

THE ARGUMENT STRUCTURE OF MORPHOLOGICAL CAUSATIVES*

JOHN M. ANDERSON
Edinburgh University

ABSTRACT

It is argued here on the basis of material from a number of different languages that the derivation of morphological causatives involves reference to semantic (thematic) relations, and that the derivational relationship is subject to universal principles governing the distribution of semantic relations, notably the role criterion. The causative relationship does not at all invoke grammatical relations – as in Comrie's (1975) or (1985) formulations – or relations based on configuration or linear precedence. This is in accord with the position that such non-semantic relations are not part of argument structure (Anderson 1997). Reference to grammatical relations in the formulation of such a morphological relationship also falls foul of the absence of a general theory of objecthood and object type; and any apparent language-particular reference of this kind – such as might be extrapolated from Rosen's contention that the case marking of the non-subject arguments of causatives patterns 'exactly as case marking does in VPs in general in the language' (1990: 220) – is, in so far as it is appropriate, derivative of a general formulation based on semantic relations. Morphological causatives based on non-intransitives involve the addition of a locative relation to the ergative (and so subject) argument of the base verb or the conferring of circumstantial status on it. The first of these gives a derived transitive an argument structure like that of a ditransitive, which underlies the observed case-marking. A concluding suggestion extends the locative-adding formulation to intransitive-based forms. It is also argued that syntactically-based 'clause-union' analyses are undesirable; instead, the morphological rule deriving causatives increases the syntactic potential of the verb.

* I gratefully acknowledge that much of the research for this paper was carried out while I enjoyed a British Academy Readership (1991-1993), the main fruit of this being Anderson (1997), with respect to which the present work can be seen as an elaboration and application of some of the ideas outlined there; and it was drafted while the author was on sabbatical leave from Edinburgh University (third term 2001). This version has benefited from the comments of various anonymous reviewers, including particularly a careful and perceptive reader for *PSiCL*, as well as from the scrutiny of Roger Böhm.

0. Introduction

The kind of derivational relationship illustrated by the Turkish verbs of (1):

- (1a) Hasan öl-dü.
Hasan die-PAST
'Hasan died.'
- (1b) Ali Hasan-ı öl-dür-dü.
Ali Hasan-ACC die-CAUSE-PAST
'Ali killed Hasan.'

(Comrie 1985: 323)

is widespread in language, and the latter verb is usually described as a derived **causative** based on the former. Comrie characterises the relationship as one in which "the basic verb forms a sentence that describes some situation; the derived verb has a different subject, and the sentence with the derived verb indicates that the referent of this new subject brings about (or, more weakly, fails to prevent) the situation described by the basic verb" (Comrie 1985: 323). Causative formation is apparently valency-increasing, with, in these terms, the subject of the basic verb being 'displaced'. Comrie (1985: 342) tabulates what he regards as the paradigm patterns of displacement with verbs of differing valencies as in Table 1, where these are displayed in terms of correspondences between elements contracting the grammatical relations 'subject' (SUBJ), 'direct object' (DO), 'indirect object' (IO) and 'oblique' (OBL).

Table 1. Comrie's formulation of valency relations between basic and causative verbs
(see also Comrie 1975)

	Basic	Causative
Intransitive	SUBJ	SUBJ OBJ
Transitive	SUBJ DO	SUBJ DO IO
Ditransitive	SUBJ DO IO	SUBJ DO IO OBL

In these terms, the patterns share the displacement of the basic subject by a new subject, but differ in the goal of the displacement. In what immediately follows, I shall deploy these relational labels in accordance with Comrie's usage. In the section which follows this one, however, we shall confront some of the problems in consistently assigning the 'object' relations in sentences, both cross-linguistically and language-particularly, problems which in themselves call into question the grammatical-relation-based account of 'causative displacement' embodied in Table 1, whatever the adequacy of the formulation given in that table. This will represent the first stage in calling into question the viability of an account based on grammatical relations. At this point let us focus on the set of hypotheses associated with table 1.

Example (1) illustrates for Turkish the correspondence involving an intransitive base, with the subject of (1a) being marked as direct object in (1b). And the causativisation of (mono)transitives in Turkish is exemplified in (2) (Aissen 1979: 8 – cf. also Underhill 1976: 347), with the basic subject of (2a), *kasab* 'butcher', appearing as the indirect object of (2b):

- (2a) Kasap et-i kes-ti.
butcher meat-ACC cut-PAST
'The butcher cut the meat.'
- (2b) Hasan kasab-a et-i kes-tir-di.
Hasan butcher-DAT meat-ACC cut-CAUSE-PAST
'Hasan had the butcher cut the meat.'

Causativisation of transitives is less common than causativisation of intransitives; and that of ditransitives is less common still. But in this case, too, Turkish again apparently illustrates the pattern shown in Table 1:

- (3a) Müdür Hasan-a mektub-u göster-di.
director Hasan-DAT letter-ACC show-PAST
'The director showed the letter to Hasan.'
- (3b) Dişçi Hasan-a mektub-u müdür tarafından göster-t-ti.
dentist Hasan-DAT letter-ACC director by show-CAUSE-PAST
'The dentist made the director show the letter to Hasan.'

(Comrie 1985: 340)

However, Comrie (1985: 341) also notes that, for many speakers of Turkish, a causative variant with two apparent indirect objects is also available, i.e. a variant with 'doubling' on that position, contrary to the provisions of Table 1:

- (4) Dişçi müdür-e mektub-u Hasan-a göster-t-ti.
dentist director-DAT letter-ACC Hasan-DAT show-CAUSE-PAST
'The dentist made the director show the letter to Hasan.'

We return in a moment to the problem posed by the existence of such as (4), with 'doubling' of 'indirect-objecthood', which is not at all restricted to Turkish. We also return later to another aspect of (3b) and (4) not pursued at this point, viz. their status as 'double causatives', given that *göster* is itself an (irregular) causative verb, based on *gör*- 'see' (cf. Lewis 1967: 146).

We find another kind of variation between oblique and indirect object, in this case illustrated cross-linguistically, in so far as there are languages which mark the displaced subject of a transitive not as an indirect object, as in (2b), but as an oblique, as in the Finnish (5b):

- (5a) Muurari-t rakens-i-vat talo-n.
bricklayer-PL build-PAST-3PL house-ACC
'The bricklayers built the house.'
- (5b) Minä rakennut-i-n talo-n muurare-i-lla.
I build-CAUSE-PAST-1SG house-ACC bricklayer-PL-on
'I had the bricklayers build the house.'

(Comrie 1985: 339)

Again, unlike in (5a), 'displacement' is not in accord with Table 1.

Causativisation of a transitive can also result in sentences with 'two direct objects' (Comrie 1985: 338), corresponding to the subject and direct object of the basic verb, as in the Sanskrit of (6):

- (6a) Bhr̥tyam kaṭamW karoti.
servant-NOM mat-ACC prepares
'The servant prepares the mat.'
- (6b) Rāmaḥ bhr̥tyamW kaṭamW kārayati.
Rama-NOM servant-ACC mat-ACC prepare-CAUSE-s
'Rama makes the servant prepare the mat.'

(Comrie 1985: 338)

Again we have 'doubling', in this case of 'direct-objecthood'.

Underlying the allegedly 'regular' patterns displayed in Table 1 there appears to be a hierarchy of grammatical relations, as represented in (7):

- (7) (subject <) direct object < indirect object < oblique

such that, if we ignore the alternatives in (4)–(6) just noted, the displaced subject assumes the hierarchically first available vacant relation in the derived structure, direct object in a derived transitive, indirect object in a derived ditransitive, and oblique in a derived tritransitive. I shall argue, however, that this hierarchy, in so far as it is viable, and in so far as the assumed assignments of grammatical relations can be motivated, is epiphenomenal. Grammatical relations are not merely insufficient as the basis for an account of causative formation; they are not invoked in such at all. I shall propose, instead, in §§2 and 3, that causativisation should be conceived of as change in valency couched in terms of **semantic** rather than **grammatical relations**; and that all of the common patterns I've briefly reviewed here, including those of (4)–(6) that do not conform to the hierarchically based predictions of table 1, as well as other aspects of causative formation we shall encounter in what follows, are most transparently accounted for thus.

Song (1996: Chapter 6) points out that Turkish is the only one of the languages in Comrie's survey that conforms to the hierarchy reflected in Table 1, and then not completely (recall (4)). Departures from the predictions associated with Table 1 of the character illustrated by (4) and (6), with 'doubling' of one of the object positions, and by (5), with 'extended demotion', call into question the basicness of the 'paradigm case' assumed by Comrie, as I have implied above. (Cf. also e.g. Palmer 1994: §§9.2–3.) Unfortunately, Song himself provides no account of the morphological relationship between a causative and its base, beyond the claim that the various patterns involved can be interpreted as devices to ensure that causatives do not exceed the 'density' of syntactic valencies associated with the particular language. Moreover, Comrie's hierarchy of grammatical relations is implicit in Song's description of the operation of what he calls 'density control'. Consider: "Subject is the topmost position [...]. The next most important position is direct object [...]. Then comes indirect object" (1996: 178). Such an account is vulnerable to the same objections as can be advanced against any grammatical-relation-hierarchical proposal, such as we shall turn to in §1. I suggest that 'density control', too, is most appropriately formulated in terms of subcategorisation for semantic relations – not grammatical – and their morphological expression.

Song also objects (e.g. 1996: Chapter 1) to Comrie's focusing on morphological causatives, and neglecting more analytical expressions of 'causation'. Indeed, he argues that "previous theories of the causative all fail to address one issue, probably the most important one: What is it that the human mind cognizes as a causative situation" (Song 1996: 6), by failing to establish a typology of causative constructions. Now, the establishment of such a typology is obviously a desideratum, and fundamental to an understanding of the character of (our understanding of) causation and its expression, as well as to the evolution of causative constructions. But this does not detract from the validity of a linguistic investigation whose goal is not

a fully formulated understanding of causation or the ecology of its expression, but rather takes as its (more modest) aim a characterisation of the lexical relationship between morphological causatives and their bases. This is the aim of the present paper.

§2.1 formulates the causativisation rule, invoking semantic relations, and not grammatical, and §2.2 provides a preliminary account of how it interacts with the argument structures of various languages in such a way as to characterise what is constant while allowing for something of the range of variation found. §2.3 argues, on the basis of the material in §2.2 and further variants addressed in that subsection itself, that an account of morphological causativisation based on the distribution of grammatical relations, on the other hand, is non-viable. §3 introduces some further materials, involving particularly reflexivisation (§3.1), circumstantial 'causees' (§3.2) and indirect causation (§3.3), which enable us to refine on the account of causativisation offered in §2: it is suggested that it may be possible, in the case of non-intransitives, to restrict the effects of morphological causative formation to non-mutative category change (addition of structure) or deprivation of complement status (to allow for Comrie's 'oblique' causees); causatives based on intransitives involve the addition of categories only. §4 suggests a formulation of causativisation (with non-oblique 'causees') which involves a uniform change in valency over all input valency types.

Thus, causatives are here taken to involve a morphological rule deriving one verb from another, and not the result of some kind of 'clause-union', as has been quite commonly proposed since Comrie (1975, 1976) and Aissen (1979). I thus in this respect espouse what Falk (1991: 57) describes as a 'lexical' approach to the phenomenon. However, causative formation, as formulated below, creates a characterisation of the derived verb in terms of a complex of predicators whose different argument structures interact with the syntax. In this way I do not assume that the internal (argument) structure of derived items is invisible to the syntax.

Before focusing on the formation of causatives, we confront in §1 some of the problems associated with application of the notion 'object' in general, both cross-linguistically (§1.3) and even within a single (much studied) language (§1.1). These call into question the hierarchy embodied in (7). Though it is undoubtedly the case that in many language systems or subsystems it is appropriate to invoke something like the traditional notion of 'subject' (and I offer a characterisation of this derivative concept in e.g. J. Anderson 1997: §3.3.1), the existence of a hierarchy of grammatical relations of the kind invoked by Comrie and by 'relational grammarians' is poorly supported (cf. already Anderson 1978, 1982). The early evidence from relativisation cited by Comrie (1976: 263-264), for example – cf. Keenan and Comrie (1977) – is seriously flawed, with the positing of an 'indirect object' position on the hierarchy being counter-motivated; and the plethora of re-ranking types ('re-evaluations') that has come to be recognised within relational grammar (as evidenced in e.g. Dubinsky 1994) seriously call into question the conventional hierar-

chical relationships, even if one is unworried by the a priori nature of the proposed relations themselves. Such considerations lead us into a range of issues only slightly touched on here, where, as announced, I shall be concentrating on the representation of morphological causatives, including the role therein, if any, of a hierarchy of grammatical relations.

1. Objecthoods

A major problem in interpreting the hierarchy of (7) is the lack of a well-defined notion of 'object', and of any principled characterisation of different kinds of object (such as 'direct' vs. 'indirect'): the concept 'object' and the distinction 'direct' vs. 'indirect' are crucial to defining the hierarchy.

It is not just that Schlesinger (1995: 179), for instance, has to sum up his discussion of the semantics of the 'direct object' with the admission that "the notions expressed by direct objects are so variegated that they have foiled our attempts to find a set of features that characterize at least the typical members of this category". Or that Stephen Anderson, for instance, also concludes his cross-linguistic investigation of the semantics and syntax of 'objects' (despite the position previously advocated in S. Anderson 1971) rather negatively with: "they do not represent significant and unitary grammatical categories in syntactic structure" (Anderson 1988: 313). And I have myself expended some effort (e.g. in Anderson 1978, 1984a) in trying to establishing the at best derivative and cross-linguistically variable character of 'objects', 'direct' and 'indirect', the latter characteristic of which (that is, variability) is well documented by other contributions to Plank (1984). Comrie's (1976: 305) "language-independent tests" which can be applied "to the isolation of various syntactic positions" are illusory; and grammarians typically resort, inappropriately, to the 'intuition' he also invokes. Even among those subscribing to these poorly motivated notions, Dryer (1986) offers a desperate solution to some of the problems occasioned by the diversity and inconsistency of alleged object properties: alternative kinds of objecthood must be stipulated for different grammatical (sub)systems.

Let us for the most part lay this general question aside, and focus on the array of properties in particular languages that can be attributed to the non-subjective arguments in both mono- and di-transitive sentences (though even the use of 'transitive' begs a question or two), and what these suggest about what behavioural groupings the arguments might fall into. Let us start with a look at English.

1.1. English objects

There is one tradition in grammatical studies of modern English in which all non-predicative complements of the verb are deemed to be 'objects' (cf. e.g. Poutsma

1928: Chapters 1 and 3). And, for all his scepticism concerning traditional approaches to 'subjects' and 'objects', Fries (1952: Chapter 9, §II) even includes as 'objects' NPs used as adjuncts ('adverbial objects'). More commonly, perhaps, 'objecthood' has been considered to be less inclusive. Typically, recently, all of the (underlined) post-verbal NPs/DPs but not the PPs in (8) – with some hesitation over the PP in (d) – are considered to be 'objects', 'direct' or 'indirect' – with some disagreements (cf. e.g. Huddleston 1984: §5.4):

- (8a) Fred visited his aunt.
- (8b) Fred went to his aunt's house.
- (8c) Fred gave his aunt a present.
- (8d) Fred gave a present to his aunt.

Not all post-verbal NPs are such; usually excluded are, for example, the (again underlined) 'predicatives' of (9):

- (9a) Fred became the negotiator.
- (9b) They made Fred the negotiator.

Such a grouping into 'objects' doesn't correlate well with the syntactic 'behaviour' of such NPs, however.

Thus, it is true that all of the post-verbal arguments in (10) are subject to the so-called 'interpolation ban' governing verbs and their complement NPs (however it is formulated or accounted for):

- (10a) Fred visited (*very frequently) his aunt.
- (10b) Fred gave (*very frequently) his aunt a present.
- (10c) Fred gave his aunt (*very frequently) a present.

Contrast (11), with post-verbal PP:

- (11) Fred went very frequently to his aunt's house.

So far so good. However, only NPs corresponding to (a) and (c) in (10) allow 'extraposition' under some kind of complexity-based licence ('complex NP shift'):

- (12a) Fred visited very frequently the aunt who lived in the country.
- (12b) *Fred gave a present (very frequently) the aunt who lived in the country.
- (12c) Fred gave his aunt (very frequently) a present such as she couldn't imagine.

Notice now that (13), with NP + PP, as well as showing the pre-NP 'interpolation' effect, together with legitimate 'interpolation' before the PP:

- (13) Fred gave (*very frequently) a present (very frequently) to his aunt.

also has a variant with extraposed NP when this is made heavy:

- (14) Fred gave (very frequently) to his aunt (very frequently) a present such as she couldn't imagine.

And the PP is also extraposable:

- (15) Fred gave a present on Tuesday to the aunt who lives in the country.

But we should acknowledge that this PP is of course 'more mobile' generally.

With many speakers, another grouping still is evident with respect to passivisation. For them, only the NP closest to the verb in such sentences has a corresponding passive subject:

- (16a) His aunt was visited.
- (16b) His aunt was given a present.
- (16c) ?*A present was given his aunt.
- (16d) A present was given to his aunt.
- (16e) *His aunt was given a present to.

For speakers who accept (16c), on the other hand, the proximity requirement can only be maintained by desperate appeals (such as that by e.g. Jackendoff and Culicover 1971) to 'to-dropping', applied to (d); for such speakers the various arguments pattern as for 'non-interpolation', i.e. as is shown in (a) in Table 2, which indicates the groupings associated with such phenomena.

Table 2. Groupings of post-nominal arguments with mono-/di-transitives in English

	Groupings	Examples	Property
(a)	<u>NP</u>	(10a)	no interpolation
	<u>NP NP</u>	(10b,c)	
	<u>NP PP</u>	(13)	
(b)	<u>NP</u>	(12a)	heaviness shift
	<u>NP NP</u>	(12b,c)	
	<u>NP PP</u>	(13, 14)	
(c)	<u>NP</u>	(16a)	passivisation
	<u>NP NP</u>	(16b,c)	
	<u>NP PP</u>	(16d,e)	

In (a) of Table 2 all the alleged 'objects' are grouped together. But any attempt to make the interpolation ban a criterion of objecthood founders on the low acceptability of (17):

- (17a) ?*Fred became immediately the negotiator.
 (17b) ?*They made Fred immediately the negotiator.

with attempted interpolation before a 'predicative' NP. Only use of the copula rather than these other 'predicative'-taking verbs rescues such sentences:

- (18) Fred is usually the negotiator.

Of course, as noted by a reviewer, we can distinguish the 'objects' from the 'predicatives' precisely in terms of simple argument vs. predicative argument. But this has a semantic rather than a purely syntactic basis. We should record, too, from a more general perspective, that the interpolation ban has a very restricted currency in the languages of the world, and is absent from even languages closely related to English.

Neither (b) nor (c) in Table 2 correlates with a traditional grouping of 'objects', though at least the 'predicatives' of (9) (and (17)), but not the 'object' *Fred*, are excluded from passivisation. And this lack of correlation – among 'properties', and with the traditional classification – is typical.

(b) in Table 2 excludes only the first NP with a ditransitive. And this correlates with other aspects of the behaviour, including semantic, of such NPs, which I shall henceforth refer to, in agreement with one tradition (but not that followed in §0 above), as **indirect objects** (cf. Huddleston 1984: §5.4). Such indirect objects uniformly denote 'humanoids', where I understand by this term an entity perceived or presented as having human characteristics (possibly figuratively) – cf. Poutsma's 'person-objects' (1926: 26):

- (19a) Fred took Mary the letter.
 (19b) *Fred took the window the letter.

This is a constraint that does not hold with respect to the corresponding *to*-phrase in the NP + PP construction, which I shall henceforth refer to as the **oblique object**, unless such a (humanoid) character is required by other aspects of the semantics of the verb:

- (20a) Fred took the letter to Mary.
 (20b) Fred took the letter to the window.

With some verbs that take both constructions, there is a clear semantic difference between them even with humanoid indirect and oblique objects:

- (21a) Fred has taught Mary algebra.
 (21b) Fred has taught algebra to Mary.

(Cf. e.g. Green 1974; Anderson 1977: §2.8, 1978; Pinker 1989: §3.3.4.2.) For many speakers it is only with respect to (21a) that we can legitimately infer that the speaker intends us to understand that Mary now knows some algebra. The indirect object is 'cognitively affected', 'involved', in a way that the oblique is not necessarily; and this is reflected in the contrasting acceptabilities registered by such speakers in relation to the sentences in (22):

- (22a) *Fred has taught an empty room algebra.
 (22b) Fred has taught algebra to an empty room.

(22a) requires some fairy-tale setting to be interpretable. With other verbs of this class such a semantic distinction is less obvious.

The use of these semi-traditional terms ('indirect object' etc.) is for convenience at this preliminary point in the discussion. It does not commit us to according status to objecthood. I shall suggest below, consistently with what is being claimed here, that the phrases we have just been concerned with are distinguished by their semantic role, from which any syntactic differences follow.

The preceding semantic characteristics the indirect object (in the sense adopted immediately above) shares with the **experiencer** subjects in (23):

- (23a) Mary has learnt algebra.
 (23b) Mary knows algebra.
 (23c) Mary has loved him for years.

And humanoid status and 'cognitive involvement' (not necessarily of the same character) is also characteristic of **agents**. Experiencers also share with agents some selectional restrictions. Anderson (1987) points out, for instance, that the adverb *secretly* demands a 'cognitively involved humanoid', not necessarily an agent:

- (24a) Mary has secretly destroyed her pension book.
 (24b) Mary has secretly arrived at the camp.
 (24c) Mary has secretly learnt the truth about that arrangement.
 (24d) Mary has secretly loved him for years.
 (24e) *Mary has secretly died in captivity.
 (24f) *Mary has secretly contracted tuberculosis.

It is not sufficient for the subject of (24e, 24f) to be human; it is neither agent nor experiencer, and so (24e, 24f) fail. Dying and contracting tuberculosis may bring with them an experience, but *die* itself is simply a directional, 'border-crossing' verb, like *enter*, except that, unlike with the latter, the moving entity (moving in this instance into 'non-life') must be animate; while the *contract* of (24f), suggested by a reviewer, involves a patient (an affected animate 'absolute', in the terms introduced below) and not an experiencer. (We return to patienthood in §4.)

For such reasons and others, I have suggested elsewhere that indirect objects, experiencers and agents share a semantic relation or function (cf. e.g. Anderson 1977, 1978, 1992). This implies a non-simplex view of semantic roles: particular roles may be characterised by a combination of functions. In this way we can capture what is common to all these arguments (a particular relation) as well as allowing for differences (in the combination of functions defining the distinct roles involved). I shall not further defend this viewpoint here. Rather, let us consider what the relational differences are between the roles involved here.

