Grady's article the MC has become the focus of numerous papers and books produced within the Government-and-Binding model of generative grammar and frameworks related to this model. Among those studies most prominently figure Keyser and Roeper (1984); Fellbaum (1985), (1986); Hale and Keyser (1986,1987, 1988); Roberts (1987); Zubizarreta (1987); and Fagan (1988), just to mention a few.

One of the main reasons for this sudden concern with the MC is connected with research pertaining to lexical semantic, i.e. interest in formulating an

¹ Fellbaum (1985) calls this construction the "patient-subject construction", whereas Grady (1965) uses the term "medio-passive".

appropriate theory of semantic representations for lexical items, and also research connected with the lexicon (understood as this part of grammar which is sensitive to the parameters of Universal Grammar).²

In this paper we shall briefly discuss the most important properties of the English MC (section 1), consider recent accounts of this construction (2), and investigate and modify the approach taken by Hale and Keyser (1988) (3). We will also consider the issue of the levels of semantic and syntactic representation. Our proposal, however, is only a tentative working hypothesis to be verified by further research, and therefore it does not aspire to be a final solution.

1. Basic properties of the middle construction (MC).

a. The MC is derived from a basically transitive verb, the verb has active morphology and the subject corresponds to the logical object of the verb (i.e. the d-structure direct object assumes the s-structure subject function):

- (2) a. John read the book.
b. This book reads easily.

b. The promotion of the direct object (the internal, direct argument in the sense of Williams (1981)) makes the process of middle formation reminiscent of passivization. In both cases there is an implied agent, lacking in the ergative (inchoative, unaccusative) constructions of the type illustrated in (3):

- (3) a. The glass broke.
b. Ice melts.
c. The boat sank.

However, in the English MC the agent argument cannot be lexically represented and here is no possibility of re-linking it in contrast to the by-phrase option available for passives:

- (4) a. The book was read by everyone.
b. *This book reads well by John.

c. There is a constraint on the type of direct objects which can become subjects in MC, as (5) illustrates:

- (5) a. *Old English learns with pain.
b. *The answer realizes without difficulty.
c. *John fears easily.

² For further comments on the lexicon and UG see Chomsky (1988:2).

It seems clear that the class of transitive verbs which may appear in the MC is characterized as requiring an affected internal argument with some possible exceptions as for example the verb read.³

d. The MC receives a non-eventive, generic, habitual, or potential interpretation, i.e. a sentence like (2.b) can have the following interpretation:⁴

- (6) It is easy, for everyone, to read this book.

From this kind of interpretation it follows that middles are incompatible with the imperative (7.a), and they do not occur in progressive constructions (7.b):⁵

- (7) a. *Read easily, book!
b. *This book is reading easily at the moment.

e. MC are theme-oriented constructions: they state that any agent can/will perform the action expressed on the theme - subject taking under account some invariant or inherent properties of the theme. Thus (2.b) can be further reinterpreted as (8):⁶

- (8) it is easy, for everyone, to read this book because of its certain properties (such as large print or clear style, etc.).

f. The middle requires the presence of a modifier (adverbial, negation, contrastive stress or environment):

- (9) a. This novel reads quite well.
b. Modern feminist literature simply doesn't read.
c. Conrad is a great stylist, he does read!

As often noted (Fellbaum (1985, 1986)) the nature of the modification (or even its very presence) is connected with pragmatically given information, as attested by sentences in (10):

- (10) a. This umbrella folds up.
b. Rushdi's novel sells.

³ On affectedness see Roberts (1987). The verb *read* can be treated as a true exception. In order to avoid any ad hoc formulations no attempt will be made to give the semantic representation for this verb.

⁴ In Fellbaum's terminology this is the "generic doability"; sentence (2.b) could be paraphrased as in (i): (i) People, in general, can read this book.

⁵ See, however, Fagan (1988) for discussion of progressive constructions and possible non-eventive interpretation.

⁶ In O'Gard's (1980:62) formulation the grammatical subject's role as actualizer is restricted to facilitating the development of the event denoted by the verb.

The above sentences demonstrate that in some cases it is not the generic interpretation ("people in general") which is characteristic for the MC, but rather the specific qualities of the theme-subject, often interpreted and properly understood because of some extralinguistic conditions.

2. Accounts

Early TG studies suggested a transformational account of the MC. Chomsky (1962) proposed an "Inversion Transformation"; Grady (1965) a "Medio-Passive Transformation"; and Emonds (1976) a leftward movement transformation – "NP – Preposing". All these rules, however, were problematic because of overgeneration and the issue of an appropriate formulation of the well-formedness constraints.

A different account of the MC pointed towards the importance of lexical rules – Wasow (1977), Bresnan (1980). Bresnan (1980:116) proposes a lexical rule of activo-passivization (Middle Formation) of the form (11):

- (11) (SUBJ) → \emptyset
(OBJ) → (SUBJ)

The above rule suppresses the underlying grammatical subject and replaces the object with the subject, the SUBJ function changes from the agent to the patient and the grammatical expression of the agent is eliminated altogether. As Bresnan does not deal with the appropriate context for the rule's application this problem remains open within the lexical approach.

Recent analyses within the GB framework consider the MC at both the lexical and syntactic level. In Keyser and Roeper (1984) it is assumed that middles are derived from their transitive counterparts by means of a lexical rule that absorbs objective case and the subject θ -role. In contrast to ergatives middles emerge from the lexicon as transitives, and a syntactic rule of move- α (NP-movement) moves the d-structure object into the s-structure subject position.⁷ In formulating the lexical rule Keyser and Roeper follow the standard approaches to Romance languages and propose that the grammar of English has an abstract, phonologically null, reflexive clitic *si* which absorbs objective case and the subject θ -role. However, as pointed out by Jaeggli (1986) it does not seem reasonable to assume the existence of a null clitic on the one hand and the existence of a phonologically spelled out clitic on the other while the postulated abstract element lacks relevant properties of the Romance reflexive *se/si* morpheme.

⁷ For discussion of problems with this approach, especially Keyser and Roeper's distinction between middles and ergatives, see Fagan (1988).