Indirect objects share with the experiencer of (23a) the function of **goal**, and (23b,c) are **locative** sentences. Thus, just as we can infer from the truth of the concrete dynamic sentence in (25a) that under normal (and non-iterative) circumstances (25b) is also true, so we can infer the truth of (23b) from that of either (21a) or (23a):

(25a) John has put brushes in the cupboard.

(25b) The cupboard contains brushes.

Generalising the formulation of such inferential relationships depends on the experiencer in this non-dynamic sentence being a location. Anderson (1978) shows that the goal/location relationship attributed to such related sentences as (21a/23a) and (23b) is crucial to the explication of a number of other phenomena. Agents do not participate in such relationships in the same way. I have thus suggested that experiencers and indirect objects differ from agents in being locational (goal or location, depending on the verb), but that, given the observed similarities, they share with them a function which on its own characterises agenthood and in combination with a location/goal introduces an experiencer. This shared semantic relation I have called **ergative**. It marks the source of the event: alone it introduces an agent, the source of the action; a combined locational function indicates that the event is internal to the argument so specified, we have an experiencer. As indicated, I thus depart, here as elsewhere, from the assumption that a NP is associated with only one semantic relation (cf. also Huddleston 1970; Culicover and Wilkins 1986; Broadwell 1988, for instance): the **role** of a NP may be defined by a conjunction of functions.

His aunt in (8c) is an argument of {erg,loc} role, then. The other underlined NPs in (8c) and (d) are plausibly what I have called **absolute**: roughly, theme (in the theory of thematic relations/theta roles) or objective (for Fillmore 1968). In these instances they undergo the (possibly abstract) movement denoted by the verb. I suggest that the underlined NP in (8a) is also **abs**, here in combination with (directional) **loc**; in (8b) we have a simple {loc}. As elsewhere, the presence of **abs** in (a) is interpreted 'holistically' (Anderson 1975: §5, 1977: §2.8.9, 1997: §§3.1.2-3): contrast (b), in which the journey to the aunt's house may not have resulted in a visit to it. These various NPs in (8) are either **erg** or **abs**, and as such are not flagged in English by a preposition; contrast the simple locational phrases in (8b) and (8d).

And we can associate availability for passivisation with the argument that is next highest to what is selected as the potential active subject on the **subject selection hierarchy**:

subject selection hierarchy

{erg} < {erg,} < {abs,} < {abs} <

which ranks **erg** arguments above **abs**, and uncombined **erg** above combined (indicated by the comma), but combined **abs** above simple **abs**. The argument bearing the role specified by the relation(s) furthest to the left is the potential active subject of its verb; but in a passive construction the subject is the next best qualified with respect to the lexical verb. This allows for the well-formed passives in (16), as well as for the 'prepositional' passive in (26), where the passive subject is in a locative rather than an absolute relation to *trodden*:

(26) None of the plants were trodden on.

(16 c) is anomalous in these terms; for those speakers for whom it is OK, their system assigns a special status to **abs** in relation to passive (cf. Anderson 1997: §3.3.3), so that the passive subject is either **abs** or the second-highest argument with respect to the lexical verb. The final NPs in (9), even if **abs**, are not possible passive subjects by virtue of necessarily being coreferential with the argument over which they would be preferred.

We can further associate the failure of the {erg,loc} in (12b) to permit 'heaviness shift' specifically with this relational specification: the viable shiftees are not **erg**.

A notable exception to the interpolation ban is a particle such as *back* in (27a), which occurs as an alternative to (b):

(27a) Fred gave back the jewels (to his sister).

(27b) Fred gave the jewels back (to his sister).

Such a particle can also precede but not follow an overt directional:

(28a) Fred crossed back over the road.

(28b) *Fred crossed over the road back.

It cannot precede the {erg,loc} in (29a), however; and even (29b), where it precedes a simple {abs}, as in (27a), is unacceptable to some speakers:

(29a) *Fred gave back his sister the jewels.

(29b) ?Fred gave his sister back the jewels.

Example (30), where *back* follows the {abs}, as in (27b), is more generally acceptable:

(30) Fred gave his sister the jewels back.

Now, again we might attribute the anomalousness of (29a) to the *erghood* of *his sister*, which, as a humanoid indirect object, is more intimately involved in the event than an oblique. But we also find that (31), with {abs,loc} post-verbal arguments, are unacceptable:

(31a) *Fred crossed back the road.

(31b) *Fred crossed the road back.

A generalisation becomes possible here, if *his sister* in (29/30) is {erg,abs,loc} rather than simply {erg,loc} (as compared with the subjects in (23/25): Anderson 1997: §3.4; and see further §1.2 below). Thus: the particle is excluded before {abs,loc} arguments, as shown by (29a) and (31a), represented in (32a) and (32b) respectively with the appropriate semantic relations:

(32a) Fred gave (*back) his sister (?back) the jewels (back).
 {erg} {erg,abs,loc} {abs}

(32b) Fred crossed (*back) the road (*back).
 {erg,abs} {abs,loc}

And the particle is permitted – to some extent at least – after such only if a simple {abs} follows, as in (29b), but not (31b), in accord with its possibility of occurrence either before or after simple abs, as shown in (27). (29b) involves a conflict between viable occurrence before {abs} and the ban from following {abs,loc}.

Both of (32) show more than one occurrence of **abs**, and (32a) more than one occurrence of **erg**. Though each of the overall roles – {erg}, {erg,abs,loc} and {abs}, and {erg,abs} and {abs,loc}, respectively, is distinct (see e.g. Anderson 1997: §3.4), we must ascertain that this recurrence is compatible with a restrictive theory of semantic relation assignment. Partly in pursuit of this aim, we look in the subsection that follows at how the syntactic structure of sentences like (32a) is induced, which may not be as transparent as in the case of simple transitives.

What is beginning to emerge here is not a characterisation of objecthood but rather a picture of the semantic argument structure which correlates with the various semantic and distributional observations we have made, and makes the notion ‘object’ redundant, indeed frustrative. An important observation to be made is that such semantic relations as I have invoked are not introduced simply to provide some account of the phenomena we are concerned with here; they are motivated by a whole

range of phenomena, semantic and syntactic. Some such concepts are generally agreed to have a place in the grammar (though I admit their precise character remains controversial). There are no semantic or syntactic phenomena, on the other hand, despite the claims of adherents of ‘relational grammar’, that require reference to objects or types of object (cf. here Anderson 1980). These conclusions are further confirmed by a refinement of our analysis of ‘double object’ constructions like those in (8c) and (21a).

1.2. The structure of the double-object construction

Anderson (1977, 1992, 1997) envisages that a single predicator may take more than one **abs** argument, as in the classic equative type:

(33) The one you want is the guy with purple shades.
 {abs} {abs}

But this is not a property, he argues, that can generally be attributed to other semantic relations such as **erg**. Rather, verbs like *give*, with apparently two **erg** arguments, are **complex predicators**, indeed lexical causatives whose individual component predicators, of the character of CAUSE and RECEIVE, do not violate the restriction that more than one instance of any semantic relation cannot be associated with a single predicator: CAUSE takes the **erg** argument and RECEIVE the {erg,loc}. Thus, individually the component predicators do not violate the relational uniqueness requirement:

relational uniqueness

*P → R_i, R_j

where i = j, P = predicator, R is a variable over the set of semantic functions, and → indicates (immediate) government/dependency

Arguments associated to the same predicator via semantic relations cannot be dependent on an identical relation. In dependency/government terms, relations which are co-dependents of a predicator (and each of which will have a dependent argument) cannot be identical. This can be violated only by **abs**, as illustrated by (33). The dependency relation invoked here is strict, or immediate dependency, as opposed to its transitive closure, subordination.

The complexity of the *give*-type predicator is represented in (34):

- (34) {P;N/{erg} {P;N}} (CAUSE)
 |
 {P;N/{<erg>loc} {abs}} (RECEIVE)

where 'P;N' is the specification for a (lexical) verbal predicator, '/' introduces the argument structure – so that in (34) the upper predicator takes an {erg} argument and a verbal one – and (34) stipulates that the latter requirement is satisfied internally by the {P;N} shown as subjoined ('|') – i.e. dependent on but identical in precedence with – the upper predicator; and the latter component predicator takes an {abs} argument, and a {loc} which may also be **erg**, with the angle brackets in (34) indicating, as is conventional in dependency grammars, optionality of the element so enclosed.

The **erg** variant underlies (8c) and that without **erg** (8d):

- (8c) Fred gave his aunt a present.
 (8d) Fred gave a present to his aunt.

These sentences thus both have verbs that share a lexical specification which involves embedding, or **incorporation**, of a (directional) locational predicator under an agentive one – i.e. in dependency to it as part of the same word. But the sentences differ in the overall role of one argument, *his aunt*. (I am ignoring here the characterisation of directionality, which gets us into some far-flung issues. See again the references given at the beginning of this section, which also compare this analysis with some other recent proposals, such as Larson 1988, 1990; Jackendoff 1990.) Henceforth, I shall refer to what is illustrated by (8c) as the **receiver** construction (preferable, for obvious reasons, to 'indirect' or whatever), and that illustrated by (8d) as **oblique**, or, more specifically, goal.

P and N are the semantic features **predicable** and **referentiable** or **naming**, which combine in varying proportions to differentiate different syntactic categories. Some (cross-linguistically) typical classes can be represented as in Table 3.

Table 3. The representation of some syntactic classes

Class	pronoun/ name	noun	adjective	verb	operator	functor
Specification	{N}	{N;P}	{N;P}	{P;N}	{P}	{}

In Table 3, {P} defines that class which occupies the quintessential predicator position, that which guarantees finiteness, the ability to head an independent predication – in English typically a modal when finiteness is expressed as a distinct word; and

{N} defines the quintessential referent-label, pronoun or name. The semi-colon indicates that the element to the left is preponderant, while the colon signals equal preponderance. (Common) nouns have N preponderant, and (main) verbs P, while with adjectives the features are mutually preponderant. The representations thus define a scale of 'nouniness' and relative markedness, with adjectives being represented, by virtue of the complexity of their characterisation, as the most marked of the categories represented in Table 3. The category represented as lacking both P and N is the functor category, of which the semantic functions are subclasses, and which is typically manifested by adpositions and/or (case) inflexions. (See Anderson 1992, 1997, for extensive discussion; I do not pursue these aspects of representation here.)

The complex predication analysis of these sentences ensures that each individual predicator satisfies **relational uniqueness**. We can, on the other hand, impose even on complex predicators what Anderson (1997) refers to as the **role criterion**:

role criterion

A predicator is permitted to select only one instance of each distinct role (except {|abs|})

where **roles** are the conjunctions of semantic relations attributed to the individual functors governed by a predicator, and the bracketed exception clause provides for sentences like (33), with two simplex {abs} arguments (the verticals indicate that 'abs' exhausts the specification of each role). This illustrates only one of the exceptional properties of **abs**. Both sentences in (32) contain complex predicators that as a whole satisfy the **role criterion**: each argument displays a distinct conjunction of semantic relations, even though individual semantic relations recur.

The notation of (34) is intended to express part of what we can spell out at greater length and more accurately in terms of the (asymmetrical) **undative** redundancy, governing the relationship between the verbs in (8c) and (8d) sentences:

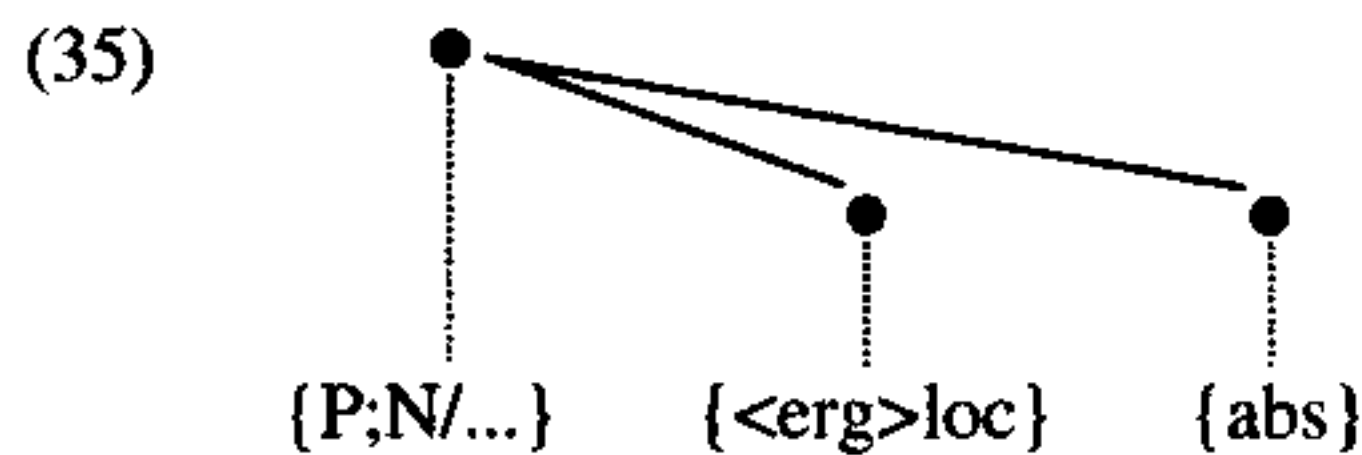
undative (R1)

$$\begin{array}{ccc} \{P;N/\{erg\}\} & & \{P;N/\{erg\}\} \\ | & \Rightarrow & | \\ \{P;N/\{erg,loc\} \{abs\}\} & & \{P;N/\{loc\} \{abs\}\} \end{array}$$

Undative licenses verbs which appear in **receiver** sentences like (8c) to also appear in **obliques** such as (8d). (This – and subsequent – formulation(s) adopt(s) the convention of suppressing expression of the verbal argument valency of the upper predicator (cf. (34)), given that, for present purposes, its existence follows from the presence of the incorporated {P;N}.) The **undative** redundancy R1 is one-way: there is a class of **oblique** verbs that are not also **receiver** verbs – as *transfer*, *repa-*

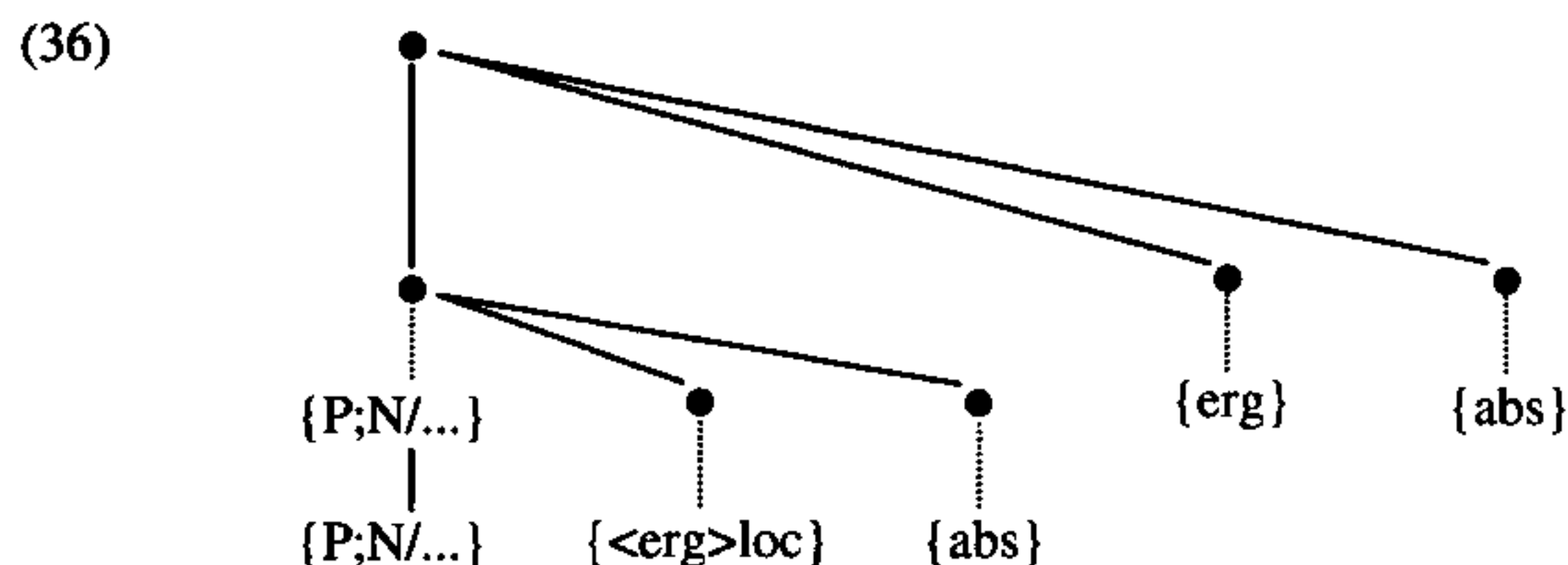
triate, explain, suggest, etc. Exceptions to R1, on the other hand, are few (Pinker 1989: 65-66), and semantically well-defined or involving idioms. We return to questions to do with lexical variation on a cross-linguistic basis in the subsection which immediately follows.

Thus far we have been dealing with representations and relationships involving individual items. In terms of the framework advocated in Anderson (1997) syntactic structure is projected from these lexical representations, crucially the categorisations and subcategorisations. Thus, in relation to (34), the lower predictor projects the governing node in the (unlabelled and at this point unlinearised) syntactic substructure of (35).



with its valency requirements being satisfied by the functor phrases *his aunt* and *a present* in (8c,d). As manifestations of syntactic categories, the semantic-rationally distinguished functors thus also project syntactic nodes, and these nodes will also govern, and be satisfied by nodes projected by the governing {N} node of a NP/DP – which, for convenience, I do not represent here.

The upper predictor is associated with the additional (unlinearised) structure in (36).



The syntactic structure replicates the internal dependency between the component predictors of the verb, so that the CAUSE predictor is head of the whole sentence. The {erg} of the upper predictor's subcategorisation requirement shown in (34) is satisfied by the *Fred* phrase in (8c,d). But what of the {abs} shown as part of the upper predication, but not in fact part of the lexical specification?

This is present by virtue of the **universality of abs** requirement, which demands

that each predictor be accompanied by an **abs**, even where it is not subcategorised for one. This results, with predictors not subcategorised for **abs**, in the introduction of an {abs} governing an empty argument, which may be filled expletively, as in (37):

(37) It rained on Tuesday.

or it may be filled by raising, as in (38):

(38) Fred seems to like his aunt.

Seem is a verb that is subcategorised for a verbal argument but not an {abs}, and the subject of its verbal argument is raised to fill the 'empty {abs}' introduced by the universality of abs rule; raising involves argument sharing between the potential subject of the lower predictor (identified in accordance with the subject selection hierarchy presented in the previous subsection) and the 'empty {abs}'. The same happens with respect to (36): the potential subject of the lower predictor, *his aunt* in (8c), by virtue of the **erg** specification, and the potential subject {abs} *a present* in (8d) – both in conformity with the subject-selection hierarchy – are raised to fill the empty {abs} associated with the upper predication. Raising confers the abs relation of the upper predication on what would otherwise surface as the subject of the lower predictor, namely that argument whose role is highest on the subject-selection hierarchy. In this way, the individual argument structures of the components of the complex predictor contribute to the determination of a syntactic tree: both argument structures are accessible to the syntax.

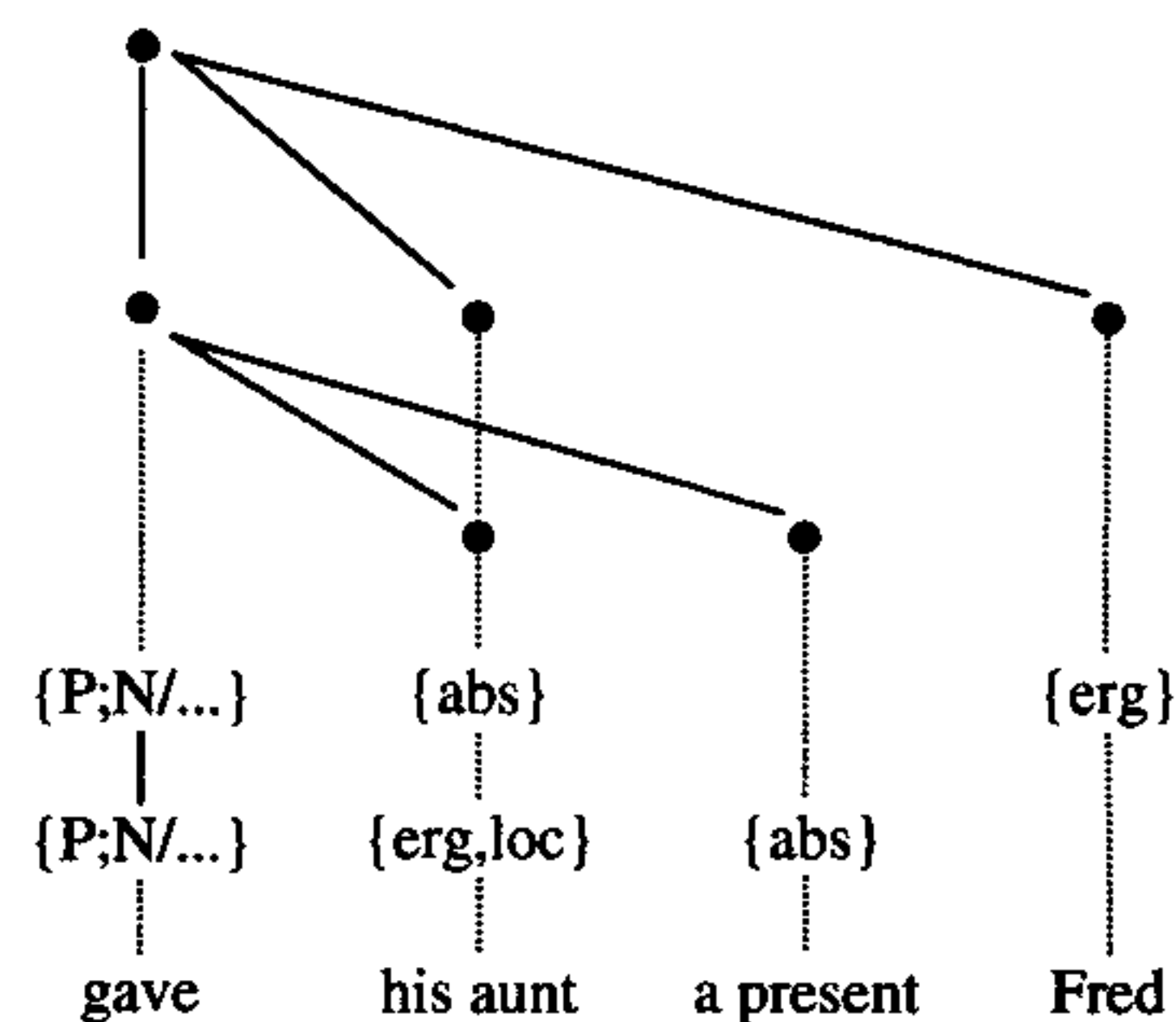
This structural elaboration gives (39a) and (39b) for (8c) and (8d) respectively.