A more recent analysis is due to Roberts (1987) who proposes a middle formation rule of the form "Externalize (Theme)", roughly in the sense of Williams (1981). This rule is an operation on θ -grids, and has the following form:

- (12) [*Agent*, Theme] – – [(*Agent*), *Theme*]

Rule (12) restricts the class of verbs undergoing middle formation to transitives as it can only affect verbs with Themes. Restricting the notion of Theme, Roberts can apply this rule to the relevant class of transitives, i.e. the ones with an affected internal argument (Affected Theme). A very important aspect of rule (12) is that it makes the claim that the Agent θ -role is not eliminated, but only prevented from being assigned to the external argument (i.e. it is unprojected and unlinked).⁸

Another treatment explicitly dealing with the semantic properties of middles is advocated by Sarah Fagan. In her recent paper (Fagan (1988)) she proposes that middle formation is an example of a general process of "genericization". Under her account genericization is a process which assigns a generic interpretation to a θ -role that is subsequently left unrealized (unlinked). Underlying this conception is the notion of saturation of θ -roles proposed by Rizzi (1986) (see also Higginbotham (1985)). Saturation is understood as an association of a θ -role with some referential content – "that is, when we can understand 'who does what' in the situation referred to" (Rizzi (1986:508)). Typically, the Projection Principle and the θ -criterion ensure that saturation is done in the syntax. Rizzi, however, proposes a possibility for the Projection Principle to operate in the lexicon through the rule of arbitrary interpretation. According to Rizzi (1986:512) arbitrary interpretation should be characterized by the collection of features [+human, +generic, \pm plural], which are inherent properties of certain nominal elements (German *man*, French *on*, Italian *si*, etc.) or assigned through (13)⁹

- (13) Assign arb to the direct θ -role.

The direct θ -role is understood here as the direct object θ -role, i.e. the only role directly θ -marked by the verb (see Williams (1981)). θ -roles which are saturated lexically are not realized in the syntax, and therefore Rizzi presents a reformulation of the Projection Principle (Rizzi (1986:509)):

⁸ A θ -role is projected if it is actually present in the thematic array of the verb at d-structure; if it is also mapped onto a structural position it is linked (see Safir (1987)). Roberts introduces the notion, familiar from Relational Grammar, of *chômeur* θ -role for a role changed in its realization by some lexical rule but not deleted.

⁹ The rule requires further refinement and parametrization. Generic interpretation stands for "people in general". There are some problems with an explicit formulation of all crucial terms, more research is required to clarify the issue. On empty (pronominal) categories and arbitrary variable-like interpretation see Otero (1986).

- (14) Categorical structure reflects *lexically unsaturated* thematic structure at all syntactic levels.

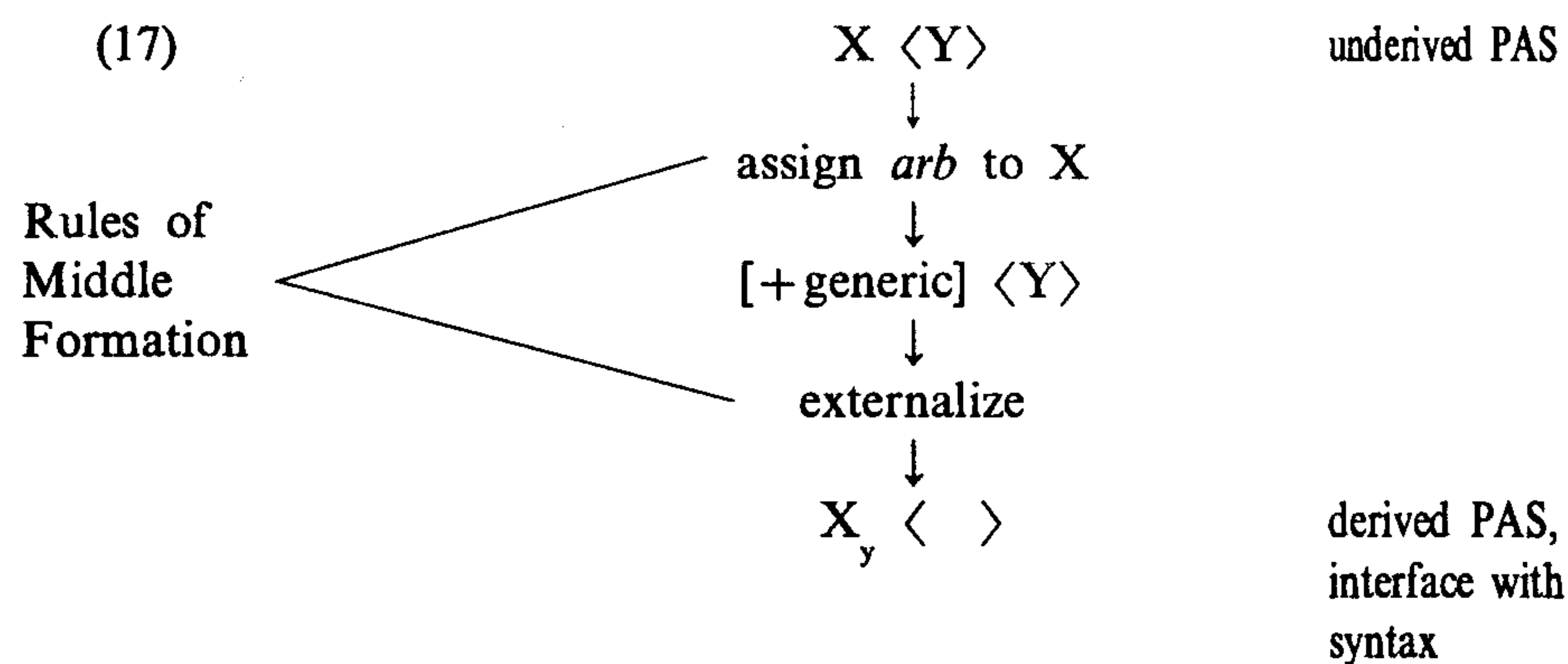
The Projection Principle as stated in (14) asserts that only unsaturated arguments are accessible to syntactic interpretation.

In summary, θ -roles can be saturated in the syntax through the standard Projection Principle (Chomsky (1981)) or in the lexicon – by virtue of both (13) and (14). If a θ -role is saturated already in the lexicon it never appears in the syntax, nevertheless it may be understood because it still belongs to the lexical meaning of the verb.

Fagan incorporates Rizzi's observation into her work and proposes two rules responsible for middle formation (Fagan (1988:198)):

- (15) Assign *arb* to the external θ -role.
 (16) Externalize the direct θ -role.

By rule (15) the external θ -role of middle verbs – usually, but not always, an agent – is no longer associated with a structurally projected position though it is still understood (generically). Rule (16) accounts for the fact that the direct θ -role of the transitive verb becomes the external argument of the detransitivized middle verb. This rule bears some similarity to Roberts' rule "Externalize (Theme)", it is, however more adequate as it deals with positions of arguments in the Predicate Argument Structure of the verb and not with the specific content of the roles.¹⁰ Schematically, the derivation of a MC may be presented as below (we use the following abbreviations: X – external argument, Y – direct argument, X_y – externalized direct argument, [+generic] as a shortened representation of *arb* features):