(Recall that sequencing is derived.) So that a different argument of the lower predictor, *his aunt* or *a present*, is derivatively also an argument of the upper predictor, in acquiring the unmarked relation of {abs}; the raisee has a role in both clauses, it is a shared argument. Retention of dependency in the lower clause is in conformity with the assumption that syntax is uniquely structure-building.

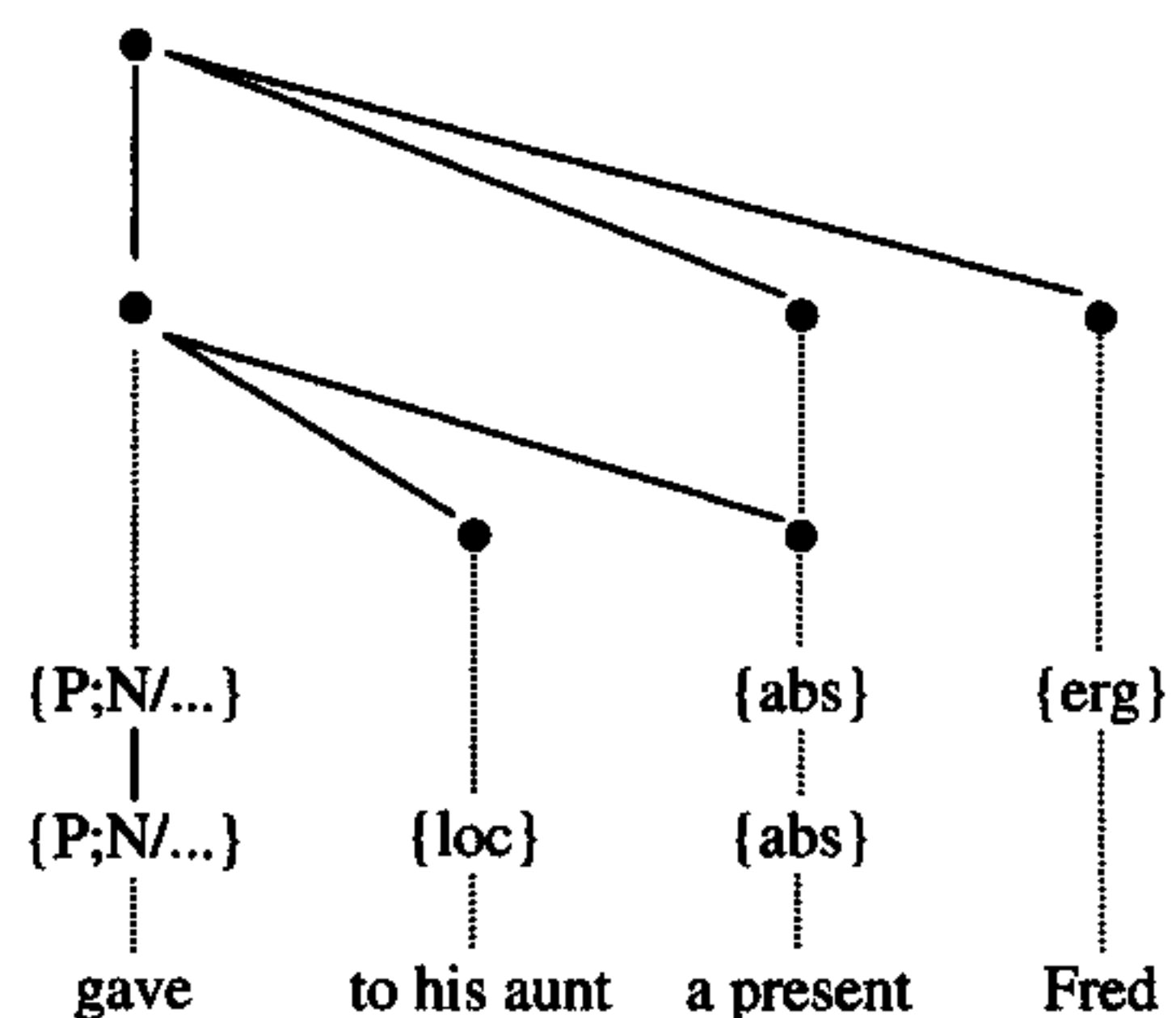
The {erg} argument of the upper predictor is, by virtue of the subject selection hierarchy, assigned subject position, and linearisation of the other arguments is also otherwise in accord with the hierarchy. I assume, following Anderson (1997: §3.3), that subject formation again involves raising to fill an empty {abs}, in this case one which has been introduced with the respect to an independent {P} (i.e. operator), or to the {P} category added (by lexical redundancy) above the lexical specifications for all lexical verbs if they are to occur in finite position.

As shown in Table 3 above, lexical verbs are not {P} lexically; this characterisation is limited to modals and other auxiliaries (though the other auxiliaries are also {P;N}, in so far as they can also be non-finite). Lexical verbs are inherently (complexes of) {P;N}, and thus must acquire in addition a governing {P} categorisation

(39a)



(39b)

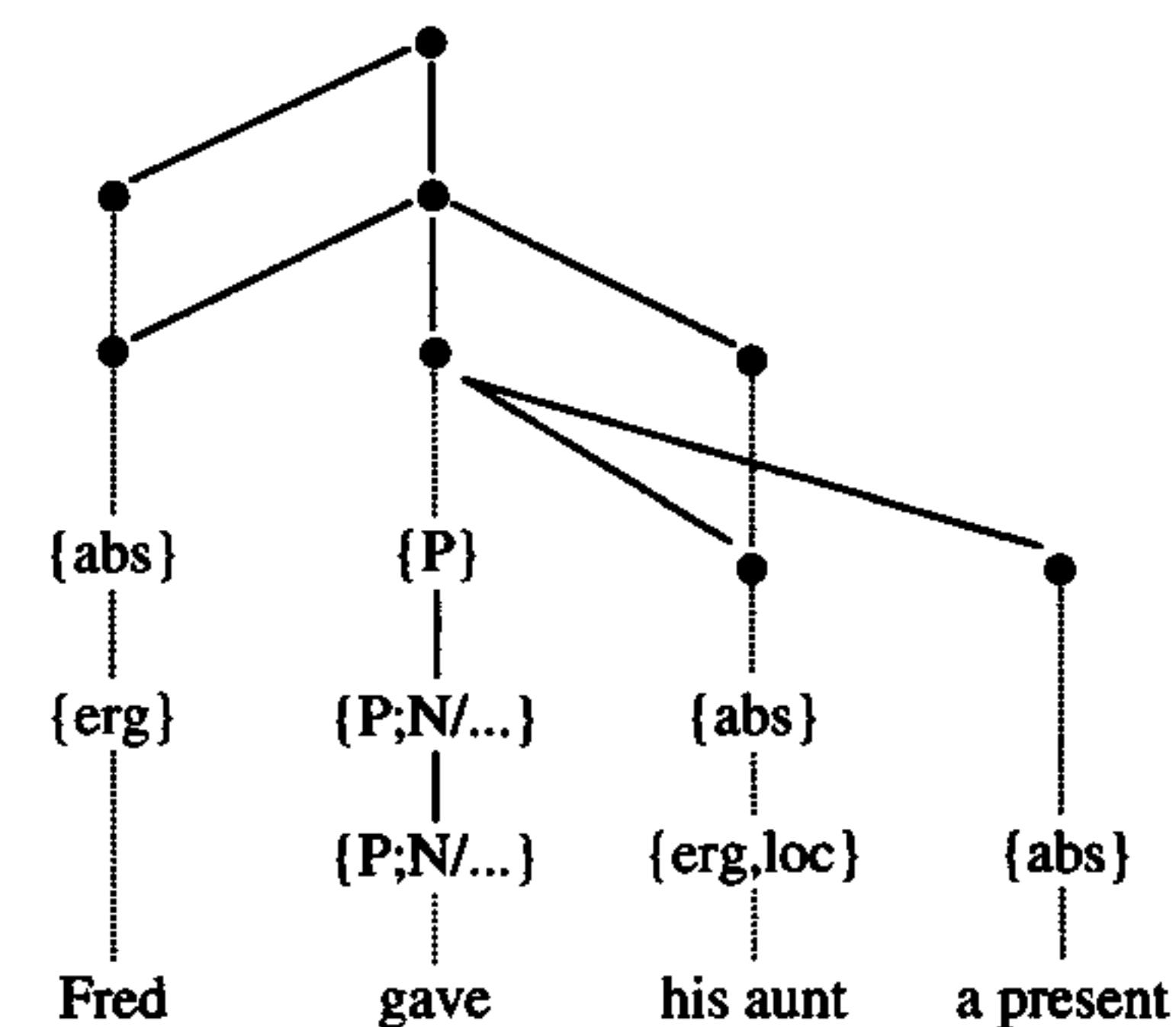


if they are to be finite, instead of only being able to occur in non-finite environments by virtue of their lexical characterisation as {P;N}. This {P} is introduced by the optional **secondary finiteness** redundancy:

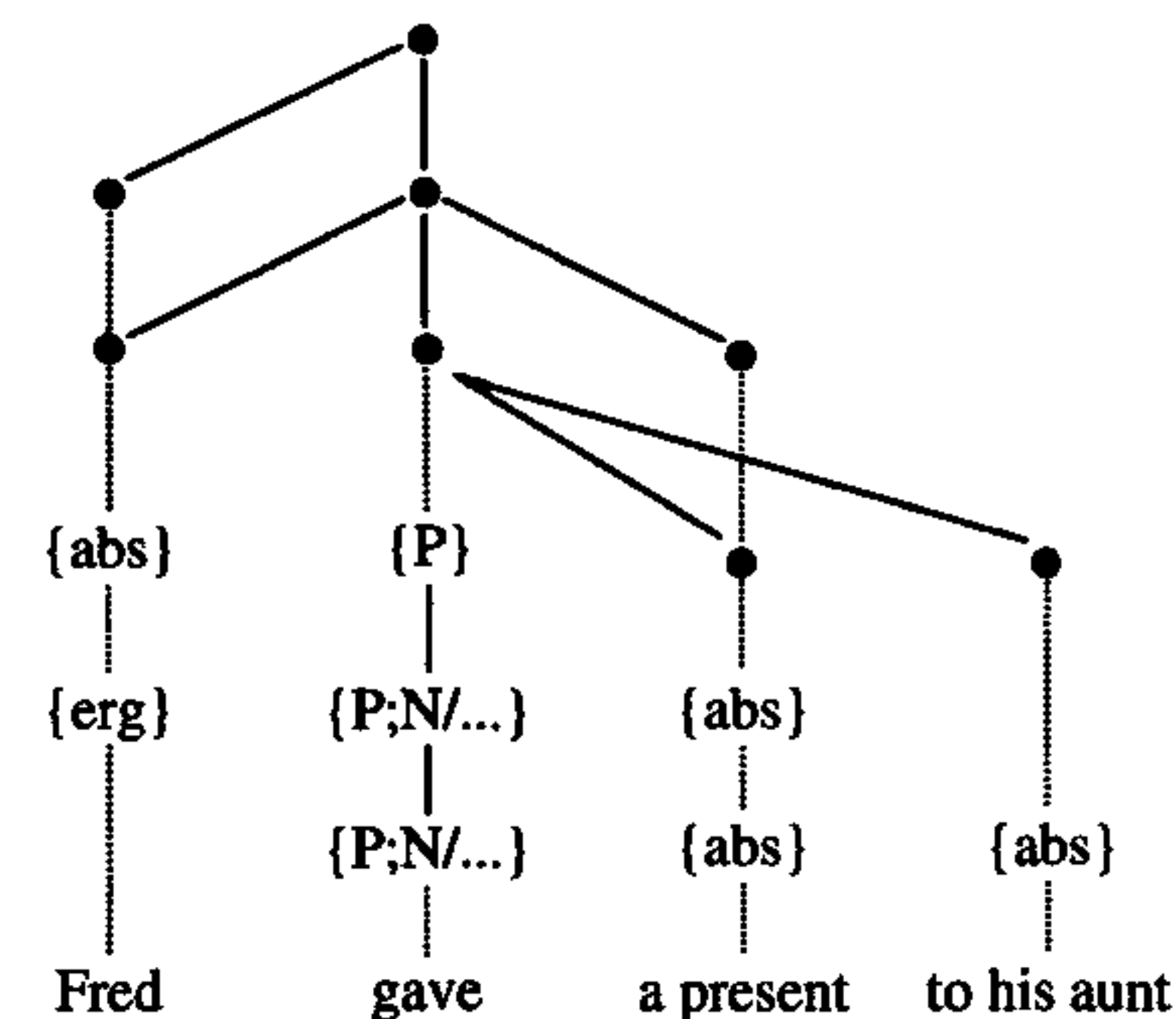
secondary finiteness (R2)

$$\{P;N\} \Rightarrow \begin{array}{c} \{P\} \\ | \\ \{P;N\} \end{array}$$

(40a)



(40b)



With lexical verbs finiteness is derived in this way. Only inherent simplex {P} elements can function as an operator in English.

Application of this redundancy, together with the filling by the erg of the upper {P;N} of the empty abs of the {P} which is introduced by the redundancy (so that in this instance *Fred* becomes a shared argument), gives the structures in (40) for (8c,d).

Such an account of the predicator-argument structure of transitive – and particularly ditransitive – constructions provides for the various groupings of arguments that are resistant to description in terms of (types of) object. However, there is some cross-linguistic variation in the manifestation of these constructions; and this varia-

tion is vital to our understanding of the kind of cross-linguistic variation in morphological causativisation reviewed in §0.

1.3. Cross-linguistic variation in argument structure

We noted in the preceding subsection that there are verbs of valency '/{loc} {abs}' which do not have a corresponding verb with '/{erg,loc} {abs}' - i.e. no (8c)-type **receiver** construction corresponds to their **oblique** (8d):

- (8c) Fred gave his aunt a present.
 (8d) Fred gave a present to his aunt.

as shown in (41):

- (41a) Fred transferred the responsibility to Bill.
 (41b) *Fred transferred Bill the responsibility.

And I associated this with the one-way **undative** redundancy. Restrictions the other way are largely limited to idioms: thus, *Fred sold a dummy to Bill* is not interpretable as equivalent to the idiomatic interpretation of *Fred sold Bill a dummy*. However, as will shortly be illustrated, languages vary with respect to whether they incorporate R1 undative and thus the possibility of an **oblique** construction for verbs that appear in the **receiver** type. They also vary in whether, on the other hand, they show **receiver** constructions like that in (8c) for the verbs 'corresponding' to *give* as well as something equivalent to (8d), which is generally available to them and other 'directional' verbs.

Cross-linguistic comparison reveals further variation in the identification of 'objects', also, and in their fit with different criteria, such as case-marking, concord and passivisability. (This is illustrated more fully in Anderson 1997: §3.3.3, part is the basis what immediately follows here.) Thus, Siewierska (1984: 71-4) discusses languages (such as Hiberna, Mashi and Olutsootso) showing apparent generalised passivisation of locatives, in particular. But, on the other hand, many languages do not permit 'stranded'-preposition passives, or passives where the subject would 'correspond' to a non-Accusative 'object'. Thus, in Old English, for instance, a passive subject always 'corresponds' to a non-prepositional Accusative 'object' (with just one verb being possibly exceptional in this respect - Mitchell 1985: §851); Genitive and Dative 'objects' are retained as such (not raised to become subjects) in impersonal passives (Mitchell 1985: §848-854), and there are no passives involving 'stranded' prepositions (Mitchell 1985: §855). Here we have apparent coincidence between morphosyntax (Accusative marking) and syntax ('correspondent' of the passive subject). Collinge (1984: 19), however, reminds us that in Ancient Greek,

on the other hand, a Dative argument may 'correspond to' the subject of a passive sentence.

Despite this variability, passivisability, together with distinctiveness of position and morphosyntactic characteristics, is perhaps the most widely used diagnostic of '(direct-)objecthood': cf. e.g. Hyman and Duranti (1982) on Bantu, Comrie (1982) on Huichol, Borg and Comrie (1984) on Maltese; more generally, Collinge (1984: §4). And passivisability does seem to at least substantially overlap with other alleged markers of 'objecthood' in different languages. However, such criterial use of passivisability, in particular, means that, given variation in what is passivable, the semantic identity of 'objects', and their semantic role in different predication types, will vary from language to language. Thus, 'the grammatical relation defined internally in Huichol by control of verb-object agreement and correspondence to the subject of a passive sentence corresponds in part to what are called direct objects and in part to what are called indirect objects in other languages' (Comrie 1982: 97); the 'indirect object' usurps 'object' properties in predications containing both a 'direct' and an 'indirect object'. Huichol is what has been referred to as a 'reverse object' language (see e.g. Rosen 1990: §6.1.1.3); and Dryer (1986) refers to the elements controlling nonsubjective verb-concord and showing susceptibility to passivisation 'primary objects', cutting across the 'direct'/'indirect' distinction. (42) illustrates the Huichol 'double-object construction':

- (42) Nee waakanaari ne-meci-tikiiti eeki.
 I chickens 1SG-2SG-give you
 'I gave you the chickens.'

The 'give'-verb here thus shows only a **receiver**-type construction, not an **oblique**; **undative** is unavailable. We find a like restriction in Chi-Mwi:ni; and Borg and Comrie (1984: §2) describe a similar situation to the Huichol and Chi-Mwi:ni for Maltese, except that (§3), with the 'ditransitives' *ta* 'give' and *wera* 'show', either the {erg,loc} or the simple {abs} is 'passivable', as in Kinyarwanda.

In Kinyarwanda, then, for instance, both of the non-subject arguments in the **receiver** construction are available for passivisation, as illustrated by the alternatives in (43):

- (43a) Igitabo cy-a-haa-w-e umugóre (n'umugabo).
 book it-PAST-give-PASS-ASP woman (by-man)
 'The book was given to the woman (by the man).'
- (43b) Umugóre y-a-haa-w-e igitabo (n'umugabo).
 woman she-PAST-give-PASS-ASP book (by-man)
 'The woman was given the book (by the man).'

(Kimenyi 1980: 127; also Rosen 1990: §6.1.1.2)

Whether or not the two arguments are simultaneously 'direct objects' in the same predication (cf. Zaenen (1984) on Kikuyu), the notion 'object' has a wider scope in this domain than in Huichol, or in a language like Tamazight.

Tamazight in general lacks a **receiver** construction corresponding to any **oblique**-type clause like (44):

- (44) I-ša urgaz lešθaβ i θmattutt
 3MASC,SG-give man book to woman
 'The man gave the book to the woman.'

(Faltz 1978)

Turkish, too, seems to be a language with no **receiver** variant, in so far as what Comrie (1985) and others refer to as a Dative (and so 'indirect object') marker, such as we find in the sentence cited above as (3a), is, rather, a general goal marker like *to*, not restricted to 'experiencers'/'recipients':

- (3a) Müdür Hasan-a mektub-u göster-di.
 director Hasan-DAT letter-ACC show-PAST
 'The director showed the letter to Hasan'

This offers further illustration of the problems introduced by the employment of undefinable grammatical relations.

Whatever all this may show about the status of 'objects', it seems to reveal, as well as variation in passivisability, a variability very relevant to our concerns here. Namely, that, whereas in English for some verbs both of the valency patterns in (45) related by **undative** are attested:

- (45a) **receiver**: {erg} {erg,loc} {abs} (8c)
 (45b) **oblique**: {erg} {loc} {abs} (8d)

(45a) is absent from Tamazight, and verbs that show (45a) in Huichol do not appear with (b); i.e. Tamazight lacks the **receiver** construction, and Huichol lacks the **undative** redundancy. In the terms proposed by Givón, *his aunt* in (8d) bears the 'semantic case' DAT, while *a present* is ACC, and (8c) shows the result of 'Dative Shifting'. Givón suggests that in Hebrew and Sherpa, for instance, with, as in Tamazight, no alleged 'Dative Shifting', "there is **no grammaticalization** of the pragmatic case of DO" (Givón 1984: 157). For reasons documented by Anderson (1997: §3.3.3) and the work referred to there, I reject the notion of 'Dative Shifting'. The cross-linguistic distribution of DAT/BEN that Givón (1984) relates to a hierarchical ranking of DAT/BEN above ACC and presence vs. absence in the language of 'Dative Shifting' relates rather (in the terms introduced above) to the absence in particular languages of one or other of the lexical variants for such verbs allowed for

in (45). In Huichol, in which DAT/BEN always outranks ACC, we have only (45 a); in Tamazight, in which it never does, we have only (45b).

Although there are signs of (45b) structures for verbs like *giefan* 'give' in Old English, it seems to be basically a system like Huichol in lacking the **undative** redundancy R1. Huichol and Old English differ in turn in that whereas in the former, as in (present-day) English, the {erg,loc} in the equivalent of (8c) – i.e. in the **receiver** (45a) structure – is derivatively also **abs**, and so an 'object', in showing eligibility for passivisation etc., in Old English this does not appear to be so, and the {erg,loc} remains morphosyntactically non-Accusative, is marked as Dative – except with a few verbs (such as *læran* 'teach') that take two Accusatives (Mitchell 1985: §§1083) – and is non-passivisable (except with *læran* etc.). I take it that this reflects a failure of the {erg,loc} in Old English (distinguished as such from locatives/goals) to raise, and thus to acquire an **abs** specification from the upper predicator in (36). The Accusative {abs}, on the other hand does 'correspond to' a passive subject (Mitchell 1985: §§838-839). If we take passivisability as an indication that a particular argument of the lower predicator in (36) has been raised to fill the empty {abs} of the upper, then selection of raisee here is on an 'ergative' basis, in preferring the lower {abs} over the {erg,loc}. (We return to partial 'ergativity' below.)

The major possibilities in the area of 'double-object' constructions are presented in Table 4 (overleaf), slightly adapted from Anderson 1997: §3.3.3.