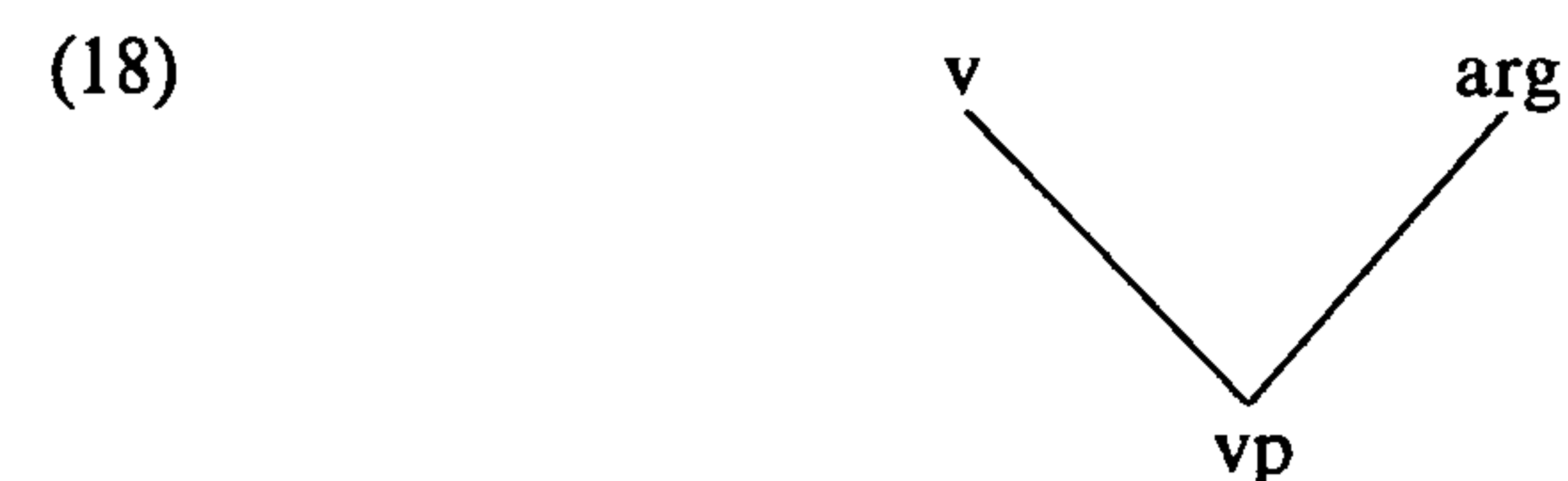
¹⁰ The terms Predicate Argument Structure (PAS) is understood here as in Rappaport and Levin (1988) and Kegl and Fellbaum (1988) – i.e. the syntactically relevant lexical representation. A PAS of a given verb refers to external and internal arguments and indirect arguments. This representation does not contain lists of θ -role labels but uses variables. See also Zubizarreta (1987).

3. Hale and Keyser on Middle Formation.

The above mentioned approaches to the MC take for granted the existence of the Agent θ -role (or external argument) in the underlying representation of the middle verbs. In Roberts' account this θ -role is still present after the application of rule (12), though it is unprojected and unliked. Fagan, on the other hand, -argues for a process of genericization which leaves the syntactically unexpressed argument understood in a generic sense. Below we shall suggest a different approach, namely that there is no Agent θ -role in the MC at any level of representation. This is the position taken by Hale and Keyser (1987) which we shall adopt and implement with ideas stemming from the above discussed rules of saturation.

First, however, it is necessary to discuss some basic properties of lexical entries for verbs and levels of syntactic and semantic representation. Recent research in generative syntax and lexical semantics has developed an articulated model of lexical entries (see especially Hale and Keyser (1986, 1987, 1988) and Jackendoff (1983, 1987)).

In the Hale and Kayser account (adopted in this paper) lexical entries include semantic information and abstract syntactic information. The syntactic information is given in the Lexical Structure (LS) of a verb.¹¹ The LS embodies the basic syntactic organization of the arguments of the lexical item and categorial projection to the level (defined by X-bar theory). The LS for *cut* is given in (18):¹²



(Representation in (18) is equivalent to a formulation of the type: X <Y>.)

The same information is provided by the verb's Lexical Conceptual Structure (LCS) – its "dictionary meaning" or "dictionary definition" given in terms of a predicate and variables. The LCS is a representation of the concept named by the verb (predicate) and the participants in the action (variables).¹³

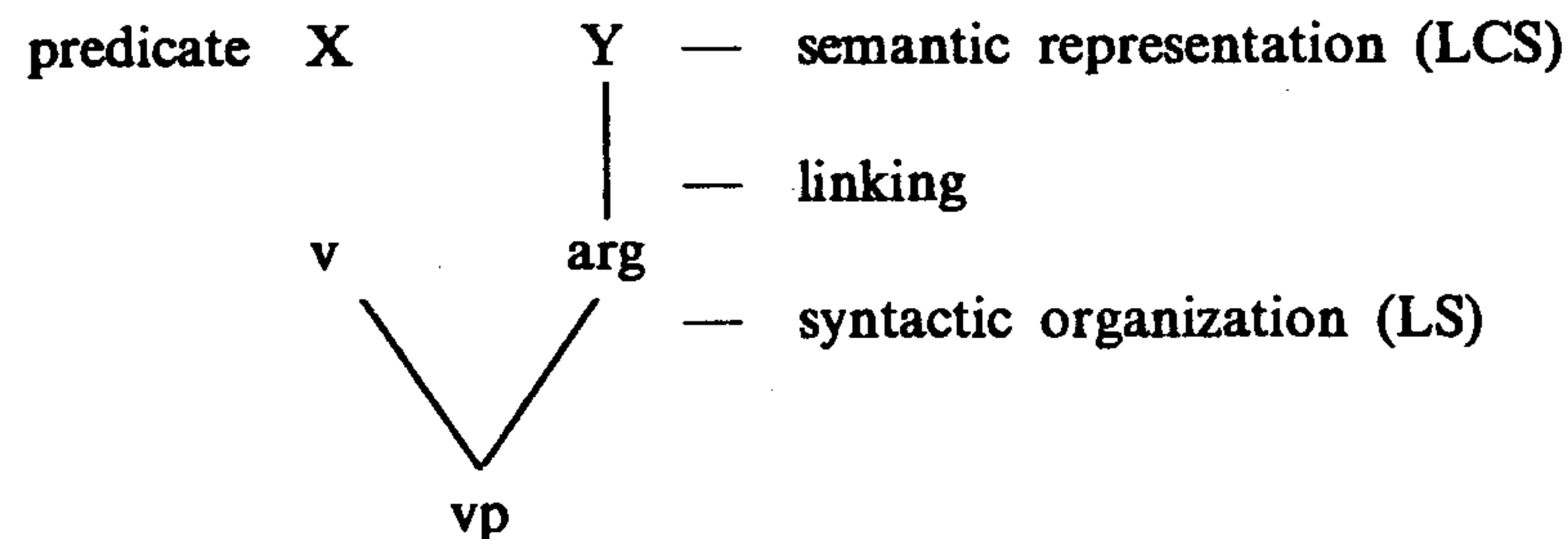
¹¹ Already alluded to as the PAS of a verb. An explicit characterization of LS is not crucial for this paper. For details see the above mentioned sources. The difference between representations in (17) and (18) stems from national conventions only.

¹² We follow Hale and Keyser in adopting the convention of lower case (vp) for referring to LS, and upper case (VP) for syntactic categories.

¹³ In the model of Conceptual Semantics proposed by Jackendoff (1983, 1987) the LCS of a verb is composed from a universal set of primitive functions: CAUSE, GO, STAY, and BE. CAUSE and GO and STAY define Events: BE defines States. Each of these functions, together

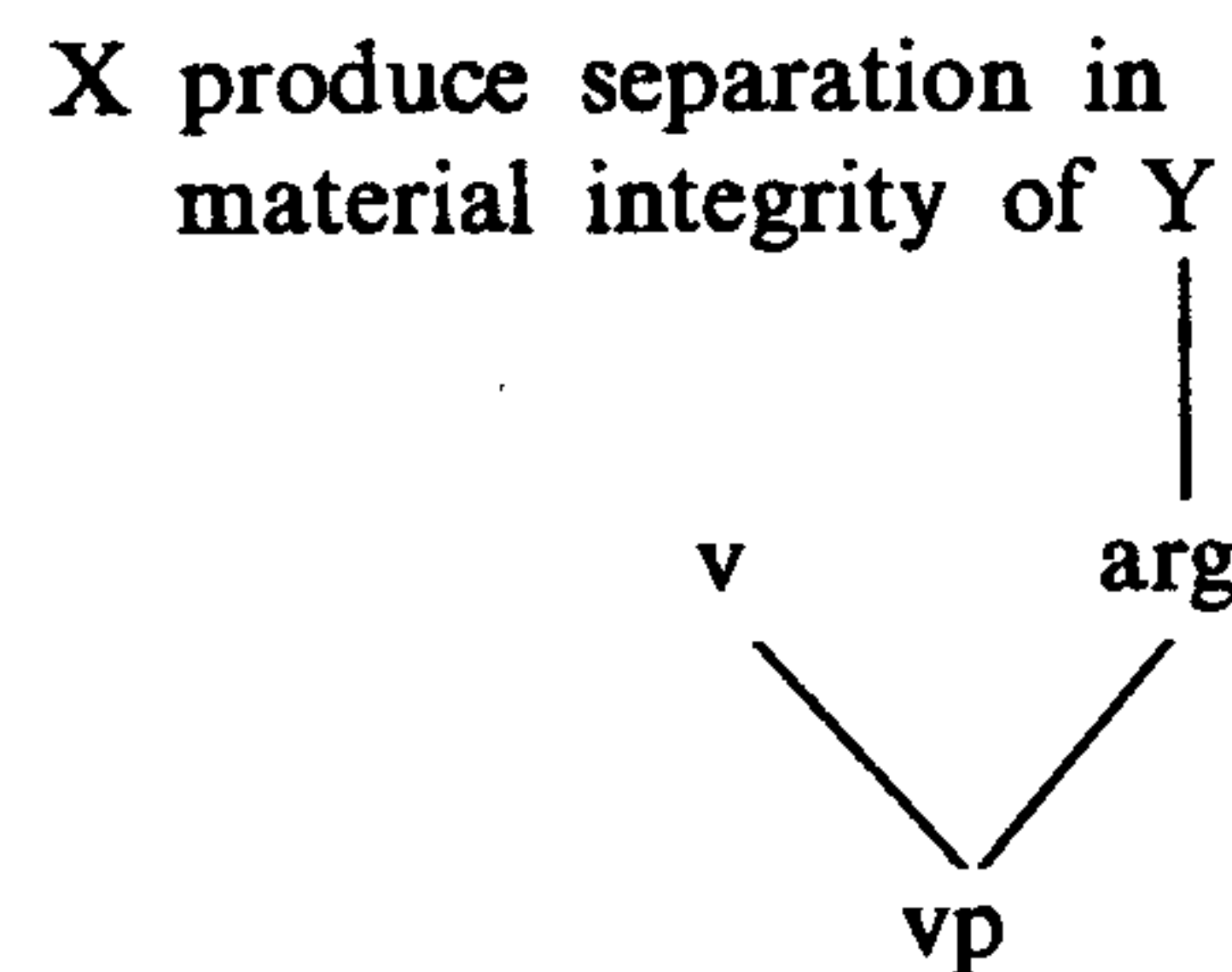
Elements from the syntactic and semantic level may be linked (cf. Jackendoff's system of co-indexing), giving rise to the following abstract configuration:

(19) Lexical Entry:



The system in (19) reflects the projection from the LCS, via LS, to the d-structure. In the Hale and Keyser model the entry for a verb like *cut* is shown in (20):

(20) Lexical Entry for *cut*:



In the above LCS, X represents the external argument (the agent of the act of cutting) whereas the other variable Y, represents the internal argument (the theme).

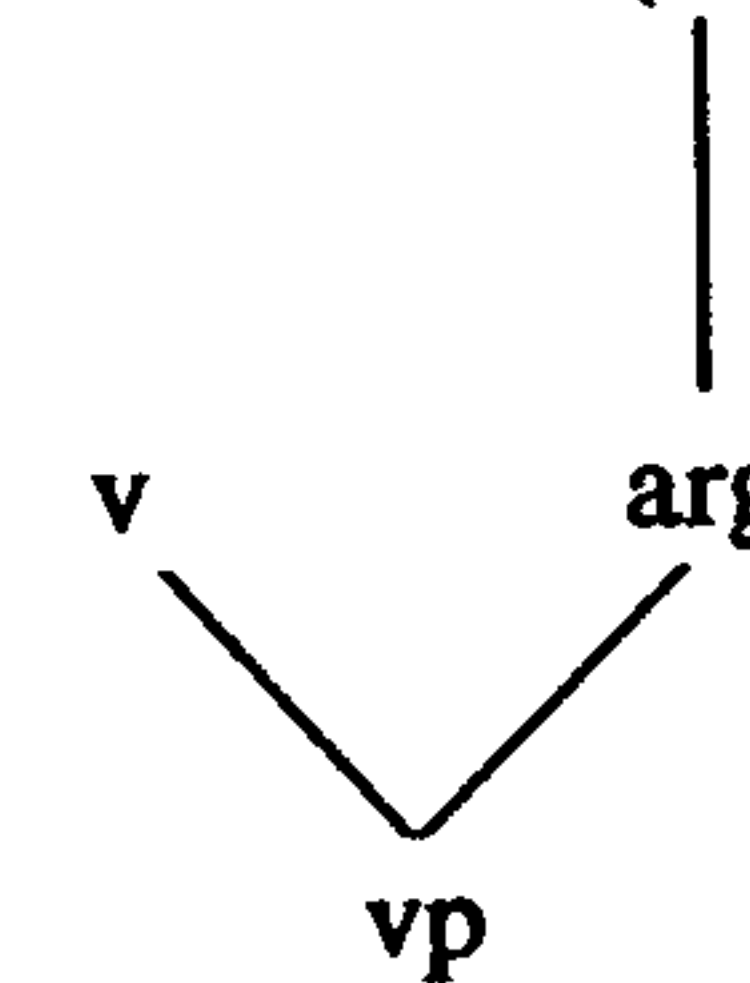
Let us now look at the behaviour of the verb *break* in its transitive (22), ergative (23), and middle (24) usage.¹⁴ The predicate definition might be stated as in (21.a); however, for the ease of exposition we propose an abbreviated form (21.b):

with its arguments forms a conceptual clause. However, in this paper we will follow Hale and Keyser in giving the definitions in LCS in "plain English" and in abbreviated forms, rather than using the elaborate system worked out by Jackendoff.