The **abs** preceding the slants in categorial representations in this table is that gained via raising into the higher predication. Tamazight illustrates a language that has construction (45b) only (the **oblique** construction), and Huichol a (45a)-only language (only the **receiver** construction), whereas present-day English shows both. The Kinyarwanda examples are included to remind us of the possibility that either **abs** argument in the **receiver** construction can be passivised, as for some speakers of present-day English (recall the above discussion of (16c)). This is a further source of variability, viz. whether or not both **abs** arguments in the (45a) construction (rather than merely the hierarchically highest one) are available for passive. Old English in turn illustrates the failure of the {erg,loc} to raise and gain **abs**, and thus passivisability, which may be associated with overt morphological marking, as Dative (but recall Collinge on Ancient Greek). We elaborate on this characterisation in §2. As also noted, Old English is, as shown in the table, a mixed system; verbs, such as *læran* 'teach', which take two Accusatives, pattern, in terms of passivisation, as the corresponding arguments in Huichol (or present-day English): only the {erg,loc/abs}, not the {abs}, has a corresponding passive subject (recall Mitchell 1985: §835). It is further mixed by virtue of the existence of **oblique** variants. This variability of system in a particular language is not uncommon, as illustrated above by Maltese.

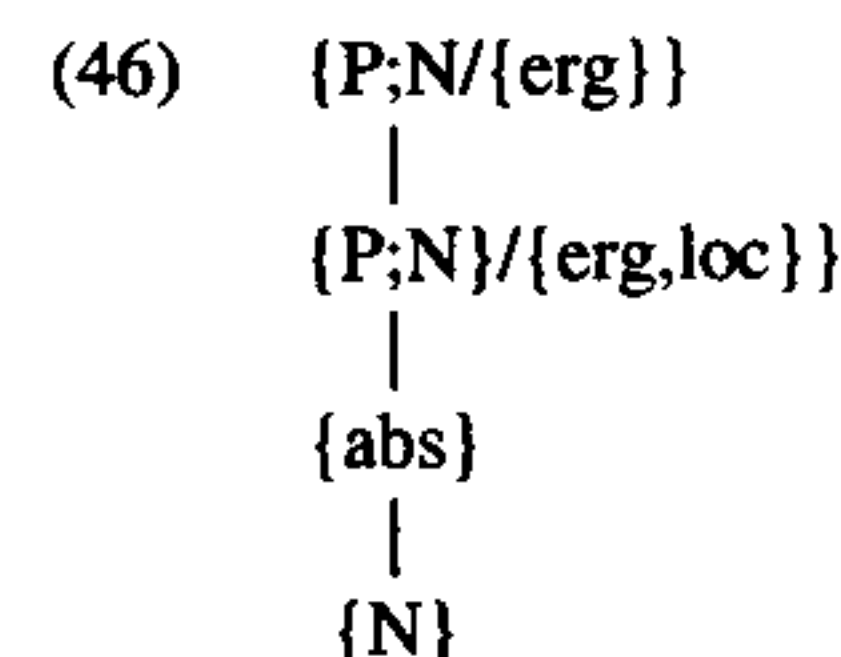
This concludes consideration of the core of my attempt to allow for the range of 'double-object' as well as 'single-object' constructions without recourse to the problematical notion 'object'. We shall find that this characterisation relates in a rather

Table 4. Cross-linguistic varieties of double-object construction

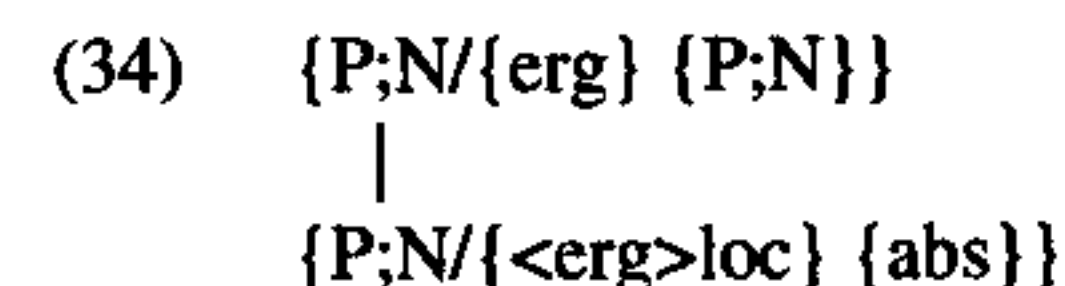
I-ša 3,MASC,SG-give	urgaz man	lešθaβ book	i to	θmattutt. woman	{erg} {abs/abs} {loc}
'The man gave the book to the woman.'					(= (44) [Tamazight])
Nee I	waakanaari chickens	ne-meci-trikiitr 1,SG-2,SG-give	eeki. you		{erg} {abs} {abs/erg,loc}
'I gave you the chickens.'					(= (42) [Huichol])
Igitabo book	cy-a-haa-w-e it-PAST-give-PASS-ASP		umugóre woman	(n'ûmugabo). (by-man)	{abs/abs} {erg,loc} ({erg}) + PASSIVE
'The book was given to the woman (by the man).'					(= (43a) [KinyaRwanda])
Umugóre woman	y-a-haa-w-e she-PAST-give-PASS-ASP	igitabo book	(n'ûmugabo). (by-man)		{abs/erg,loc} {abs} ({erg}) + PASSIVE
'The woman was given the book (by the man).'					(= (43b) [KinyaRwanda])
Pe that	him 3,DAT	hringas rings-ACC	geaf gave		{erg} {erg,loc} {abs/abs}
'Who gave him rings.'					(Old English)
Siððan after	he he	his his	cnihtas followers-ACC	gelæred hæfde taught had	{erg} {abs/erg,loc} {abs}
					(Old English)
	ðone the-ACC	cræft craft-ACC	ðæs of	lareowdomes. teaching	
'After he had taught his followers the craft of teaching.'					
She taught Greek to Bill.					{erg} {abs/abs} {loc}
She taught Bill Greek.					{erg} {abs/erg,loc} {abs}

obvious way to the patterns with morphological causatives in languages of different 'double-object' type. However, we must first consider a particular refinement to it that is also relevant to our ongoing concerns here.

In some cases, the simple {abs} valency with verbs of the notional class discussed here in relation to the 'double object' construction is satisfied internally. And, as pointed out by e.g. J. Anderson (1971: §9.5; 1977: §2.8.10), some languages reflect this in their morphology. Thus, in Old English, for instance, *þancian* 'thank' is overtly based on the noun base *þanc*, and its 'object' is inflected for Dative. Schematically, we can associate such verbs with the lexical specification in (46):



Here the abs argument satisfying the {abs} valency of the lower predicator (left unexpressed in the argument structure in (46)) can, in turn, be said to be **incorporated**. Compare with this the representation for Present-day English *give* suggested in (34), where the {abs} argument is not incorporated:



Such an interpretation of 'thank'-type verbs is supported further by other syntactic parallels with unincorporated 'double-object' sentences. With many incorporated, as well as unincorporated structures in Old English, such as those in (47), there is no raising (and thus no passivisation) of {erg,loc}:

(47a) Hie him sealdon attor drincan.
 'They gave him/them (DAT) poison to drink.'

(47b) He Gode þancode.
 'He thanked God (DAT).'

(though, as we have noted, some such verbs allow raising – and thus marking of the {erg,loc} with accusative, and passivisation). In Present-day English, on the other hand, both unincorporated and incorporated {erg,loc}s show raising. We thus have, by virtue of incorporation, a parallel variation in (incorporating) monotransitives to that we established for ditransitives.

Overall, then, it is inappropriate to base an account of the morphosyntax of non-subjective arguments of the predicator on objecthood and 'object' types ('direct/indirect' etc.). 'Indirect object' is an incoherent notion. And the notion 'object' itself is not a crosslinguistic invariant; in so far as there is consistency, it resides in the observation that, whatever differences we may discern between putative 'objects' in different languages, what different 'objects' have in common is that they all include in their core membership some subset of the set of non-subjective {abs} arguments (and they are thus absent from 'ergative' subsystems, which lack subjects in the sense defined by the **subject selection hierarchy**). 'Object' is an explicandum, not a primitive; and its variability makes it unsuitable as a factor in a universal

account of causative formation. If we take this together with the lack of any principled characterisation of 'object' types, it is clear that the hierarchy of presumed grammatical relations (7) assumed by Comrie can have no role in an account of the formation of morphological causatives.

2. The internal structure of causatives

We return now to a more direct consideration of causativisation. I have argued that characterisations of 'double-object' verbs and constructions in terms of distinctions between 'direct' and 'indirect' is at best unilluminating; this in particular means, in turn, that the kind of grammatical-relation-changing account of causativisation underlying Table 1 is at most epiphenomenal. Falk (1991) also argues explicitly against according 'direct' or 'indirect' object status to 'causees'; and, on the basis of what is essentially a re-run of Jespersen (1924: Chapters XI and XII), he describes 'indirect object' as 'a fairly nebulous concept which has been borrowed from traditional grammar' (1991: 62-63). Unfortunately, his own proposal involves the introduction of the equally nebulous concept 'secondary subject' and another hierarchy based on such nebulous concepts. And this is despite the fact that he acknowledges (1991: 75-76) that both morphological and periphrastic causatives involve essentially the manipulation of semantic relations, as proposed here (though periphrastic causatives are not my present concern).

What follows immediately is an attempt to explicate the character of the base and derivative in causative formation in terms of the semantic relations with respect to which grammatical relations may also be accounted for, in so far as these latter have a place in the grammar. The discussion will focus on what Kulikov (1993) calls 'first causatives'. That is, I shall not look in detail at 'second causative' formations, which arise in some languages when 'there exist verbs which can be causativized at least in two different ways' and a verb belonging to one of the causative types, ' k_j ', is a 'second causative' if 'there exists at least one more (alternative) causative formation k_i , and the k_j -verbs are morphologically and/or semantically more complex than the k_i -verbs' (Kulikov 1993: 121). Second causatives include, as well as 'double causatives', a number of types including what have been referred to as 'factitives' and 'permissives'; and I shall return to these briefly in §3.3.

2.1. The causativisation rule

(1) illustrates how some languages make morphologically overt the relative internal complexity of transitives like 'kill'. Likewise, the complex character of some 'double-object' verbs such as 'give' or 'tell/teach', as embodied in the proposed representation in (34), is sometimes reflected in their morphology: in some languages they are overtly marked morphologically as causative. There is a cross-linguistic

overlap in the notional sets of verbs which are represented as simplex lexical 'double-object' verbs and causatives of (mono-)transitives. Thus, in different (sub-)systems, 'give' and 'feed' verbs, for instance, may be morphologically-marked causatives or lexical 'double-object' verbs. This, I suggest, is unsurprising. Indeed, I propose that the lexical characterisation of 'double-object' verbs, repeated here, conforms to the output of the derivational redundancy that regulates the construction of causatives, in the case that the latter applies to predicators subcategorised for {erg} and {abs}:

$$(34) \quad \begin{array}{c} \{P;N/\{erg\} \{P;N\}\} \\ | \\ \{P;N/\{<erg>loc\} \{abs\}\} \end{array}$$

This is apparent from what I now give as the lexical redundancy of **causativisation**:

causativisation (R3)

$$\begin{array}{ccc} & & \{P;N/\{erg\}\} \\ & \Rightarrow & | \\ \{P;N/<erg>\} & & \{P;N/<erg,loc>\} \end{array}$$

(Cf. here Taylor 1971, and particularly Böhm 1982: §3.3.4). This creates by superjunction a complex causative predicator – subcategorised at the superjoined level for {erg} – out of any other predicator type, but converts any incoming **erg**-role (optionally allowed for in the rule) to {erg,loc}, a form of dissimilation (with respect to the derived {erg}).

Notice firstly that, on this account, non-agentive intransitive-based causatives, based on predicators like DIE, do not involve any change in the semantic relations of the lower predicator: the difference in grammatical relations between the base and derived verb follows from the subject selection hierarchy, as illustrated by (1b).

An incoming role with **erg**, however, acquires a **loc** specification which both 'demotes' it semantically with respect to 'independent agency', as derived {erg,loc}, and, in the case of agentive transitive bases like CUT, creates a role for the argument that does not violate the **role criterion** with respect to the complex predicator created by **R3 causativisation**. Recall from §1.2:

role criterion

A predicator is permitted to select only one instance of each distinct role (except {abs|})

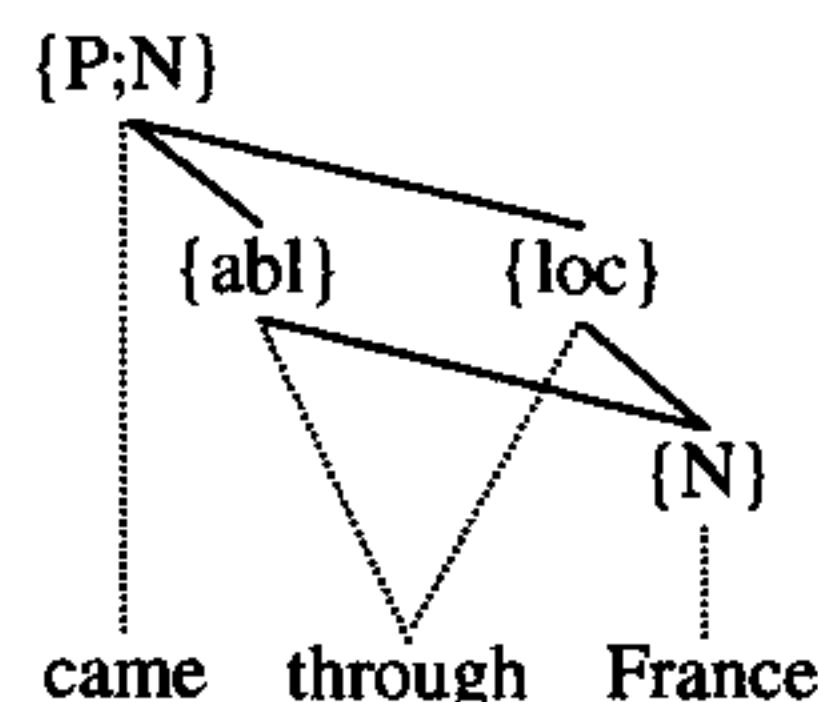
This continues to be met by the output to the **causativisation** rule. To this extent the **causativisation** rule is driven by the **role criterion**. Depending on the (independently manifested) realisation rules of the language concerned, the 'causee' will be

marked by elements, such as Dative, otherwise (in that language) associated with {erg,loc}, as we shall see illustrated in (50) and (51) below.

Agentive intransitives, like RUN, with an {abs,erg} argument, will have **loc** attached to this argument by **R3**, but this is typically not reflected in the realisation, given particularly that Dative and (other) oblique markers are incompatible with basic unsubcategory-for **abs**. We return to this in §3.3.

Causatives based on non-agentive transitives, with {abs} and experiencer/receiver arguments, i.e. with {abs} and {erg,loc} or {erg,abl} roles, like RECEIVE ({abs}{erg,loc}) and SEE ({abs}{erg,abl}), acquire **loc** vacuously, as with RECEIVE, or have it substituted for **abl(ative)** (source), as with SEE, given that the same role cannot be assigned contradictory locational relations. **Loc** and **abl** can be combined only as shared roles, characterising **paths**:

the structure of paths



Here we have syntagmatic argument-sharing: cf. the paradigmatic argument sharing in, say, (39a), repeated just below.

In sum, then, DIE and RECEIVE bases are minimally modified under causativisation. Agentives have **loc** added to the **erg** role. We return below (§3.2) to what is involved with causatives based on ditransitives.

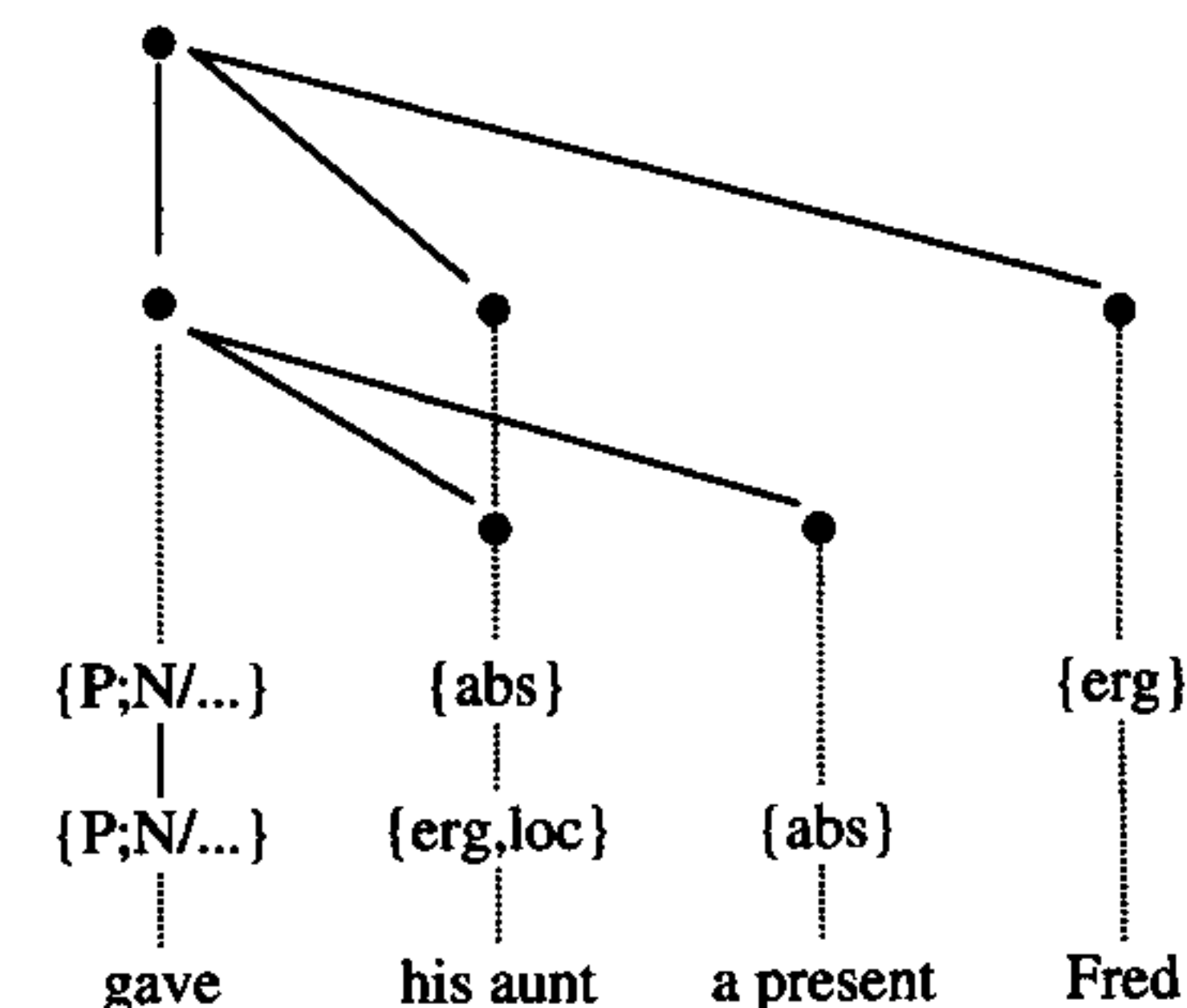
The behaviour of this derived {erg,loc} resulting from **R3 causativisation** conforms to the attested syntax of {erg,loc} in the language concerned. As highest argument of the lower predictor, the {erg,loc} argument will normally also satisfy the empty {abs} associated with the upper predictor, giving a structure such as (39a), repeated below for ease of reference, i.e. that associated with the **receiver** construction of (8 c):

(8c) Fred gave his aunt a present.

and the like.

Some further support for a view of causativisation that involves addition of a locative relation comes from the existence of languages where the same derivational

(39a)



process can be associated with a range of interpretations for the derived form going from the canonically causative to the benefactive. This is exemplified by the derived form in (48b) from Bella Coola, drawn to my attention by a reviewer:

(48a) tx-is ?aleks tiqlsx^wtx
cut-he/it Alex rope
'Alex cut the rope.'

(48b) tx-at-us mat ?aleks x-tiqlsx^wtx
cut-INTRANS-he/him Matt Alex PREP-rope
'Matt made Alex cut the rope.'
'Matt let Alex cut the rope.'
'Matt cut the rope for Alex.'

(48c) tx-is mat tiqlsx^wtx
cut-he/it Matt rope
'Matt cut the rope.'

(Saunders and Davis 1982: 4-7)

Causative formation involves the addition of an {erg} argument to the argument structure of the base. The first interpretation of the verb in (48b) is based on the verb in (48a). Benefactive formation plausibly involves the addition of a (directional) locative to the argument structure of a predictor. The last interpretation of (48b) is derived via benefactive formation from (48c). Canonical causative formation and benefactive formation share the addition of a locative to a predictor's argument structure: in the case of the causative the locative is added to the base **erg**, deriving

the first interpretation of (48b) from (48a); in benefactive formation a locative argument as a whole (rather than an ergative) is added to the derived argument structure, providing the third interpretation of (48b) from (48c). In both cases the base 'object' ({abs}) is displaced/outranked. We return below (§3.3) to the derivation of 'second causatives', such as is associated with the second interpretation of (48b), again based on (48a).

Let us now confront the causativisation generalisation offered here with observations that have been made concerning the form of causative sentences in various languages, including those introducing our discussion in §1.

2.2. Constants and variables in causative systems

The causativisation rule is crucial to an account of the near isomorphy that has been noted between the syntax of inherent ditransitives and that of causatives based on (mono-)transitives in a range of languages. Thus, just as with simple 'double-object' verbs only a **receiver** construction is available in Chi-Mwi:ni, as in Huichol – i.e. we have in these instances 'reverse object' selection – and it alone of the two post-verbal arguments 'undergoes' passivisation, as illustrated by the contrasting acceptabilities of (49a) and (49b):

- (49a) Ja:ma Ø-pel-a: kuja na: mi
Jama SP-gave-PASS food by me
'Jama was given food by me.'
- (49b) *kuja i-pel-a Ja:ma na: mi
food SP-gave-PASS Jama by me
'Food was given Jama by me.'

(Rosen 1990: 229; SP = subject prefix)

So the argument associated with the {erg,loc} created by the application of causativisation in Chi-Mwi:ni is similarly the preferred passivisee:

- (50a) wa:na wa-andik-ish-iz-a: xati na mwa:limu.
children SP-write-CAUSE-ASP-PASS letter by teacher
'The children were made to write a letter by the teacher.'
- (50b) *xati a-andik-ish-iz-a wa:na na mwa:limu.
letter SP-write-CAUSE-ASP-PASS children by teacher
'The letter was made to be written by the children by the teacher.'