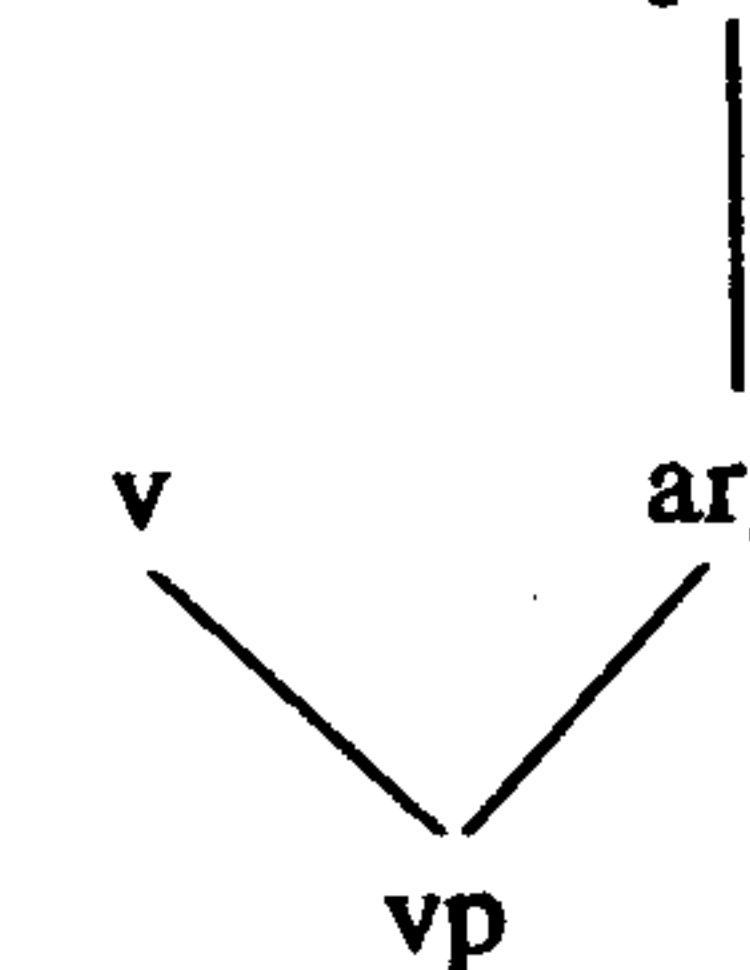
¹⁴ Discussing the verb *break* we take under consideration both the transitive and intransitive variants. In the approach advocated in this paper they have one, common, underlying semantic representation and therefore the transitive break (with the PAS: X <Y>) and the intransitive break (with the PAS: <Y>) are realizations of the same underlying form.

- (21) LCS for *break*:
- a. [X cause (Y, rigid or taut entity, develop a separation in material integrity.)]
- b. [X CAUSE (Y BREAK)]

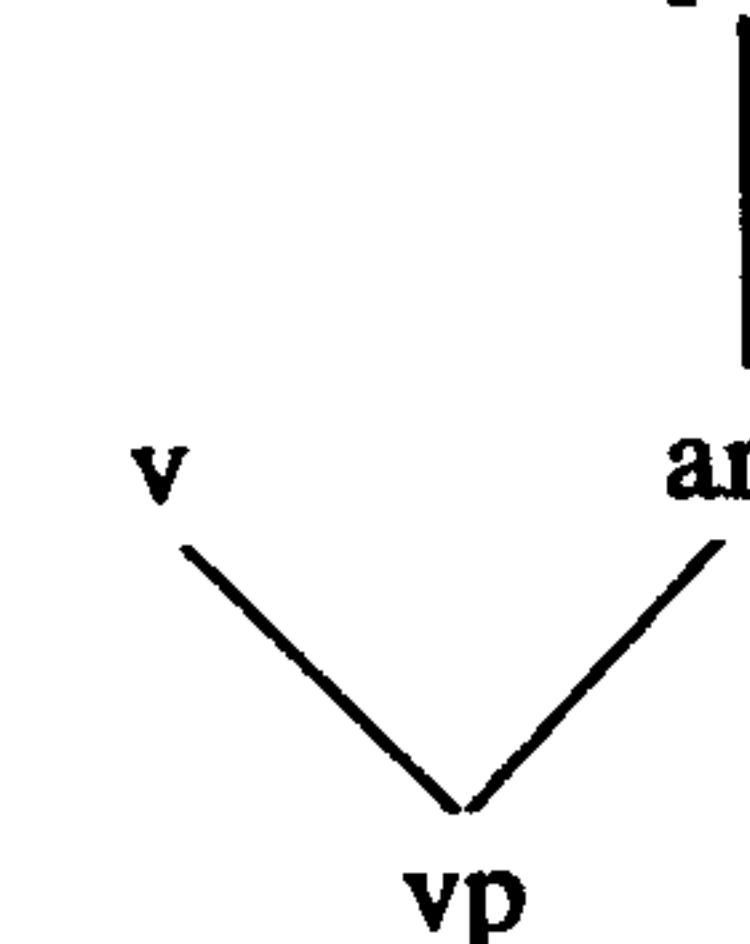
- (22) John broke the cup.
[X CAUSE (Y BREAK)]



- (23) The cup broke.
[Y BREAK]



- (24) China cups break easily.
[Y BREAK]



The option in (22) – a causative predicate with an agent participant – is only one with external argument present at the deepest level of representation. We claim that no agent (external argument) is present in the LCS for ergatives and middles and that the relation between dyadic (22) and monadic (23) and (24) is governed by a "causative rule" (Hale and Keyser (1986: 19)) which embeds the monadic LCS as a complement of the general causative function (25):

- (25) [X CAUSE (Y...)]

where (Y...) can be interpreted as Y "undergo change". This LCS ("undergo change") defines the crucial property of verbs which allow the middle variant and points directly to the affectedness of the object. The rule responsible for middle formation has the form given below:

$$(26) \quad [X \text{ CAUSE } (Y \text{ "undergo change"})]$$

$$\quad \quad \quad \downarrow$$

$$\quad \quad \quad [Y \text{ "undergo change"}]$$

Hale and Keyser (1987:20) call this rule the "Ergative-Middle Alternation" and state that: "on this view a middle does not differ in any interesting linguistic sense from the unaccusative in an ergative alternation". We shall refrain here from elaborating on diverse aspects of the ergative-middle similarities.

Comparison of the representations in (22) – (24) and especially the existence of the common, embedded, element in all three representations suggests a possible "deeper" level of representation embodying crucial aspects of transitives, ergatives and middles. Such a deeper representation has in fact been proposed by Guerssel (1986) and adopted by Hale and Keyser (1987, 1988). Guerssel (1986:69) states that "a more basic level of conceptual structure, to be referred to as the Primitive Conceptual Structure (PCS), must be posited. PCS is intended to be more basic than the LCS in its expression of the meaning of a predicate in that it simply expresses the notion conveyed by a predicate, and does not involve the representation of the participants in terms of variables".¹⁵ Hale and Keyser (1987, 1988) follow Guerssel's ideas in assuming that the PCS (or Elementary LCS – ELCS) is the most elemental representation of LCS, a "prelinguistic" level and it is devoid of linguistic elements of LCS – e.g. the argument variables which project into syntax and the event position (in the sense of Higginbotham (1985)). Later on, however, Hale and Keyser do not discuss the "pure" ELCS but rather equip it with two different sets of variables: unrestricted and restricted. Unrestricted variables (of the form X, Y, Z) represent the arguments of a predicator which are associated obligatorily with grammatical functions (GFs, as defined in Chomsky (1981)) in Lexical Structure. Restricted variables on the other hand are only optionally projected as GFs in syntax. There is one restricted variable of importance for our paper – the conceptual category "circumstance" ("C").¹⁶

¹⁵ Guerssel suggests that the primitive human classification of processes recognizes a class whose realization is always the result of some external force or condition.

¹⁶ More on restricted variables and their status in the theory of grammar see Hale and Keyser (1988).

A proposed ELCS for verbs with an ergative and middle alternation (ex. *break*) is given in (27.a) with reading as in (27.b):¹⁷

- (27) C → [Y "undergo change"]
 b. Some circumstance "C" results in Y's change.

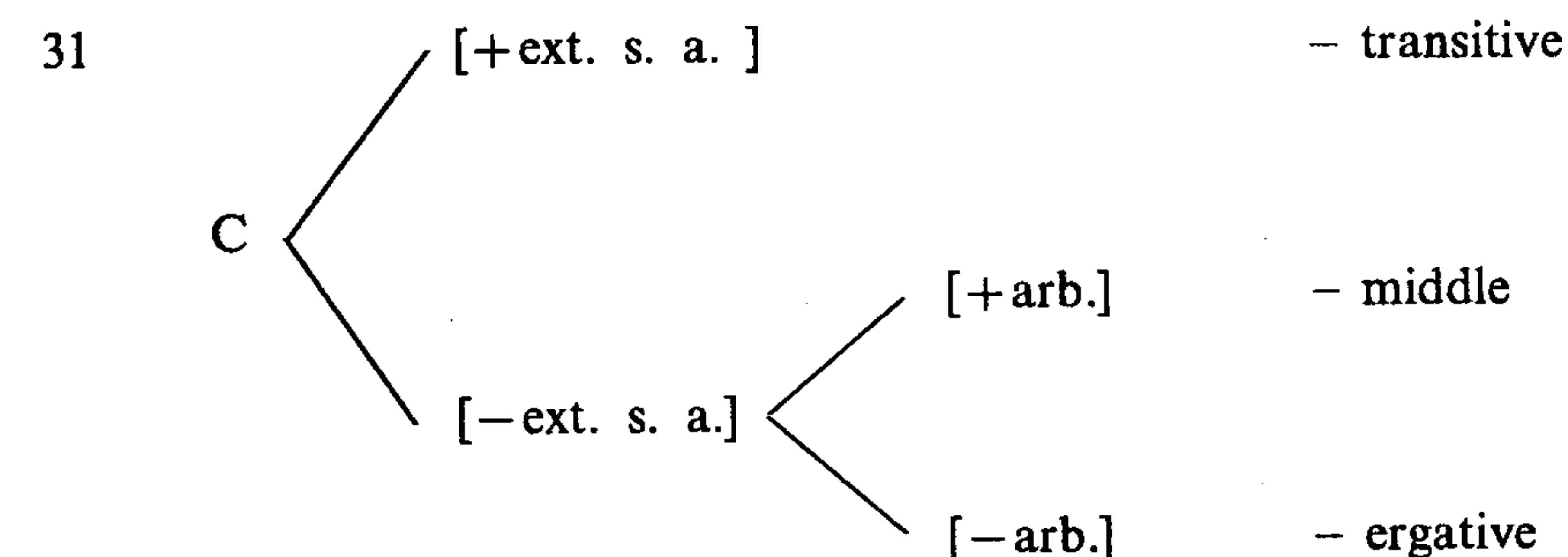
In order to demonstrate the process of derivation of transitive, ergative and middle *break*, we shall first restate sentences (22) – (24) in order to stress their characteristic features:¹⁸

- (28) John did something, and as the results of this the cup broke. (=22)
 (29) Some unspecified circumstances caused the cup to break. (=23)
 (30) Because of some inherent features of china cups it is easy, generally, to break them. (=24)

In sentence (28) the circumstance "C" is realized through the activity of an agent (we shall call this agent the external semantic argument), in (29) it is "unspecified", and in (30) it is "arbitrary".

We would like to propose here a tentative analysis of the restricted variable "C" in terms of two features: [\pm external semantic argument] and [\pm arbitrary]. The feature [\pm ext. s. a.] is responsible for the presence/absence of the agent performing the action, and in consequence for the dyadic/monadic form of the verb in the syntax. The feature [\pm arb.] distinguishes the ergative from the middle form of the verb.¹⁹

The relation between the features is presented in (31):