(Baker 1988:412)

Likewise, we noted in §1.3 that either the {erg,loc} or the simple {abs} in Kinyarwanda can passivise, as illustrated in (43), repeated here:

- (43a) Igitabo cy-a-haa-w-e umugóre (n'ûmugabo).
book it-PAST-give-PASS-ASP woman (by-man)
'The book was given to the woman (by the man).'
- (43b) Umugóre y-a-haa-w-e igitabo (n'ûmugabo).
woman she-PAST-give-PASS-ASP book (by-man)
'The woman was given the book (by the man).'

As predicted by the causativisation rule, we find in the language an analogous two possibilities with causatives, illustrated by (51), in which either the {abs} (a) or {erg,loc} (b) argument of the causative predicator is subject of the passive predicator:

- (51a) Inzu í-r-úubak-iish-w-a abákozi n'ûmugabo.
house it-PRES-build-CAUSE-PASS-ASP workers by-man
'The house is caused to be built by the workers by the man.'
- (51b) Abákozi bá-r-úubak-iish-w-a inzu n'ûmugabo.
workers they-PRES-build-CAUSE-PASS-ASP house by-man
'The workers are made to build the house by the man.'
- (Kimenyi 1980: 170-171; Rosen 1990: 228)

So far so good. However, evaluation of the causative morphosyntax of other languages is again made difficult by descriptions which cavalierly throw around the term 'indirect object', and obscure, for instance, the distinctions between different kinds of 'double-object' constructions drawn above.

Consider, to start with, a language like Turkish, which lacks the **receiver** construction in favour of the **oblique**, i.e. one corresponding to (8d):

- (8d) Fred gave a present to his aunt.

and which shows passivisation of only the simple {abs}, corresponding to the underlined NP in (8 d), never of the Dative-marked (goal) argument in sentences of the character of (52):

- (52) Müdür-e resimler-i vereceğim.
director-DAT pictures-ACC I-will-give
'I will give pictures to the director.'

(Aissen 1979: 23; Rosen 1990: 222)

In this case, causativisation would produce a configuration not attested with underived verbs, in whose syntax {erg,loc} 'objects' are lacking. Typically, then, in such languages the input **erg** is apparently suppressed under causativisation: it is replaced by **loc**, realised as a general Goal marker, rather than having **loc** added;

this role is expressed in the same way as simple directional locative arguments. Causatives seem to share the **oblique** pattern with corresponding non-causatives. Thus, for such languages the lexical rule **causativisation'** seems to be appropriate – rather than **causativisation** as formulated in §2.1:

causativisation' (R3')

$$\{P;N/<erg>\} \Rightarrow \begin{array}{c} \{P;N/\{erg\}\} \\ | \\ \{P;N/<loc>\} \end{array}$$

That Turkish causatives with a transitive base show the same pattern of case marking as in (52) is illustrated in (2b) or (53a):

- (53a) Mehmet Hasan-a bavul-u aç-tır-dı.
Mehmet Hasan-DAT suitcase-ACC cry-CAUSE-PAST
'Mehmet had Hasan open the suitcase.'

- (53b) Bavul (Mehmet tarafından) Hasan-a aç-tır-ıl-dı.
suitcase (Mehmet by) Hasan-DAT open-CAUSE-PASS-PAST
'The suitcase was caused (by Mehmet) to be opened by Hasan.'

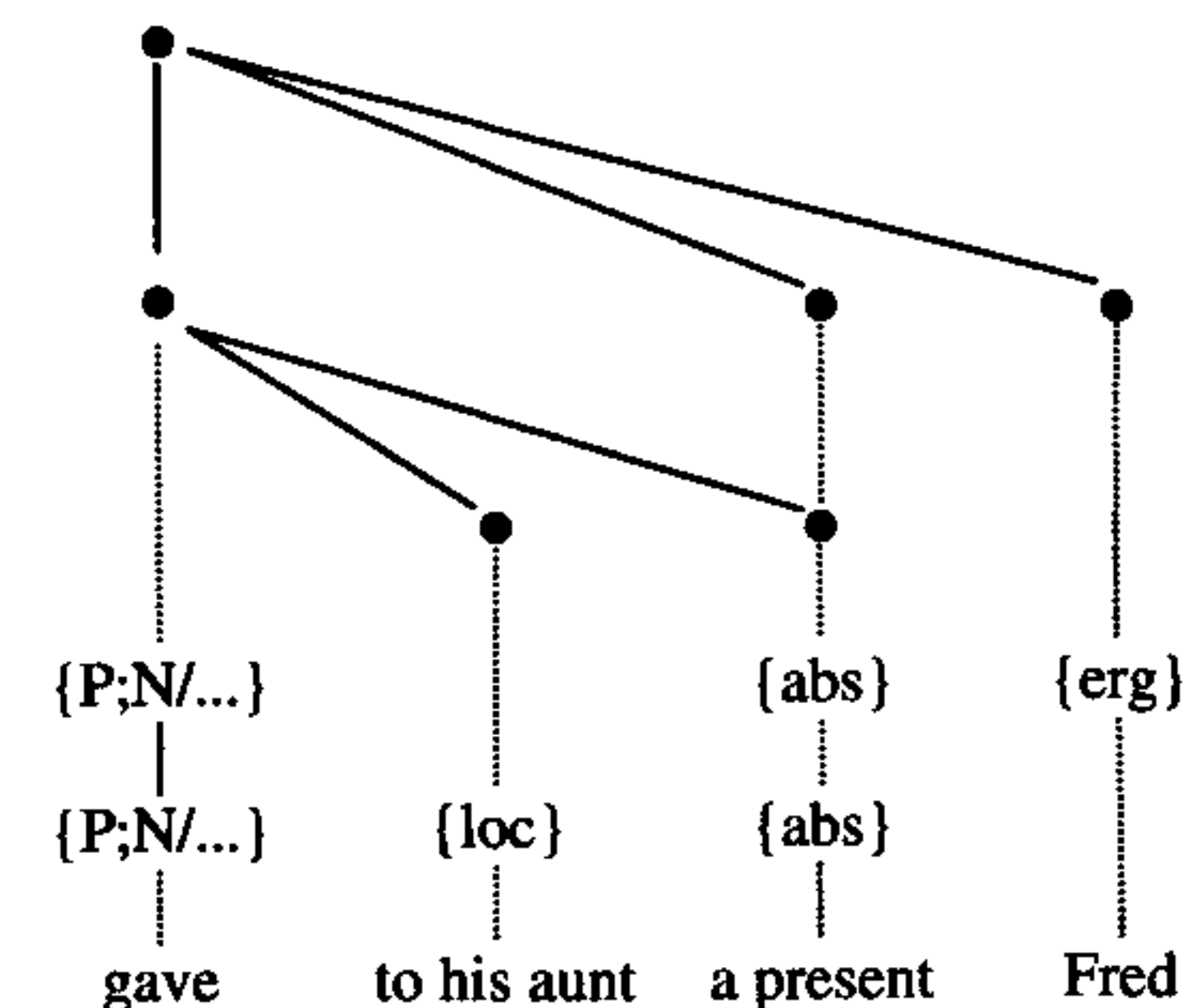
And only the ACC-marked abs undergoes passive, as in (53b) (Aissen 1979 :15; Rosen 1990: 225). On this account, both (52) and (53a) show the structure of (39b), again repeated on the next page for convenience of reference, wherein the {abs} is the hierarchically highest argument of the lower predicator, and thus raises to fill the empty {abs} of the superior predicator.

The suppression of **erg** envisaged in **R3' causativisation'** might be taken to be an acceptable operation, given the status of the rule as a lexical redundancy, relating two lexical entries. However, I regard it, since it is mutative, as a marked possibility (compared with addition of a feature); and we shall return below to a further consideration of this particular operation.

The situation is complicated further, also, by the apparent existence of an alternative response to the non-existence of a basic **receiver** construction, illustrated by Hebrew. In Hebrew the locative in the morphologically non-causative construction of (54) is marked as a non-Accusative, often designated 'Dative':

- (54) Hu natán et ha-séfer la-ishá.
he gave ACC the-book to+the-woman
'He gave the book to the woman.'

(39b)



If we regard the so-called 'Dative' as a marker of {erg,loc}, then it looks at first that though, on the one hand, the original **R3 causativisation** rule applies, there is, on the other hand, a discrepancy in the expression of {erg,loc}. For observe that in the causative of a transitive shown in (55) the locative is marked with the Accusative (as also may be the original simple {abs} – here (*et*) *harkud haxadaš*):

- (55) Hirkadeti et hatalmidim (et) harkud haxadaš.
I-caused-to-dance ACC the-students ACC the-dance the-new
'I made the students dance the new dance.'

(Cole and Sridhar 1976: 217)

This locative argument in (55) behaves like a causative {erg,loc} that has undergone raising to become an Accusative-marked argument ('object') of the derived verb. This analysis of (55) conforms to the original **causativisation** redundancy **R3**, in not requiring suppression of the **erg** of the base verb. But, if both the locative in (54) and that in (55) are {erg,loc}, the treatment of these is apparently not consistent within the language: derived causative{erg,loc}s are distinct from inherent {erg,loc}s in their behaviour.

But this depends on the treatment of *laishá* as distinctively marked for {erg,loc}, as a distinct 'Dative'. If, on the other hand, *laishá* in (54) is a simple {loc} rather than a Dative ({erg,loc}), as suggested by Faltz (1978: 79-80) – i.e. if (54) involves an **oblique** construction, then there is no inconsistency: the causative {erg,loc} is the only {erg,loc} (in agentive predications, at least). But, as in Turkish, a simple loc provides no template for its behaviour; there is a mismatch between simplex and derived argument structures. In this case, unlike with Turkish, causativisation apparently proceeds as originally formulated, i.e. as involving an addition rather than a substitution. Thus, apparently, Turkish and Hebrew react differently to

the absence of a non-causative **receiver** construction: in Turkish, the **erg** of a base verb is replaced by **loc** (in accordance with **R3' causativisation'**), giving an oblique construction such as one finds elsewhere in the language, whereas in Hebrew the **R3 causativisation** rule applies, giving a distinctive **receiver** construction, one not associated with 'double-object' verbs.

Of course, the basis for the different selections made by Turkish and Hebrew here, in response to the absence of a basic **receiver** construction, would require investigation: is it merely stipulative? But there are other indications of the need to recognise such variability. There are still other discrepancies between basic and derived (causative) systems, in addition to that just illustrated, which latter we can characterise as a choice between systems that minimally adapt the causativisation redundancy to the template available in the language, as offered by the inherent complex predicators, and those allowing a derived predicator type that has no inherent equivalent but conforms to the (more desirable) non-substitutional formulation of causativisation. Exploration of one of these further alternatives involves our recognising a third type of system alongside **receiver** and **oblique**, as anticipated in §1.3.

Tamil seems to be one of those languages which, as with the majority system of inherent complex verbs in Old English (as discussed in §1.3), have ditransitives that show a compromise between the **receiver** and **oblique** constructions, in that the locative argument therein shows a distinct morphosyntax from other locatives and shows the expected preference for humanoids but fails to show 'object' behaviour such as is exhibited by (non-subjective) {erg,loc} arguments in typical **receiver** constructions. I shall term this construction the **dative** construction, in recognition of the traditional label for its distinctive marker. (It is regrettable that the loose use of 'Dative' in the literature renders this a less transparent choice than it might be.)

As we would expect, the Tamil causative predication (56b) differs from the intransitive predication in (a) involving the corresponding base verb in showing an extra, {erg} argument as subject, relegation of the subject of the latter predication to 'object' status, marked by an Accusative, and, in terms of the morphology of the verb, in terms of showing a derivational suffix and a different realisation for tense:

(56a) *taṇṇir vayalil paayntatu*
 water field-in flowed
 'The water flowed in the field.'

(56b) *kamakkaran vayalil taṇṇiraay paayssinaan*
 farmer field-in water-ACC caused-flow
 'The farmer watered the field.'

(Kandiah 1968: 219)

The **abs** argument common to the two verbs is unaffected by the operation of **R3 causativisation**; as elsewhere in the grammar, its status as subject (56a) or non-subject is in accordance with the **subject selection hierarchy** (§1.1). The argument corresponding to the subject of the transitive (57a), however, is marked by a Dative in the (b) sentence:

(57a) *piḷḷay sooRu unṭaan*
 child rice-ACC ate
 'The child ate rice.'

(57b) *ammaa piḷḷaykku sooRu uṇṭṭunaaḷ*
 mother child-DAT rice-ACC caused-eat
 'The mother fed rice to the child.'

If Dative here is signalling the {erg,loc} specified as output to the formulation of **R3** given above, it is an {erg,loc} that has not undergone raising to fill the empty {abs} of the causative verb, but retains distinct morphological marking and syntax; rather, I suggest, the simple {abs} of the lower predicator has that role, as in an **oblique** construction. Here, selection of raisee occurs as in an 'ergative' system, with **abs** being hierarchically preferred, even though the locative is also **erg**. In an 'accusative' system or subsystem (languages are not necessarily homogeneous in this respect) raising applies to the argument highest on the **subject selection hierarchy**; in an 'ergative' system it applies to **abs**. (Cf. Anderson 1997: §3.3.1, and references therein; Anderson (1978b, 1984b) discusses more generally the 'tardiness' of Dative constructions with respect to showing subject formation, and thus retaining 'ergativity' in systems that are otherwise 'accusative'.)

The system of inherent double-object verbs in Old English is of the **dative** type, as we have observed in relation to the first Old English example included in Table 4 above, repeated here as (58):

(58) *þe him hringas geaf*
 that III,DAT rings-ACC gave
 'who gave him rings'

Thus, only the Accusative argument is passivisable. However, it is striking that the most common verb to show an exceptional double-Accusative complementation – such as we would associate with a **receiver** not a **dative** system – is at least historically causative:

(59) *siððan he his cnihtas gelæred hæfde ðone cræft ðæs lareowdomes*
 after he his followers-ACC taught had the-ACC craft-ACC of teaching
 'after he had taught his followers the craft of teaching'

(again repeated from Table 4). The {erg,loc} here, *his cnihtas*, is also **abs**, by virtue of satisfying the empty {abs} of the upper (causative) predicator, and is marked as Accusative, together with the **abs** argument of the lower predicator (*ðone cræft ðæs lareowdomes*). As is the usual pattern in languages (Kinyarwanda here apparently representing a minority pattern – see again Table 4), only the {erg,loc} Accusative (and not the other) is passivisable. Again, the causative makes a different decision from the inherent system: **receiver** rather than **dative**.

2.3. The irrelevance of grammatical relations

Rosen (1990: §6.1) argues on the basis of a survey of a range of languages that the case marking of the non-subject arguments of causatives patterns ‘exactly as case marking does in VPs in general in the language’ (Rosen 1990: 220). (Recall here, too, Song’s 1996 ‘NP density control’.) Given the **role criterion** (§1.2), this is what is predicted as the unmarked pattern for intransitive and transitive bases by the rule(s) for causative formation given above, which, amongst other things, in the most common case, i.e. **R3**, confers on causatives based on transitives the structure I have attributed lexically to inherently ‘double-object’ verbs, with non-subject {erg,loc}, provided the causative {erg,loc} is limited within a language to the same range of possibilities as the inherent (recall the range shown in Table 4); i.e. provided the behaviour of {erg,loc} is consistent through the language. The observed typical pattern of case marking – and availability for passive, for example – follows from just this. On the other hand, the appropriate generalisation cannot and need not be formulated in terms of associating case marking with the distribution of grammatical relations. Such a strategy necessarily fails in the absence of any well-defined theory of objecthood and of ‘object’ types (as is argued to be the case in §1 above), in that description in terms of different kinds of ‘object’ is simply induced independently for each particular language. Moreover, the invoking of distinctions between ‘object’ and ‘non-object’ and among different kinds of ‘object’ is unnecessary given the availability and relevance of the independently motivated distinctions among semantic relations which underpin the differentiation of various non-subjective arguments and permit a transparent formulation of the causativisation rule. This negative conclusion applies both to the account offered by Comrie (1985) which formed the startingpoint for our discussion and to Rosen’s (1990) or Song’s (1996).

Moreover, the Turkish vs. Hebrew and the Old English/Tamil variations discussed in the preceding section illustrate that Rosen’s generalisation is incorrect as formulated: in particular, Hebrew causatives of (mono-)transitives, for instance, do not show the **oblique** pattern associated with inherent ditransitives but are **receiver** verbs. We can attribute this to a preference for the non-mutational version of causativisation formulated in §2.1, i.e. **R3 causativisation**; whereas Turkish apparently

exhibits a preference for a derived pattern that conforms to the (**oblique**) inherent pattern (in conformity with Rosen’s generalisation) at the expense of adopting the mutational variant of the rule given in §2.2, i.e. **R3’**.

A further kind of variation, and the further insufficiency of appeal to grammatical relations, is exhibited by another language discussed by Rosen. Rosen (1990: §6.1.1.3) groups the Chamorro causative with that found in Chi-Mwi:ni, as ‘reverse object’, or **receiver** type. However, as she observes, in non-causative constructions Chamorro displays both simple {abs} ‘objects’ – i.e. an **oblique** construction – as in (60 a), and a pattern analogous to that found with English *supply*, *furnish* etc. – i.e. in which the {erg,loc} is ‘object’, and the simple {abs} is overtly marked as Oblique – as in (b):

(60a) Hu-tugi’ i kätta pära i che’lu-hu.
I,SG-write the letter OBL the sibling-my
‘I wrote the letter to my brother.’

(60b) In-nä’i si tata-n-mami nu i bäbui.
II,PL,EX-give PRO father-Ø-our OBL the pig
‘We gave our father the pig.’

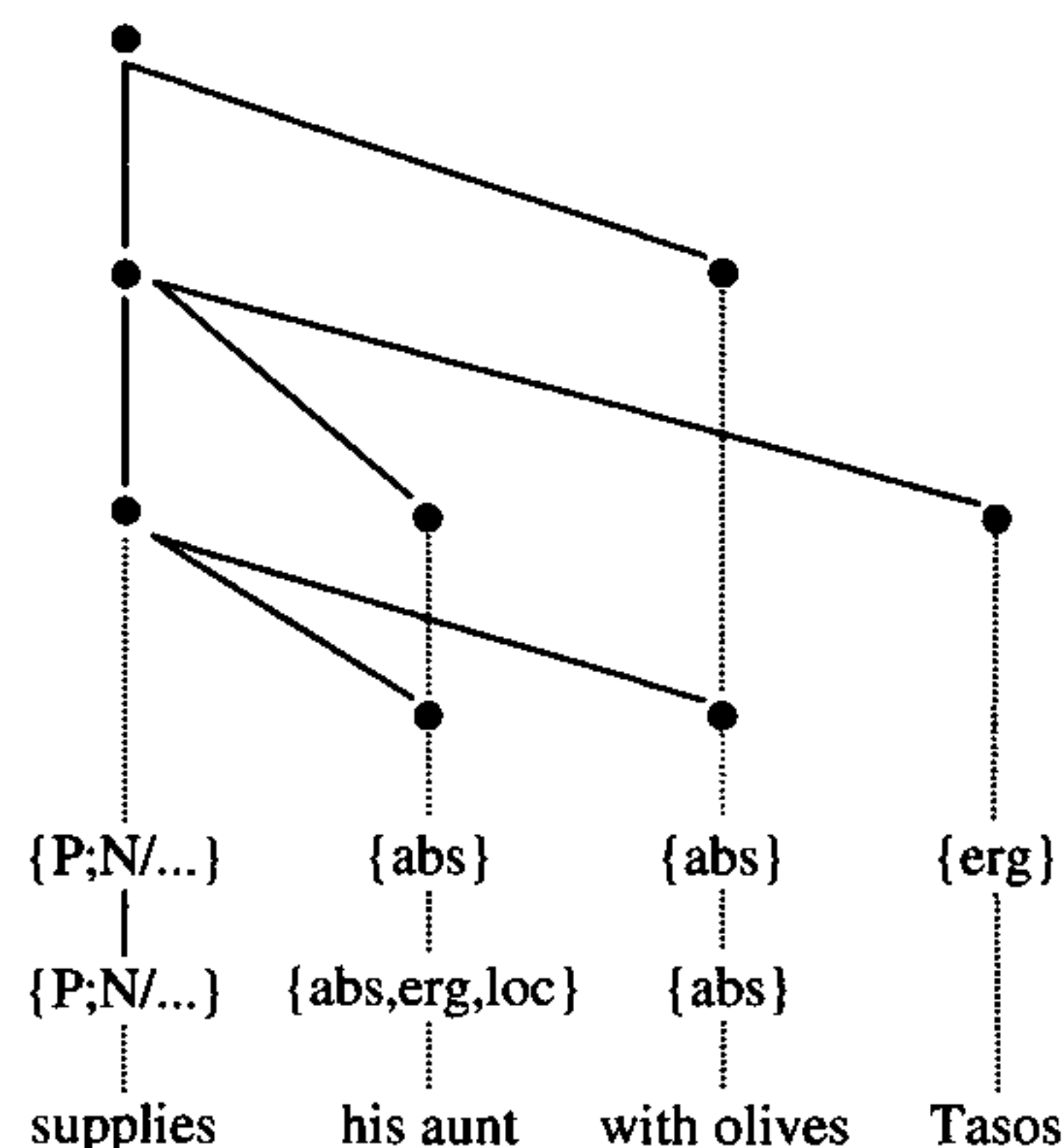
(from Baker 1988: 184; Rosen 1990: 230
– and ultimately Gibson 1980;
EX = Exclusive)

I take the Oblique marking of the simple{abs} in (60b) as an indication that the other non-subject participant is inherently {erg,loc,abs}; that is, as with English *supply*, *present* and the like, we have a blend of the **receiver** construction and the ‘holistic’ construction associated with one possibility for *load*, illustrated by (61a):

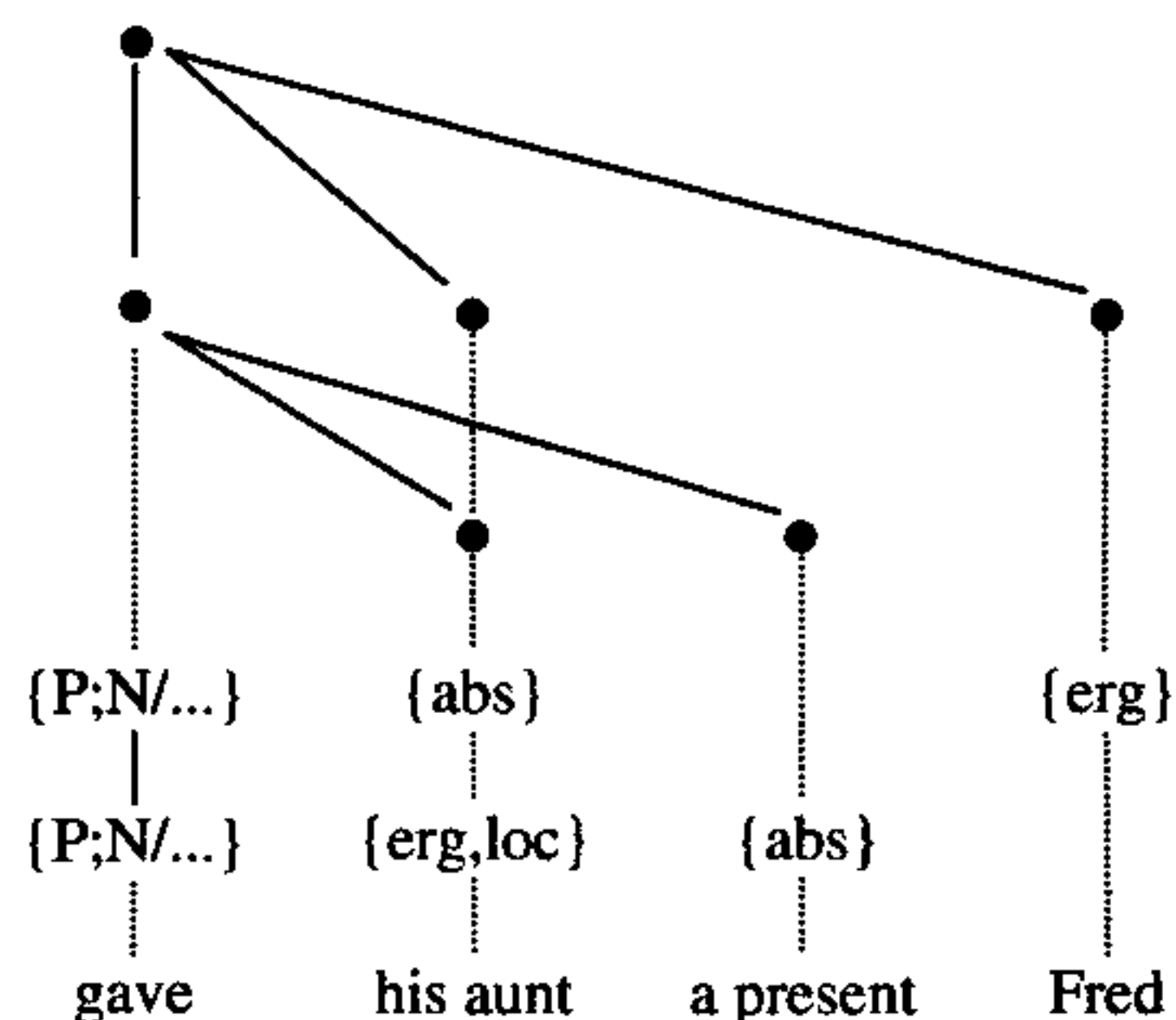
(61a) Tasos loaded it with olives.
(61b) Tasos loaded olives on it.

Tasos in both sentences in (61) is {erg}, and *olives* is {abs}. They differ in that whereas *it* in (a) is {loc,abs}, *on it* in (b) is {loc}, with the presence of **abs** in the former correlating with a holistic (vs. ‘partitive’) interpretation (the relevant dimensions of the place are exhausted by the process involved) and ‘objecthood’, and with the simple {abs} ‘displaced’ from ‘objecthood’, or, better, from participant status, being marked as Oblique (cf. again Anderson 1997: §§3.1.2-3). A more adequate description of this *with* might recognise that it marks an {abs} argument outranked (with respect to the subject selection hierarchy) by another (inherently) **abs** argument, whether the latter is ‘object’ (as in (61a) or subject, as in *The garden swarmed with bees* and the like, and that the ‘displaced’ {abs} is circumstantial (and so optional) and coreferential with an incorporated {abs}. A similar analysis suggests it-

(62)



(39a)



self in relation to the {abs} displaced in Bella Coola causative and benefactive constructions (as illustrated by (48b)). I do not pursue this here, however; but see e.g. Anderson (2000).

With *supply*, as compared with *give*, the {erg,loc} of the lower predicator is inherently **abs**, and the simple {abs} is a derived circumstantial; so that the sentence structure of sentences containing *supply* and the like can be represented as in (62).

The circumstantialised role is associated with a node in the syntactic tree which depends on a node superjoined to the node projected by the highest predicator. Cf. (39a), again repeated, showing the shared subconfiguration.

The Oblique marking on the simple {abs} in (62) is again associated with the presence of a higher-ranking **abs** argument, and, I'm suggesting, with circumstantial status. I shall refer to this as a **receiver-holistic** construction, which also seems to be attributable to the Chamorro sentence in (60b).

However that may be, the causative of (mono-)transitives in Chamorro conforms to this pattern, as illustrated by (63a):

(63a) Ha-na'-taitai hām i ma'estru ni esti na lebbli.
 III,SG-CAUSE-read us the teacher OBL this LINKER book
 'The teacher made us read this book.'

(63b) Ma-na'-fa'gasi si Henry ni kareta nu i famagu'un.
 PASS-CAUSE-wash NM Henry OBL car OBL the children
 'Henry was made to wash the car by the children.'

(Baker 1988: 184-185)

(63b) shows the passivisability of the {abs,erg,loc}. A description in terms of grammatical relations and case marking does nothing to account for this preference for one of the two inherent patterns offered in (60). What the Chamorro situation does suggest though is a preference for avoiding the mutational variant of causativisation **R3'** – which would be required to form a causative in Chamorro based on (60a) – in favour of the non-mutative **R3**. And this is consistent with a general preference in language for structure building rather than structure change. This preference is what underlies the choice of the **receiver-holistic** construction in Chamorro, and the selection of a **receiver** causative construction in Hebrew even in the absence of an inherent template for this. The non-mutative version of causativisation, **R3**, is less marked than the substitutive **R3'**.

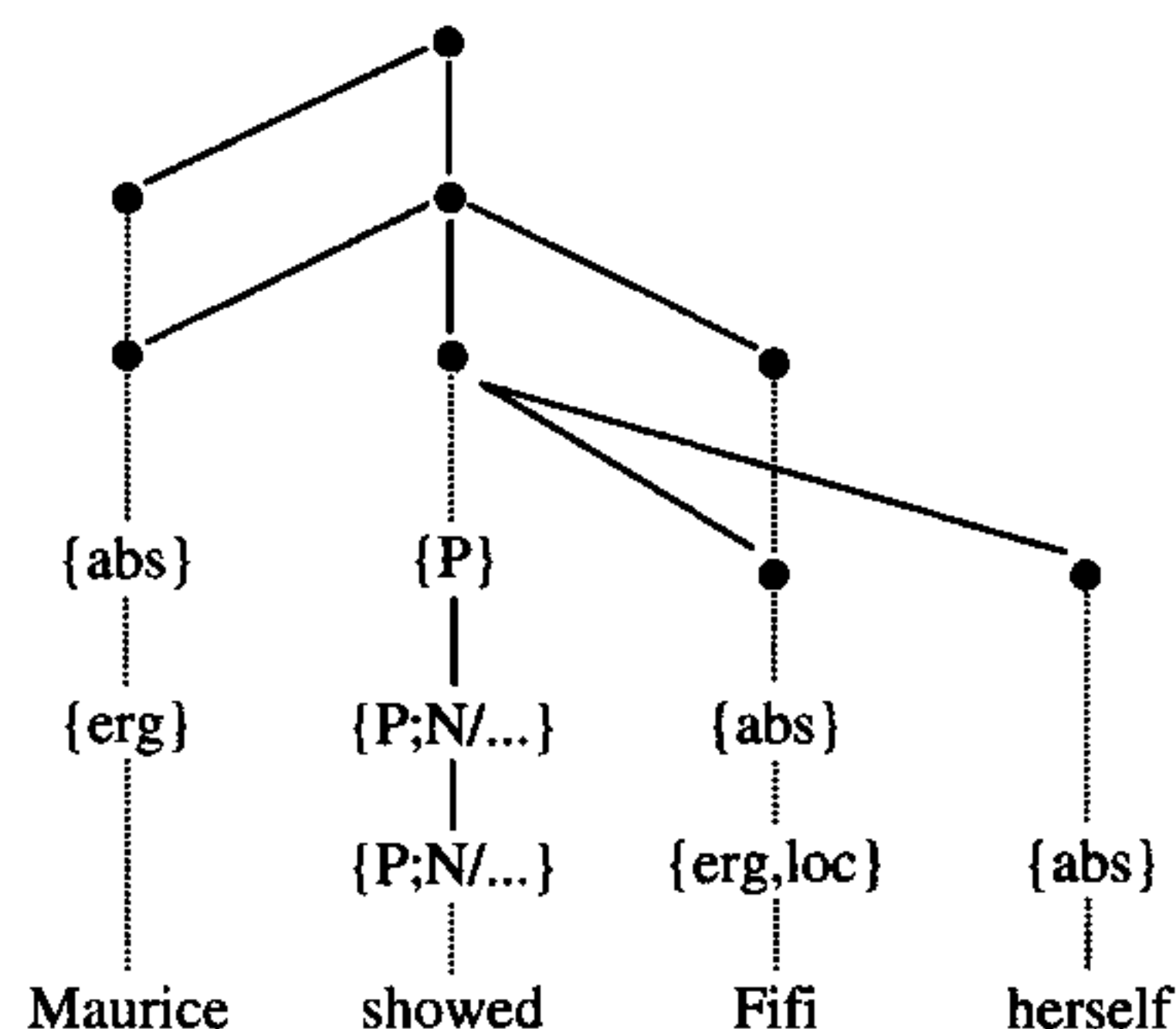
3. Further constants and variables: The unity of causativisation

The evidence surveyed by Rosen (1990: §6.1.1) and sampled here provides support for the rule **R3** proposed in §2 as a universal causative lexical redundancy, with the mutative variant **R3'** as a marked alternative available only in languages lacking a non-oblique inherent construction. And we apparently find some further support, among the languages with morphological causatives considered by her (§6.1.3), in the pattern of (non-)capacity of relevant arguments to control reflexivisation. Indeed, this evidence suggests that it might be possible to dispense with the mutational variant of causativisation, **R3' causativisation'**, providing an even more restrictive (since uniformly non-mutational) account of causativisation.

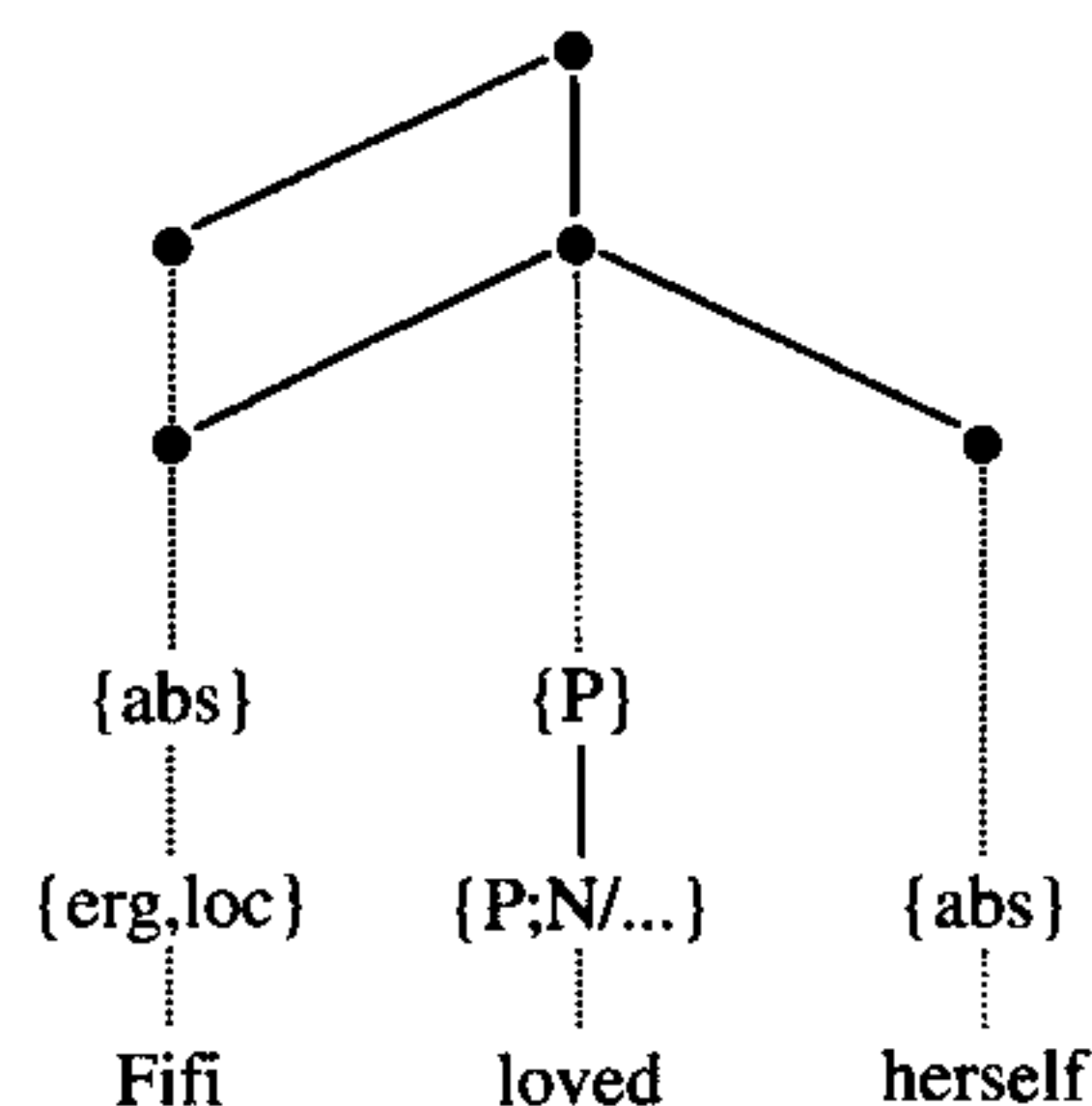
3.1. Control of reflexivisation

Initially, it seems that, for a non-subjective {erg,loc}, the possibility of being a controller in reflexivisation depends on just such aspects as we have been considering of the syntax of {erg,loc} arguments in the language concerned, in particular their eligibility for raising. Let us now briefly survey the relevant phenomena, in the light of the proposals concerning control of reflexivisation made in Anderson (1997). There it is suggested that the capacity of a non-subject {erg,loc} in English to control reflexivisation follows from the raising it undergoes, whereby, as well as becoming eligible for passivisation, it also comes to be governed by a node to which the reflexive is subordinate within the domain of reflexivisation, as shown in (64a), with {erg,loc} *Fifi*.

(64a)



(64b)



(64b) illustrates that the subject *Fifi* therein meets the same structural conditions. Concerning such phenomena, Anderson (1997: §3.4) suggests that the (preferably {erg} or {erg,loc}) 'controller' of reflexivisation asymmetrically d-commands other participants within the relevant domain. Let us formulate d-command as follows:

d-command

Node *a* d-commands *b* iff there is a *c* such that

- (i) *a* depends on *c* and
- (ii) *b* is subordinate to *c*

(Recall that subordination is the transitive closure of dependency.) In terms of this, not just the subject in (64b) but also the (first) 'object' in (64a) constitutes a possible controller (though there is some controversy and variability – both among speakers and among verbs – concerning the acceptability of 'object' controllers (see Anderson (1997: 243-244), and the works referred to there): in both structures in (64) *Fifi* is an {erg,loc} which also depends as *abs* on a predicator which also has subordinate to it the node realised by the reflexive form.

Likewise, in languages where a causative {erg,loc} undergoes such raising and is eligible for passive, we expect that it will also be a controller of reflexivisation. Thus, we saw that in 'reverse-object' languages like Chi-Mwi:ni or Chamorro the {erg,loc} is preferred as 'object', and is eligible for passivisation (as illustrated by (63b)); so that we can associate with the {erg,loc} and the {abs} involved in such constructions in these languages a configuration such as we have in (64a), wherein the {erg,loc} asymmetrically d-commands the {abs}; and we therefore expect such an {erg,loc} to be able to serve as controller for a reflexive {abs}. That this is indeed the case in both these languages, is shown by the causatives in (65), (a) for Chi-Mwi:ni and (b) from Chamorro:

(65a) Mi ni-m-big-ish-iz-e mwa:na ru:hu-y-é.
I SP-OP-hit-CAUSE-T/A child himself
'I made the child hit himself.'

(65b) In-na'-fa'gasi-n maisa gui' si Juan ni häbun.
I,PL,EX-CAUSE-wash self him PRO Juan OBL soap
'We made Juan wash himself with soap.'

(Marantz 1984: 170-171; Baker 1988: 212;
EX = exclusive; OP = object prefix;
T/A = Tense/Aspect)

This is what we would expect in terms of the configuration associated with application of **R3**.

In Turkish, on the other hand, we would expect to find, on this basis, that the first person reflexive {abs} takes the subject as its antecedent as in (66), and is not controllable by a first person in the {loc} position occupied in (66) by *Hasana*:

- (66) Ben Hasan-a kendim-i yıka-t-tı-m.
 I Hasan-DAT myself-ACC wash-CAUSE-PAST-I,SG
 'I made Hasan wash me.'

On the basis of the account offered here, this would follow from the failure of the {loc} (whether or not one assumes it is also *erg*) to raise as in (64a) in Turkish, and thus to be eligible for passive or as a controller of (syntactic) reflexives. However, things don't seem to be that simple.

In the first place, not all control phenomena in 'double-object' constructions, and elsewhere, are subject to asymmetric d-command; in a number of instances, linear precedence apparently licenses controllerhood (see particularly Napoli 1992). And we do find that, though the controlling Dative in the Turkish sentence in (67) (Zimmer 1976: 401) does not, in terms of the proposals made here so far, asymmetrically d-command the abs, it does control reflexivisation, contrary to the tenor of the expectations expressed in the preceding paragraph:

- (67) Hasan-a kendin-i yıka-t-tı-m.
 Hasan-DAT himself-ACC wash-CAUS-PAST-I,SG
 'I made Hasan wash himself.'

Thus, simple linear precedence within the construction apparently licenses control here.

Such facts of reflexivisation with causative predicators thus will potentially provide us with further support for an analysis containing the causativisation redundancy, only if the distribution of appeal to linear precedence vs. asymmetric d-command can be shown to be principled. Certainly, absence of d-command between controller and reflexive seems to be a marked option. And the unmarked controller of reflexivisation is an *erg* role. We shall find that there is an interpretation of the Turkish situation which is at least consonant with this latter requirement.

On the other hand, the facts of reflexivisation need not be taken (as in Aissen 1979) as support for a syntactic biclausal source for causatives. Indeed, they should not be so taken, given the offensive character of the structure mutilations that would be involved in such derivations. In general, analyses of morphological causatives that invoke 'clause union' of biclausal sources show a fatal confusion of lexical derivation with syntactic relationships or realignments; cf. too the problems noted by Falk (1991). Rather, I shall propose, we have motivations for an even more restrictive semantic-relational and morphological account of the causativisation constructions we have been considering.

Aissen suggests, for instance, in relation to the Turkish syntactic reflexive that 'while a second or third person antecedent need not be subject of its clause, a first person antecedent must be' (1979: 131), rendering (68) and the like ungrammatical:

- (68) *Ali bana aynada kendim-i gösterdi.
 Ali me-DAT mirror-LOC myself-ACC showed
 'Ali showed me myself in the mirror.'

And she goes on to argue that 'although there are superficial instances of a first person antecedent appearing in some case other than nominative, these can be explained if Reflexivisation applied at a point when the antecedent was subject with some subsequent rule changing the grammatical case of the antecedent NP' (ibid.), as in the raising construction of (69) where the Accusative *beni* originates as the subject of the lower verb:

- (69) Hasan beni kendim-i yıkadı sanıyor.
 Hasan me-ACC myself-ACC washed he-believes
 'Hasan believes that I washed myself.'

And, in that case, the Dative in the causative in (70) must also originate as such a subject, if the generalisation concerning control of first person reflexives is to be met:

- (70) Ayşe bana kendim-i yak-tır-dı.
 Ayşe me-DAT myself-ACC burn-CAUSE-PAST
 'Ayşe made me burn myself.'

(Aissen 1979: 132)

This distinction between the inherent Dative of (68) and the causative Dative of (70) does not, however, necessarily argue for a complex syntactic source for the latter wherein the Dative is subject of the lower clause. Control phenomena are sensitive to the semantic role of potential controllers rather than grammatical relations (e.g. Anderson 1977: §3.2, 1980). The first person reflexive in Turkish requires an *erg* controller, a not uncommon restriction. This is satisfied by the Accusative in (69) and by the subject of the simple monotransitive in (71):

- (71) Kendim-i yıkadım.
 myself-ACC I-washed
 'I washed myself.'

(Aissen 1979: 9)

It is not satisfied by the Locative/Dative in (68). What then of (70), which is well-formed? If, after all, the unmarked variant of causativisation applies here, creating {erg,loc}, then the Dative controller is acceptable. Such phenomena suggest, then, that, despite the morphological identity, the Datives in (68) and (70) are not relationally identical, so that in the former we have {loc} and in the latter {erg,loc}. Likewise, the controller of (67) would be {erg,loc}. Reflexivisation in Turkish would then conform to the **erg**-controller requirement, though not to the unmarked situation whereby d-command holds between controller and reflexive. And we thus need not invoke the marked **causativisation' R3'** in relation to Turkish: it too involves addition of **loc**. What remains to be established is in what other circumstances there is violation of the d-command requirement.

If this account were to generalise to other **oblique**-only languages, then the undesirably structure-changing **R3'** could be eliminated from the theory of causativisation, in favour of generalisation of **R3**. It is suggestive that part of Falk's (1991) evidence for rejecting the assignment of 'direct' or 'indirect' objecthood to 'causees' is the observation that in a number of languages, whereas objects in non-causative constructions fail to control reflexivisation, 'causees' behave like subjects in so doing.