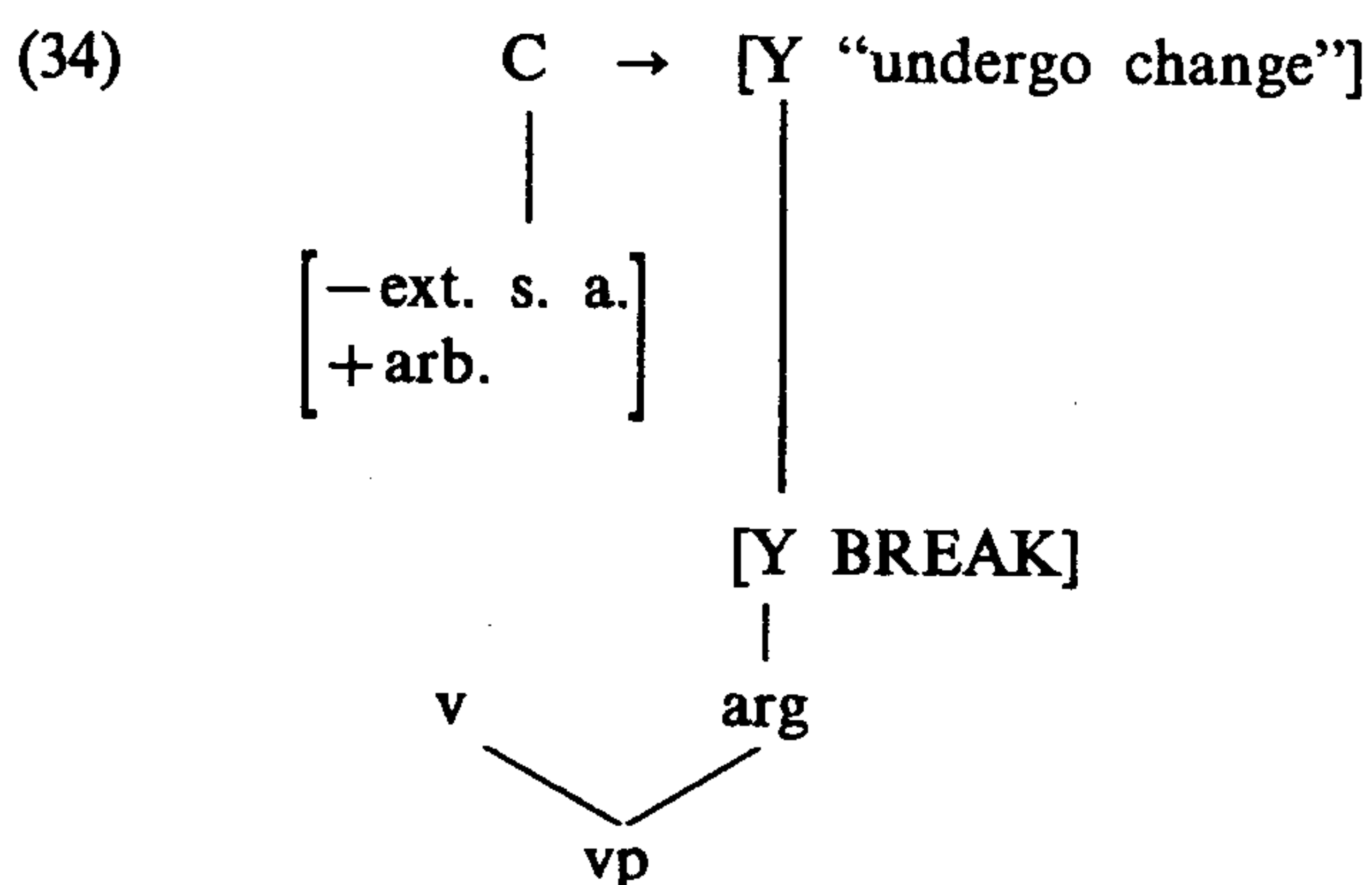
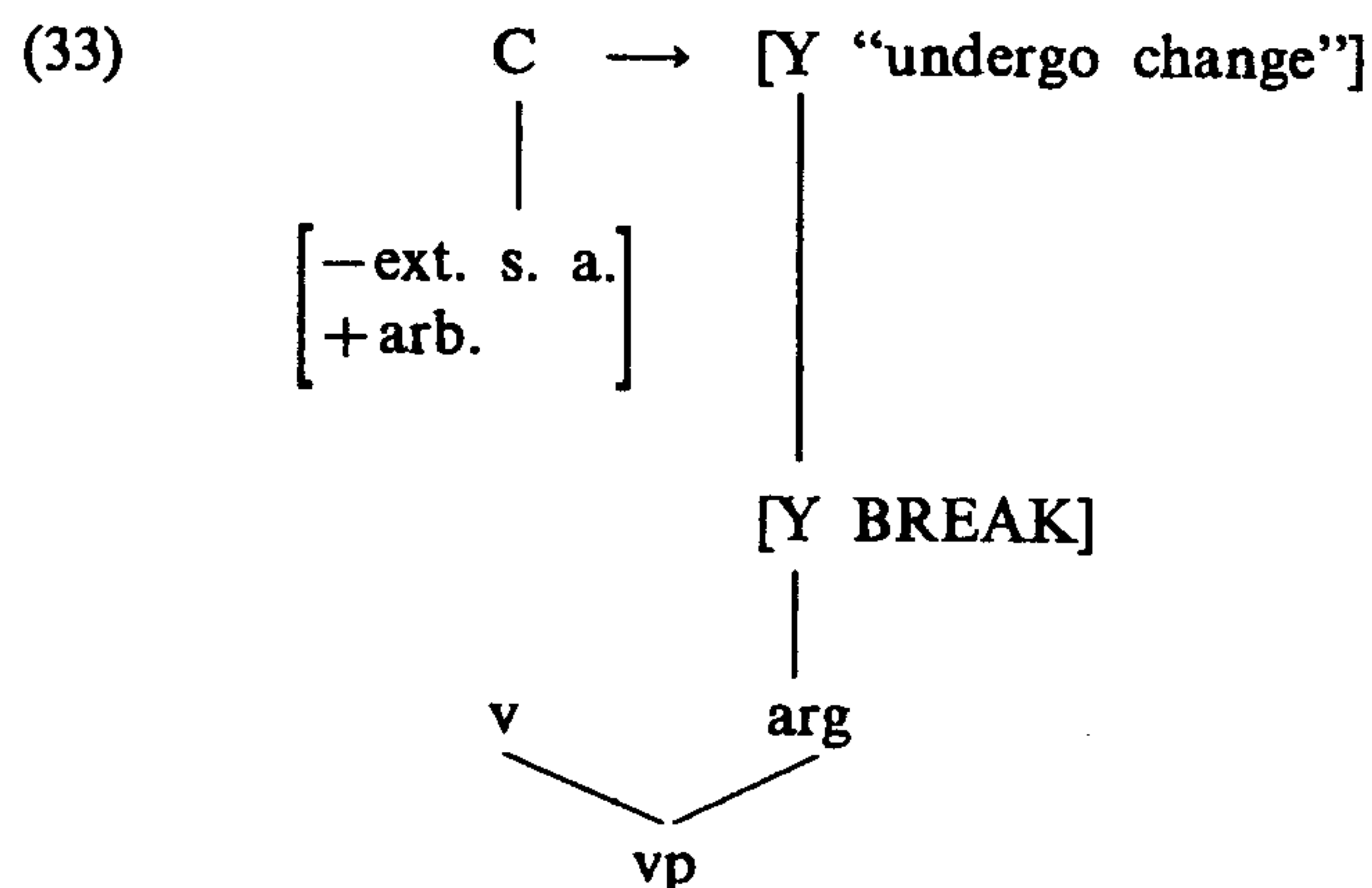
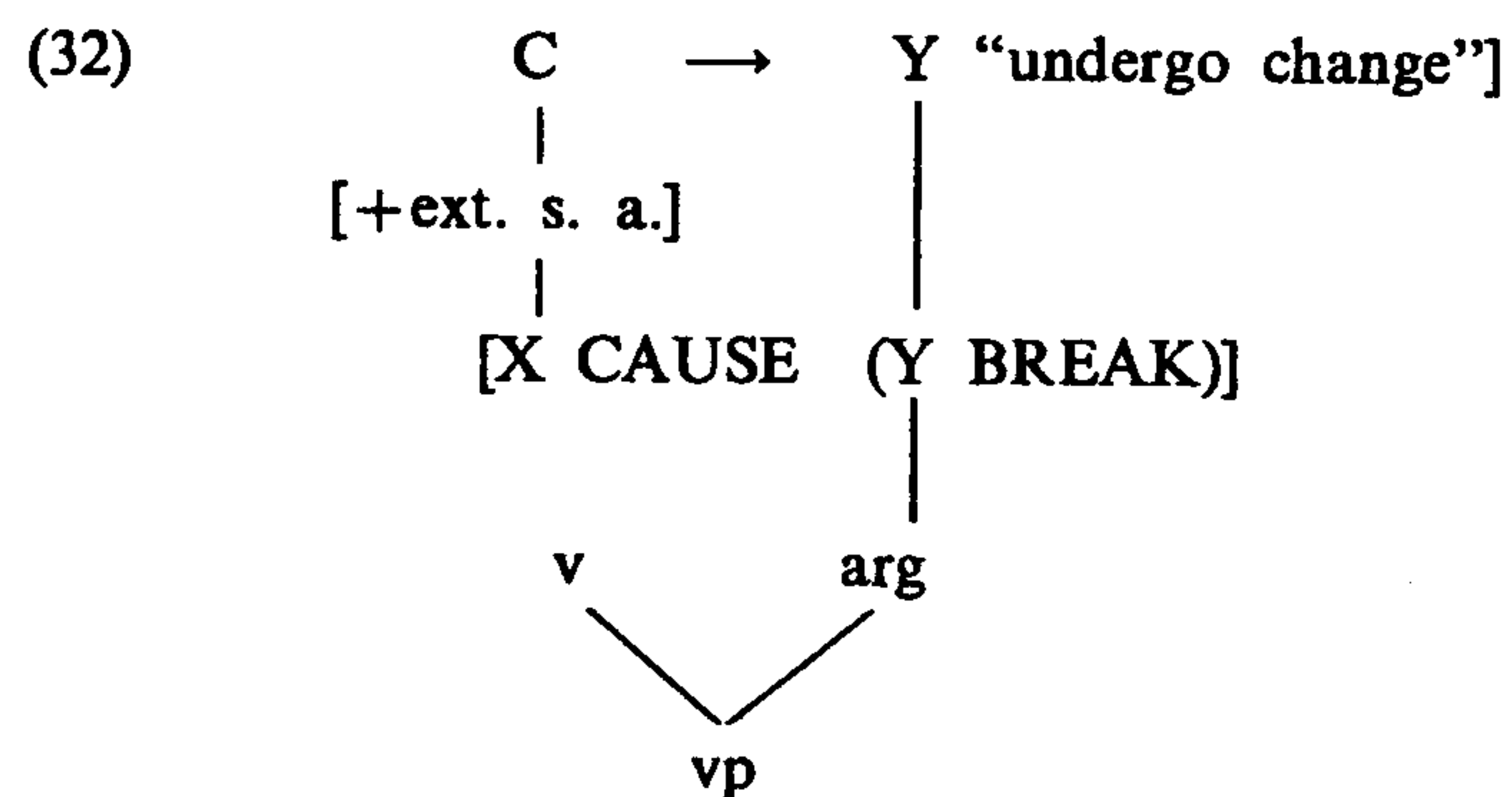


¹⁷ In the system originally proposed by Guerssel the PCS for a verb like *break* (and its nominalization) would simply be [BREAK]. As a PCS of *break* [BREAK] is intended as the representation of the notion of breaking and does not involve a formal representation of the participants.

¹⁸ Sentences in (28) – (30) are not meant to be true paraphrases, their sole aim is to stress aspects of meaning crucial for further analysis.

¹⁹ The feature [\pm arb.] stand for an abbreviation of a segment of features, the details haven't been worked out, it is however obvious that these features will have to encompass all relevant aspects of middle vs. ergative constructions. It is also necessary to ensure that for some verbs (ex. *read*) the choice is between transitive and middle variants only.

Depending on the choice for the value of "C", the derivation of transitive, middle and ergative forms of *break* from the ELCS (27) proceeds as below:²⁰



²⁰ We assume that in the process of derivation the ELCS "undergo change" becomes specified as BREAK in LCS.

We propose here that the value of circumstance "C" is parameterized: if it is assigned the feature [+ext. s. a.], an argument is projected down from the LCS, through PAS, into the syntax where it is saturated through principles of Universal Grammar (Projection Principle, Case Filter, etc.). If "C" is [-ext. s. a.], it is saturated already at the level of LCS, and therefore no argument may appear at any level of representation.²¹ The external argument present at the s-structure of ergative and middle constructions appears there as a result of syntactic NP-movement: the d-structure internal argument is moved into the specifier position of INFL (i.e. the subject position).

One more aspect of the MC remains so far unexplained: the presence of an adverb, or more generally a modifying element (see Fellbaum (1985, 1986) and Roberts (1987)). We propose that the presence of the modifying element is triggered by the feature [+arb.], i.e. we assume that this feature is in some sense "incomplete" and requires a concluding element: adverb, negation or contrastive stress. We might further speculate that the feature [+arb.] "opens" a place in the PAS to be saturated by an obligatory adjunct. If the modifying element is realized as an adverbial it appears as an obligatory adjunct in the PAS (on the status of adjuncts see Kegl and Fellbaum (1988)). The account for negation might be similar. Contrastive stress is more problematic as we have to take under consideration the level of Phonetic Form. However, as argued by Jackendoff (1987), it seems reasonable to assume the existence of correspondence rules that link the phonological, syntactic, and conceptual (semantic) levels.

The concluding element of MC modifies the conceptual category "circumstance" and it seems plausible to suggest that the semantic (or in some cases pragmatic) interaction between the modifier and the predicate results in the agency felt to be present in the MC and attributed in previous accounts to an implicit agent role.

In this paper we have presented an analysis of the English Middle Construction within the context of an underlying semantic representation - the Elementary Lexical Conceptual Structure. We have proposed an approach to the conceptual category "circumstance" in terms of two features responsible for the transitive, middle and ergative alternations. Most of our proposals were tentative and waiting for further investigation,²² we believe however that the

²¹ We distinguish here between two types of saturation - syntactic, i.e. the association of a θ -role with some referential content; and conceptual - taking place at the conceptual (semantic) level.

²² A problem stemming from crosslinguistic studies and still awaiting an appropriate analysis is the issue of middle constructions and Universal Grammar.

basic approach is correct and that research in the fields of both generative syntax and lexical semantics will allow a complete formulation of the theory of Lexical Conceptual Structure and will contribute to our understanding of properties of lexicon, syntax and semantics.

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