This approach to the causativisation in **oblique**-only languages would mean too a further recognition of the inappropriateness of looking for complete morphosyntactic parallelism between inherent ditransitives and the causatives of (mono-)transitives. Turkish and Hebrew would then differ, in these terms, in that although both show a basic ditransitive **oblique** system – (68) and (54), respectively – under causativisation there are created respectively a **dative** – (70) – and a **receiver** – (55) – system.

3.2. Circumstantial constructions

Let me conclude this discussion of 'first causative' types with an indication of a couple of possible refinements of the account offered here, involving, among other things, ditransitive bases, so far neglected in our discussion.

Rosen (1990: 223-224) points out that in Malayalam in sentences involving causative predicates based on transitives the argument corresponding to the {erg} of the base – the 'secondary agent' – appears not in the Dative, which is shown in (72a) in a basic ditransitive sentence, but with a Circumstantial marker, a form whose role otherwise is to signal non-participant, non-complement status. This possibility is illustrated by (72b):

- (72a) amma kut̤tikE aanayE koṭuttu
 mother child-DAT elephant-ACC gave
 'Mother gave the elephant to the child.'

- (72b) amma kut̤tiyE-kkoṇṭE aanayE ṇuḷliccu
 mother child-CIRC elephant-ACC pinch-CAUSE-PAST
 'Mother made the child pinch the elephant.'

(Mohanar 1983;
 and cf. Cole & Sridhar 1976, on Kannada;
 Comrie 1985:§2.3, on such manifestations
 in other languages, including Song-
 hai/Sonrai; and recall the Finnish of (5);
 CIRC = Circumstantial.)

These 'circumstantials' seem to correspond roughly to Comrie's (1985) 'obliques': recall the discussion of (3) in Section 0 above. This argument is also optional. And this suggests that it is indeed syntactically a circumstantial/adjunct. The Circumstantial marks a 'displaced' potential DAT/ACC in the same way that the *with* of (61a) correlates with 'displaced objecthood' of an {abs}. That is, and more generally, such 'oblique' marking is associated with arguments that have been outranked as subject or 'object' – or, more precisely, displaced as a participant – by some other argument, as a consequence of some lexical derivational process.

Thus, Malayalam rejects outcomes from causativisation which are more-than-monotransitive; an overt 'secondary agent' can appear only as a Circumstantial. And this represents an alternative response (alternative to the 'dissimilation' of the 'secondary agent' of **causativisation R3**) to the role criterion introduced above, repeated here for ease of reference:

role criterion

A predicator is permitted to select only one instance of each distinct role (except {abs})

The base {erg} is circumstantialised. Unlike with mutation of semantic relations (as would be involved with **R3' causativisation'**), suppression of, or suppression of obligatory-complement status for, a particular argument is well attested: see, for instance, the discussion in Anderson (1984c) of various derivational relations in English, such as 'able-formation' (suppression of a complement) and nominalisation (suppression of obligatory-complement status):

- (73a) People like Harvey ⇒ Harvey is likeable
 (73b) Pablo described the scene ⇒ Pablo's description (of the scene) was vivid

I do not here attempt to formulate this strategy explicitly.

Unsurprisingly, we also find such a strategy with languages, such as Hindi (Comrie 1976: 270), which permit causativisation of ditransitives. Where even the

dissimilation of **R3** would produce a role specification, {erg,loc}, identical to another potential argument, it seems to be transparent why the derived {erg,loc} is 'displaced', circumstantialised. In many languages, however, causativisation does not apply to ditransitive bases, even though there are in the language causatives based on transitives and intransitives (cf. e.g. Hewitt (1979: 170-171) on Abkhaz). We find yet another possibility illustrated by Songhai/Sonray, which allows only either the 'indirect object' of the basic ditransitive verb or the 'secondary agent' to accompany the causative verb based on a ditransitive – not both. Thus, (74) can be interpreted as is spelled out in the alternative glosses, but two *se*-phrases do not co-occur:

- (74) Garba neere-ndi bari di Musa se.
 Garba sell-CAUSE horse the Musa to
 'Garba made [someone] sell the horse to Musa';
 'Garba made Musa sell the horse.'
 (Comrie 1985: 341)

Again, any possible violation of the role criterion is avoided, but at the expense of ambivalence in the interpretation of the *se*-phrase.

However, the situation with the causativisation of ditransitives in Turkish, for instance, is rather more intricate, as anticipated in §0 above. We find, in the first place, that the 'causee' or 'secondary agent' in (3b), the causative derivative of the Turkish ditransitive in (3a), both repeated here, is flagged as being Circumstantial by the postposition *tarafından*, which also flags the 'agent' of passives:

- (3a) Müdür Hasan-a mektub-u göster-di.
 director Hasan-DAT letter-ACC show-PAST
 'The director showed the letter to Hasan'
- (3b) Dişçi Hasan-a mektub-u müdür tarafından göster-t-ti.
 dentist Hasan-DAT letter-ACC director by show-CAUSE-PAST
 'The dentist made the director show the letter to Hasan.'
 (Comrie 1985: 340)

Now if, as argued in the preceding subsection, the Turkish inherent Dative is simply locative and the 'secondary agent' in causatives is {erg,loc}, then such a combination in this instance would not violate the role criterion. But circumstantialising the 'secondary agent' at least avoids a situation in which the case marking would in itself be ambivalent, thereby motivating the use of the *tarafından* construction. There is a functional/parsing motivation for use of the postpositional construction.

Comrie (1985: 341) also observes, however, that "where a language expresses the causee of a monotransitive as an indirect object, it often allows double indirect objects in the causative of a ditransitive" – i.e. there are cases where none of these

'avoidance strategies' is adopted. So, "many speakers of Turkish allow this construction" (Comrie 1985: 341) as an alternative to (3b), as illustrated by (4) (again repeated here):

- (4) Dişçi müdür-e mektub-u Hasan-a göster-t-ti.
 dentist director-DAT letter-ACC Hasan-DAT show-CAUSE-PAST
 'The dentist made the director show the letter to Hasan.'

with two Dative/Goal-marked arguments, one (*müdüre*) realising the 'secondary agent', the other (*Hasana*) the 'inherent Dative'. As Comrie observes further, "native speakers often vary as to whether such double indirect object constructions are possible". However, the two Dative-marked argument types, despite identical case marking, show a distinct syntax in Turkish: for instance, apart from the difference in behaviour with respect to control of reflexivisation (discussed in the preceding subsection), the 'secondary agent' ({erg,loc}) must precede the 'inherent Dative' ({loc}). (75), with the placement of these in (4) exchanged, can be interpreted only as shown in the gloss, and not as equivalent to (4), or (3b):

- (75) Dişçi Hasan-a mektub-u müdür-e göster-t-ti.
 dentist Hasan-DAT letter-ACC director-DAT show-CAUSE-PAST
 'The dentist made Hasan show the letter to the director.'
 (Aissen 1979: §3.1).

This distinct syntax arguably reflects the difference between {erg,loc} and {loc}. As argued in the previous subsection, although the Dat of the dissimilated {erg} that is produced by **R3** thus realises {erg,loc}, the basic Dat is {loc} merely.

One problem with this, however, is that the *göster*- 'show' predicator of (3), (4) and (75) is, as one referee has pointed out, itself a causative, albeit an irregular one, based on *gör*- 'see' (Lewis 1967: 146). Unless *göster*- is obscured as a causative, and reinterpreted as a basic 'double-object' verb (as Aissen apparently assumes: cf. her discussion (1979: 131) of (68)), then both Dat forms in each of (4) and (75) should reflect the outcome of **causativisation R3** and both be {erg,loc}, contrary to the argument of the previous paragraph. Otherwise, in order to be compatible with the above proposals, causative formation would, in some languages at least, have to involve suppression of the **erg** of any argument entering the causativisation rule, as well as involving addition of **loc** to the basic {erg}. Now, this might seem to be simply an otherwise unwarranted complication. But some observations of Zimmer (1976) suggest that such a possibility might deserve further investigation.

Zimmer observes (1976: 409-412) that some speakers of Turkish are not just unhappy with sentences like (4) or (75), where we have causativisation of a causative of a transitive verb, but they also tend to reject causativisation of the causative of intransitive bases where the one argument is an agent – i.e. {erg,abs} in the

framework adopted here. Thus, (76) is for such speakers 'very awkward at best' (Zimmer 1976: 409):

- (76) Ahmet Hasan-a biz-i çalış- tır- t- ti.
 Ahmet Hasan-DAT we-ACC work- CAUSE- CAUSE- PAST
 'Ahmet made Hasan make us work.'

The double causative based on a non-agentive intransitive in (77), however, is generally acceptable:

- (77) Ahmet Hasan-a et-i piş- ir- t- ti.
 Ahmet Hasan-DAT meat-ACC cook- CAUSE- CAUSE- PAST
 'Ahmet made Hasan cook the meat.'

The problematical sentences, (4), (75) and (76), are those where the ultimate base verb in the double causative is subcategorised for **erg**, whether it is transitive or intransitive; the base in (77), lacking **erg**, is unproblematical. Now, could it be that those speakers who accept (4), (75), (76) and the like are assimilating the resulting causative formations to the generally acceptable pattern by dropping the **erg** of the base verb, as suggested above as an addition to the causativisation rule? This remains a speculation. I note too that the deviance of (68) suggests that *göster-* has a simple {loc} argument even without being (further) causativised: the DAT fails to control reflexivisation. This perhaps reflects, after all, a degree of lexicalisation for this irregular causative form.

Notice, however, that independently of the analysis of such double causatives, there are principled motivations for suggesting **de-ergativisation** in cases where a second {erg,loc} is added to the roles associated with a complex predicator: this avoids violation of the **role criterion**. Not just in Turkish but elsewhere, the configuration on the left in the following formulation is simplified to that on the right:

de-ergativisation (R4)

$$\begin{array}{ccc} \{P;N/\{erg,loc\}\} & & \{P;N\}/\{erg,loc\}\} \\ | & \Rightarrow & | \\ \{P;N/\{erg,loc\}\} & & \{P;N/\{loc\}\} \end{array}$$

This mutation is motivated by the role criterion. And the more general erg-dropping suggested for Turkish is a language-particular extension of it.

Circumstantialisation of the derived {erg,loc} is, as we have seen, an alternative way for the causative of ditransitives (including double causatives) to conform to the role criterion. In this case, the higher {erg,loc} role is incorporated, and the optional adjunct in e.g. (3b) is in apposition with it. (On such mechanisms of incor-

poration, see Anderson 1997: 201.) The infrequency in language of a distinctive expression for {erg,loc} arguments may be a reason for the favouring by various languages of circumstantialisation even with the causatives of monotransitives.

3.3. Indirect causation

This last topic of this section, involving among other things double causatives, also returns us to the brief consideration of 'second causatives' promised at the beginning of §2: a double-causative marker can also be used to indicate 'permissives' and 'factitives' and other varieties of 'second causative' (Hetzron 1976; Kulikov 1993), including, unsurprisingly, 'intensification' of the causative meaning (Kulikov 1993: §3.2.1), iteration of the causative act (Kulikov 1993: §3.2.2) and plurality of a participant in the causative act (Kulikov 1993: §3.2.3). This is not the place to explore the rich typological tradition associated with the work of Nedjalkov and Silnitsky (1953), but I want to give some attention here to the distinction between 'simple causatives' such as we have been focusing on, which denote the causing of an event, and some other prominent 'causative' categories, such as the 'factitive', which denotes the causing of an agent to act, and 'permissives', which denote the not causing of something not to happen, the allowing of something to happen, or the allowing or encouraging of someone to act. These latter two categories can be regarded as variant but overlapping semantic specialisations of the 'simple causative', and, as Hetzron (1976: 371-372) points out, the particular semantics of different verbs may invite one or the other interpretation of the same causative formation. But there are languages in which a 'second causative' overtly signals one or other of these 'specialisations', or is ambivalent in isolation between two or more of them (as with the Amharic examples discussed by Hetzron (1976: 379). We need to consider the nature of the 'specialisations' and how they might be accommodated within the present account of causative formation.

'Factitives' and 'permissives' involve a type of **indirect causation**, whereby the 'causee', which is for 'factitives' and some 'permissives' necessarily an agent of the base verb, retains some control of the event; under the present analysis, it remains under causativisation simply {erg}, rather than {erg,loc} (by the causativisation rule). However, the 'causee' in such constructions is often marked with a Dative, or whatever otherwise in the language concerned realises {erg,loc} (experiencer/recipient). The resolution of this apparent contradiction relates to another aspect of the analysis of such derivations. Indirect causatives, including also Kulikov's (1993: §3.3.3) 'assistives' ('help X to') and (1993: §3.3.4) 'curatives' ('ask X to'), can be plausibly interpreted as involving formally control structures rather than simple raising. The 'causee' has a role with respect to the causative sub-predicator introduced by the causative rule, the role of {erg,loc} (or recipient): it 'receives' 'instructions', or 'permission', or a 'request', or 'help' 'to act'. And it is

accordingly marked as {erg,loc}, with realisation as a Dative or whatever is appropriate in the particular language. This {erg,loc} is the 'controller', identified with the agent of the base verb. This might seem to have the disadvantage of rendering the two causativisation processes, direct and indirect, rather dissimilar. But, in the framework adopted here, explored in this respect in some detail in Anderson (2001), this is not the case.

Let me try to make explicit and explicitly exemplify what is being suggested. The analysis of causativisation proposed in §2.1 involves a derived representation including two predictors whose arguments interact syntactically. Specifically, the argument of the lower (base) predictor on the subject selection hierarchy comes to be shared with the empty {abs} that has been introduced with respect to the upper predictor (given that it is not subcategorised for **abs**): we have 'argument-sharing'. Indirect causatives are also not subcategorised for **abs**; and again an empty **abs** is attached to the (upper) causative predictor. But, in this case, since we have a control, not a simple raising structure, the **abs** is introduced not as an independent role, but as an addition to the specification of the {erg,loc} role. As with an independent empty **abs**, however, the role involved is filled by the argument of the lower (base) verb that is highest on the hierarchy: again, we have 'argument-sharing' between roles of the two component predictors of the derived verb. The indirect causative structure differs, however, in that the **abs** that imposes this requirement is here associated with a subcategorised-for role ({erg,loc}).

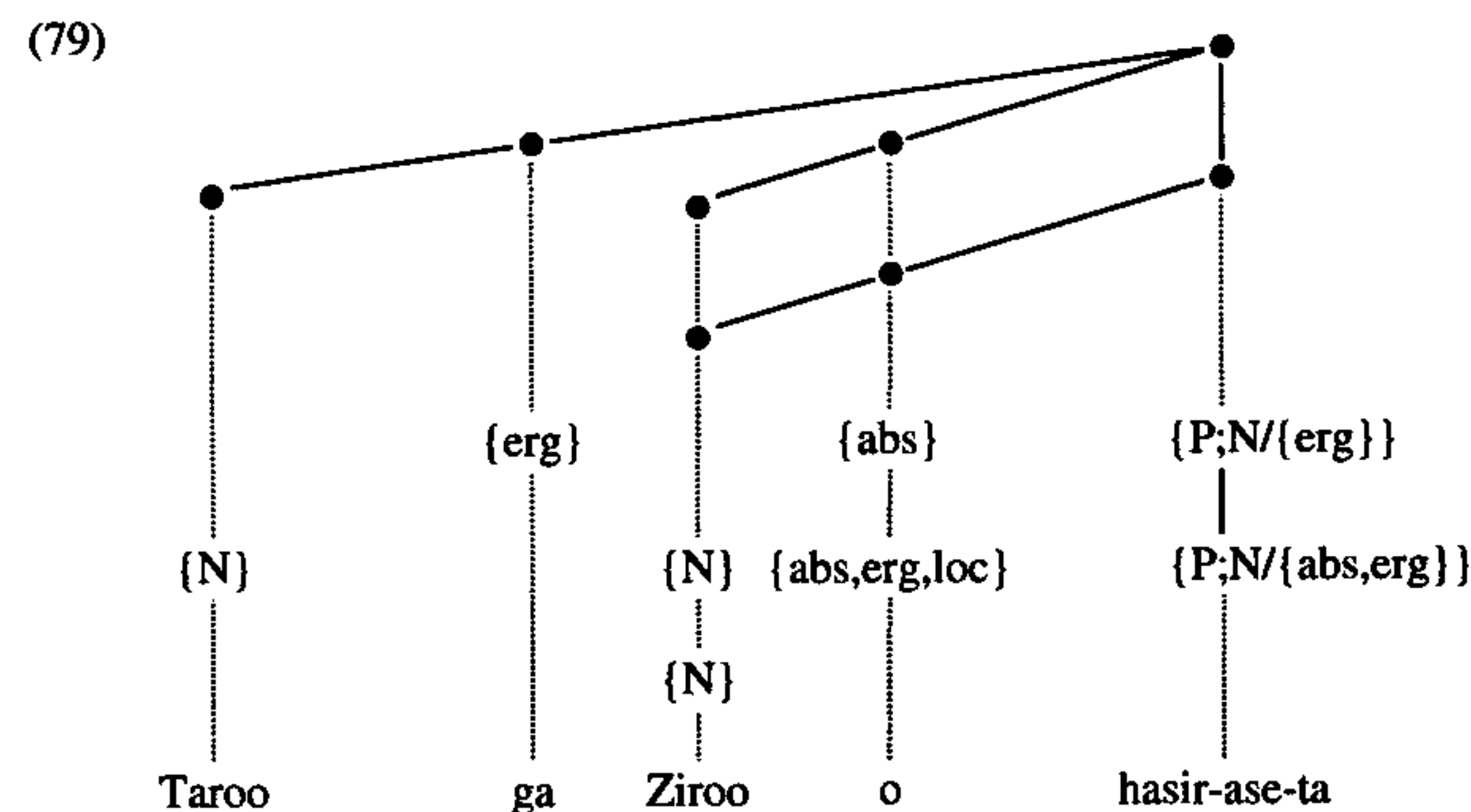
Consider, as an illustration, the derivation of the much discussed Japanese direct and indirect causatives in (78), which are not differentiated as such in the verbal morphology, but only in the relational marking:

- (78a) Taroo-ga Zi-roo-o hasir ase ta.
 Taroo-NOM Zi-roo-ACC run-CAUSE-PAST
 'Taroo made Zi-roo run.'

- (78b) Taroo-ga Zi-roo-ni hasir-ase-ta.
 Taroo-NOM Zi-roo-DAT run-CAUSE-PAST
 'Taroo got Zi-roo to run.'

(Shibatani 1982: 109; cf. too Kuroda 1965; Kuno 1973)

We can associate with (78a) the partial structure in (79), which ignores subject-formation, finiteness etc.



The base verb is subcategorised for '{abs,erg}'; it is an agentive intransitive. The derived verb involves R3 causativisation, repeated here:

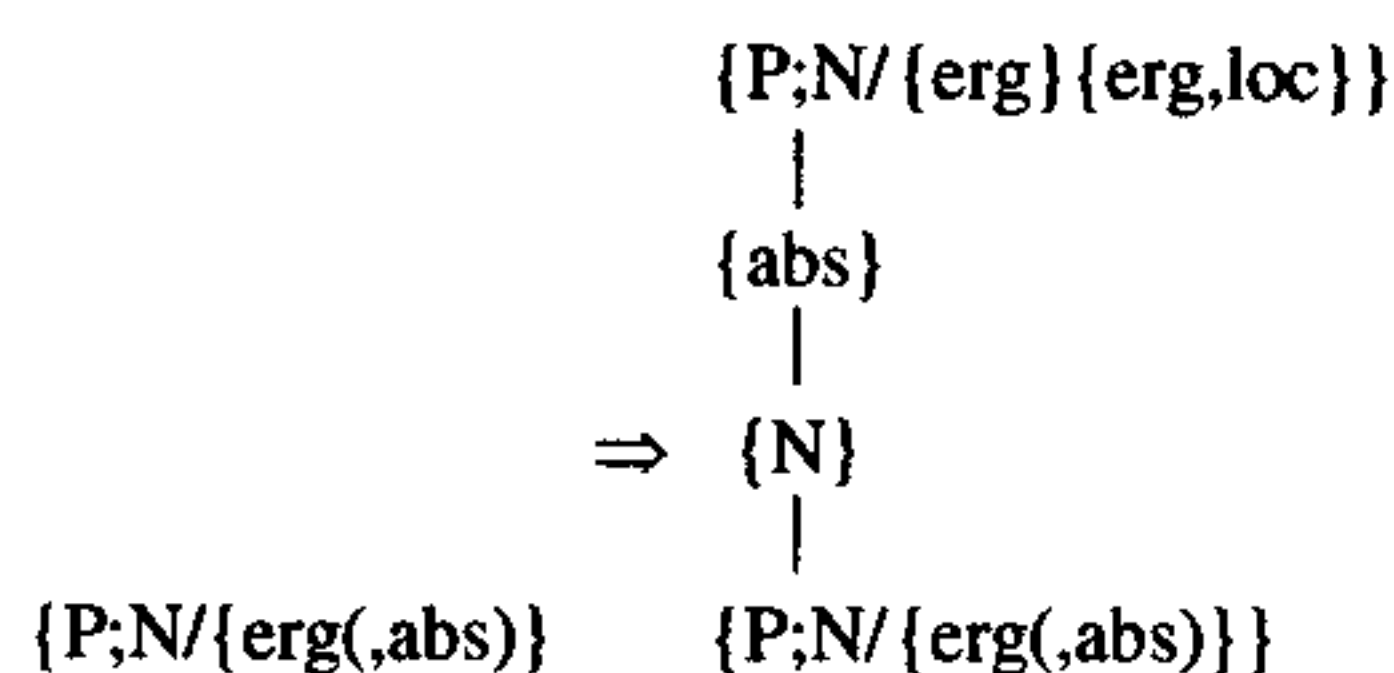
causativisation (R3)

$$\begin{array}{ccc} & & \{P;N/\{erg\}\} \\ & \Rightarrow & | \\ \{P;N/\langle erg \rangle\} & & \{P;N/\langle erg, loc \rangle\} \end{array}$$

As a result of causativisation the upper predictor is added and **loc** is added to the specification of the one role of the base verb, as shown in (79); and this role, via raising shares its argument with the empty {abs} which is added to the argument structure of the causative predictor in conformity with the universality-of-abs requirement. The {erg} argument of the causative is selected as subject and marked by *ga*. **Erg,loc**, which characterises experiencers and recipients in Japanese, is associated with Dative marking in various circumstances; but the **erg,loc** in (79) is associated with a subcategorised-for **abs**, which cannot be realised as DAT. Accordingly, the 'causee' is marked for ACC.

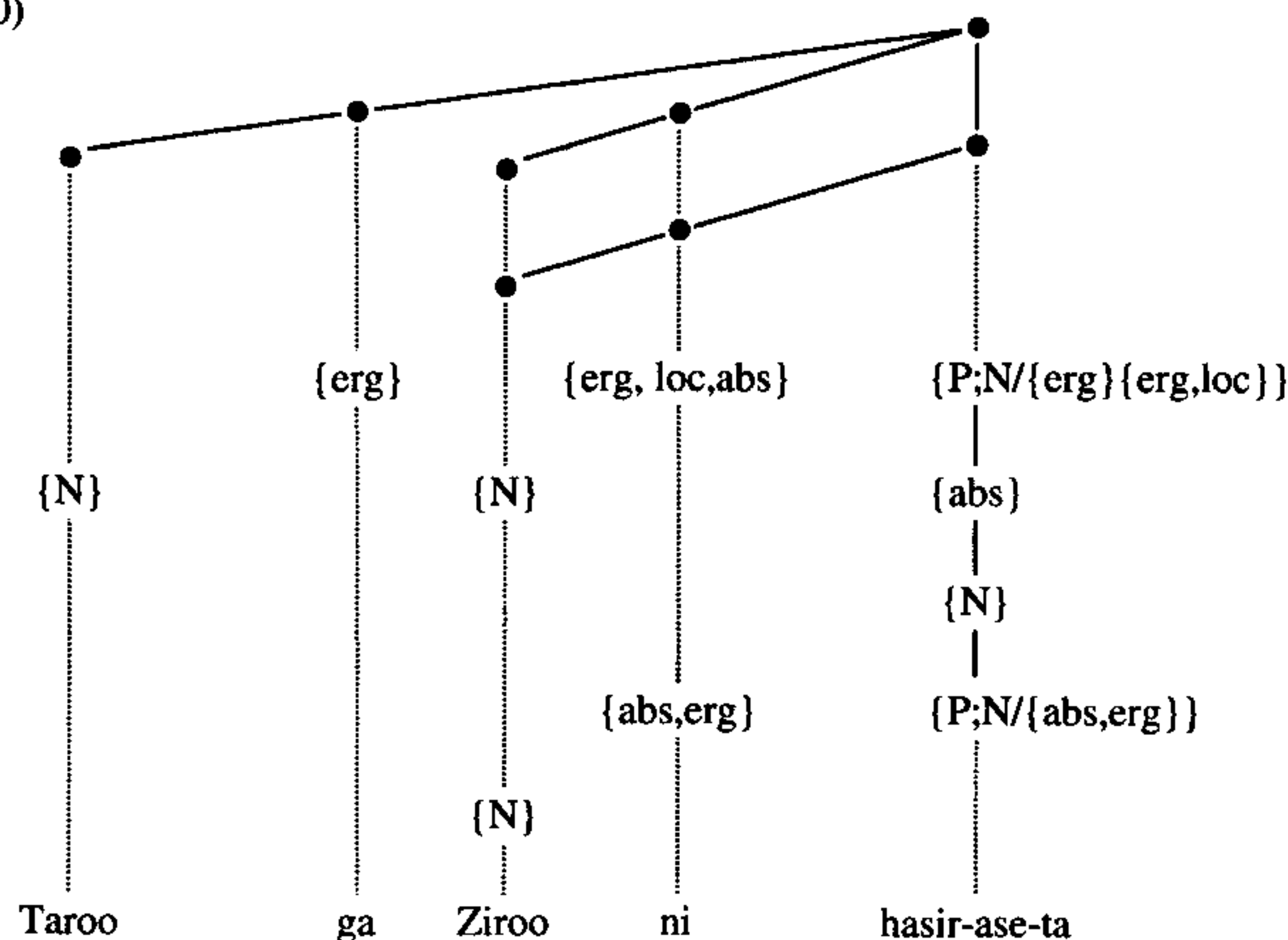
The verb in (78b) has undergone not simple causativisation but **indirect causativisation**:

indirect causativisation (R5)



The causative (upper) predicator introduced by the rule has two arguments: not just {erg} but also {erg,loc}. The predicator added by **R5** also has dependent on it an incorporated {N}, whose specification, not spelled out here, differentiates various types of indirect causative: so that we can paraphrase the added predicators as CAUSE-RECEIVE-PERMISSION, CAUSE-RECEIVE-REQUEST, etc. The base verb is here marked as agentive, though this may not be appropriate for all indirect causatives. The causative predicator itself is not subcategorised for **abs**; an empty **abs** is therefore introduced, as in the case of direct causatives, but here it is added to the specification of the non-agentive (receiver) role of the causative predicator, giving {erg,loc,abs}, as in the representation for (78b) given in (80).

(80)



No **loc** is added to the **erg** of the base verb and the *Ziroo* argument retains full agency. Further, in this case the **erg,loc** ('receiver') role of the causative is not also specified for a subcategorised-for **abs**, and is thus marked as DAT. In this way we can represent the distinctive properties of indirect causatives, while obtaining a formulation that shares crucial characteristics with the **causativisation R3**.

Causatives based on transitive bases in Japanese are ambivalent as to 'directness', since the application of both **R3** and **R5** creates an **erg,loc** argument which is realised as DAT, *ni*:

- (81) Sensei ga seito ni eigo o hanas-ase-ta.
 Teacher NOM student DAT English ACC speak-CAUSE-PAST
 a: 'The teacher made the students speak English.'
 b: 'The teacher let the students speak English.'

(Dubinsky 1994: 53)

R3 underlies interpretation (a) in (81): it adds a **loc** to the {erg} role of the base verb. **R5**, associated with the (b) interpretation, introduces a causative verb with a role specified as {erg,loc}. The {erg,loc} controls and thus shares the {erg} argument of the basic verb. In this way the role criterion is satisfied, in so far as the DAT argument is primarily a {erg,loc}; there is no separately expressed ergative in addition to the {erg} introduced by causative-formation.

On the other hand, intransitives which it is difficult to construe with an agentive interpretation are restricted to **R3** causativisation:

- (82) Taroo ga Mariko o/*ni yorokob-ase-ta.
 Taroo NOM Mariko ACC/*DAT happy-CAUSE-PAST
 'Taroo made Mariko happy.'

(Dubinsky 1994: 47)

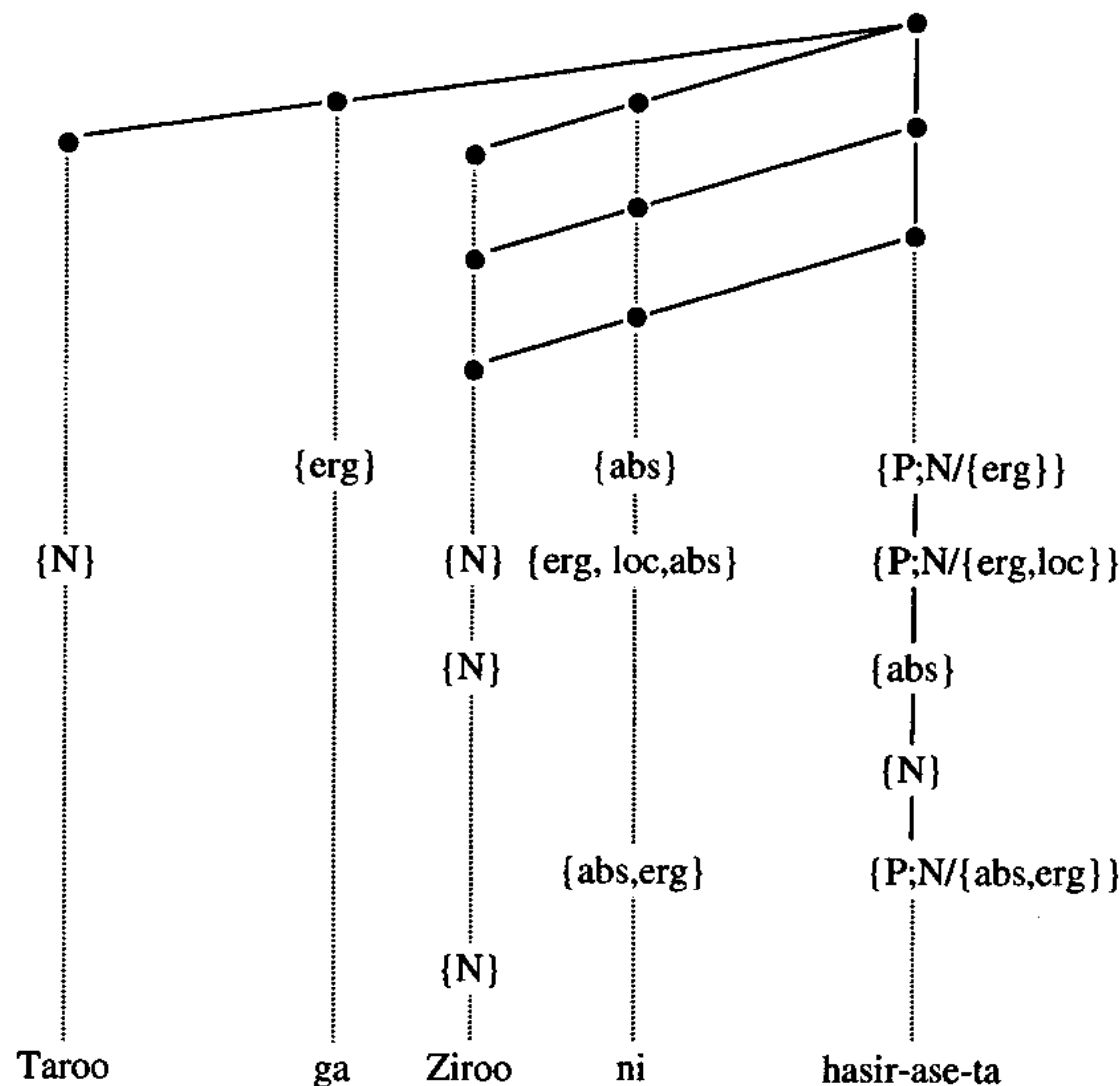
They lack the capacity for the imposition of semantic control.

Finally on indirect causatives, I suggest that it is unsurprising that, as Kulikov (1993) observes, indirect causatives can be expressed in the same way as double causatives. It is unsurprising in view of the fact that indirect causatives are themselves appropriately represented as internally complex, as is argued for such control verbs in Anderson (2001), and as is articulated in the specification for *give*-type predicators given in (34), specifically the basic variant with the {erg,loc} role:

- (34) {P;N/{erg} {P;N}} (CAUSE)
 |
 {P;N/{<erg>loc} {abs}} (RECEIVE)

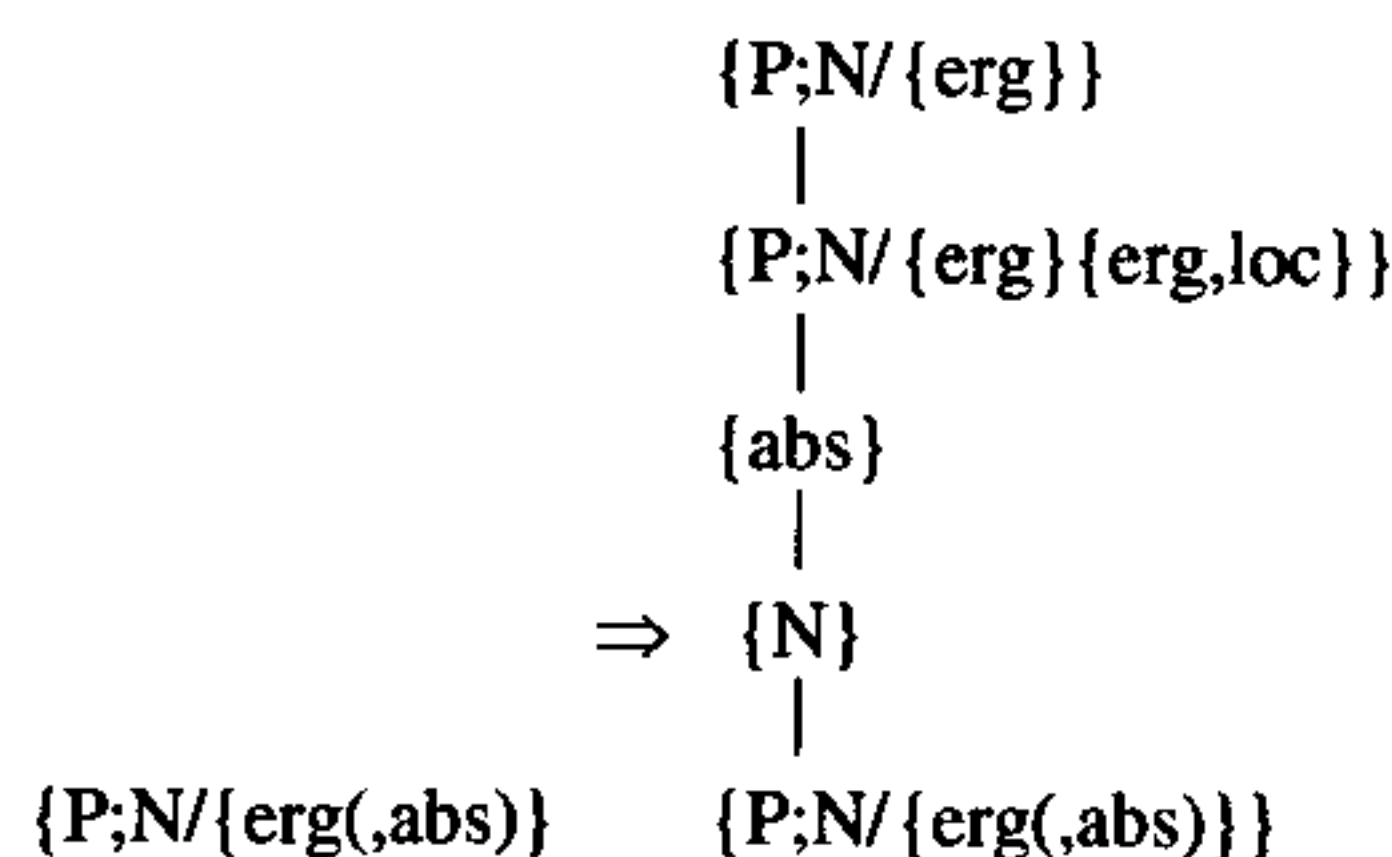
That is, the representation in (80) should be expanded as in (83):

(83)



where it is the two upper predicates that are introduced by the revised indirect causativisation rule:

indirect causativisation' (R5')



These predicates added by **R5'** are respectively a simple causative, with an {erg} role, as in **R3**, above a RECEIVE-predicate, with an {erg, loc} role. Neither of

these predicates is subcategorised for abs. So the representation in (83) contains two instances of empty abs: the {abs, erg} argument of the base verb is shared with the {erg, loc, abs} of the RECEIVE-predicate and the {abs} of the causative. It is the addition of this last predicate that direct and indirect causatives share; indirect causatives have in addition various variants of a RECEIVE-predicate, differentiated by the incorporated {N}. This description still omits aspects of an adequate account of indirect causation which are not central to our present concerns.

4. Final remarks

The preceding section has attempted to add some further fuel to what are perhaps the two main contentions of this paper: that an account of morphological causativisation must be based on semantic and not grammatical relations; and that any such account must allow for a degree of variation that makes generalising statements like that of Rosen's (1990: 220) quoted earlier – that the case marking of the non-subject arguments of causatives patterns “exactly as case marking does in VPs in general in the language” – rather inappropriate, or at least only contingently valid. Also inappropriate, though I have not focused so much on this here, is any attempt to provide syntactic accounts of such morphological formations. Such ‘clause-merger’ accounts as Aissen's and Rosen's involve undesirable and unnecessary mutilations of syntactic structures in order to accommodate them to the dimensions of the morphology. These strictures apply equally to more recent syntactic derivations of morphological causatives, such as Hale and Keyser (2002: Chapter 4). (Even less desirable are analyses of even lexical ‘double-object’ verbs that invoke complex syntactic structures, as in Hale and Keyser 2002: Chapter 5). There is no motivation for regarding morphology proper (as opposed perhaps to cliticisation), let alone the lexicon, as being ‘fed’ by the syntax in this anti-economical way; the invocation of the power of syntax is inappropriate. The properly restrictive view is the lexicalist: argument structure is strictly a product of the lexicon, and does not invoke syntax. What I propose instead here is a morphological rule which ‘feeds’ the syntax by developing complex predicates and which invokes semantically based categories, which is subject to the role criterion and which interacts to a limited extent with the argument structures of particular languages and their realisation. Much of this interaction remains poorly understood, but it cannot be dismissed: we await explanatory accounts.

Syntactic, or ‘periphrastic’, causative constructions largely involve the same semantic relations (cf. e.g. Böhm 1979, 1982), attached to a pair of independent verbs rather than a single categorially-complex one, which share some of the same restrictions; but they themselves are not the basis for the morphological relationship. Moreover, with ‘periphrastic’ causatives, where the causative verb shows a distinctive syntax from other verbs taking verbal complements, particularly involving po-

sitional restrictions and demotion of the hierarchically highest argument of the lower verb (as in, say, Italian or French – cf. e.g. Rosen 1983; Gibson and Raposo 1986), this syntax is again driven by the morphology. Briefly, since this is not our concern here, such systems involve a patient-forming rule (addition of *loc* to the hierarchically highest argument, or its incorporation, with apposed adjunct), but they lack causativisation as a whole; associated with this is a ban for such formations on **R2 secondary finiteness**, so that they cannot figure as finites; the only way for them to occur in a sentence is by way of satisfying the valency of the causative verb.

Let me conclude with a suggestion for a further simplification – or at least systematisation – of the rule for direct causatives that is suggested by, among other things (including some speculations of my own – J. Anderson 1971: Chapter 5), Pinker's discussion of English lexical ('converted/zero-derived') causatives like that in (84a):

(84a) Bob bounced the ball.

(84b) The ball bounced.

Concerning these he proposes (Pinker 1989: 85): "a verb that specifies an argument that is both a patient and a theme, such as *cut*, *chip*, *shatter*, or *kill*, is a causative verb. The agent, by acting on a patient, causes it to change state or location". Let me quote, as particularly apposite here, his characterisation of 'patienthood', which Pinker discusses in relation to the agentive verb in (85):

(85) I hit the wall.

Thus:

A patient is acted or impinged upon or inherently involved in an action performed by an agent but does not necessarily undergo a specified change. Of course, in real life a patient may undergo a change of state or location, but if it does, the verb does not care what the change is (e.g. the wall could shatter, fall over, or tumble down a hill, and the verb hit would be equally appropriate). However, the patient must be inherently involved in or affected by the action, playing a role in defining what the action consists of. For example, moving one's hand to within a fraction of an inch of the wall, even if the accompanying wind or static electricity causes the wall to fall over, would not count as *hitting the wall*, because the kind of motion or act denoted by hitting is inherently defined as terminating in contact with some patient.

In terms of the framework presented here, Pinker has made a plausible case for interpreting the object of *hit* as simultaneously *abs*, as 'theme', and *loc*, 'contactive'.

A 'patient', in his terms, is a *loc* combined with *abs*. This is perhaps a rather restrictive view of (what has traditionally been associated with) patienthood, but the conjunction of *abs* and *loc* does seem to define a coherent participant-type. So I shall persist with Pinker's 'patient' label in what follows.

If, against this suggestion, we interpret causativisation of (non-agentive) intransitives such as (1a) as involving not just addition of a superordinate predicator with an {erg} argument but also addition of *loc* to the {abs} argument of the base, to mark it as a 'patient' (in these terms), then causativisation can be seen as uniformly involving both these additions, with the base argument to which *loc* is attached being determined by the subject selection hierarchy:

(1a) Hasan öl-dü.
Hasan die-PAST
'Hasan died.'

(1b) Ali Hasan-ı öl-dür-dü.
Ali Hasan-ACC die-CAUSE-PAST
'Ali killed Hasan.'

Thus, *loc* is attached to the {abs} in (1.a) in the absence of an {erg}. But it is attached to the {erg} argument of (2 a) in accordance with the hierarchy:

(2a) Kasap et-i kes-ti.
butcher meat-ACC cut-PAST
'The butcher cut the meat.'

(2b) Hasan kasab-a et-i kes-tir-di.
Hasan butcher-DAT meat-ACC cut-CAUSE-PAST
'Hasan had the butcher cut the meat'

The direct causative relationship can then be reduced to **causativisation**":

causativisation" (R3")

$$\begin{array}{ccc} & & \{P;N/\{erg\}\} \\ & \Rightarrow & | \\ \{P;N/\{ \}_i\} & & \{P;N/\{loc\}_i\} \end{array}$$

where '{ }_i' is highest argument on the subject selection hierarchy

The addition of *loc* under causativisation, then, could be seen even more clearly as not just a dissimilation strategy, but as specifying an essential property of direct

'causees' of all types, that they are acted *on*, have something done *to* them, they are 'patients'. This addition both (in the case of *erg* 'causees') ensures satisfaction of the **role criterion** and embodies this essential property of 'causees': a central participant in the basic event – involving *abs* and/or *erg* – is impinged on. And this association of 'patient' with a *loc* that is also an *erg* and/or an *abs* is not limited to associations formed by causativisation, by the addition of an agent to the argument structure. Ordinary 'experiencer' verbs (*love*, *know*, *suffer* – lexically {*erg*,*loc*} – and {*abs*,*loc*} arguments like the subject of *The cellar flooded with sewage* (Anderson 1997: §3.1.2), i.e. (derived) 'holistics' (and others), also are 'patients' in this sense.

REFERENCES

- Aissen, J. 1979. *The syntax of causative constructions*. New York: Garland.
- Anderson, J.M. 1971. *The grammar of case: Towards a localistic theory*. Cambridge: Cambridge University Press.
- Anderson, J.M. 1975. "La grammaire casuelle." *Langages* 38. 18-64.
- Anderson, J.M. 1977. *On case grammar: Prolegomena to a theory of grammatical relations*. London: Croom-Helm.
- Anderson, J.M. 1978. "On the derivative status of grammatical relations." In Abraham, W. (ed.), *Valence, semantic case, and grammatical relations*. Amsterdam: North-Holland. 661-694.
- Anderson, J.M. 1980. "Anti-unaccusative, or: Relational grammar is case grammar." *Revue roumaine de linguistique* 25. 193-225.
- Anderson, J.M. 1982. "A disagreeable note on grammatical relations." In Dirven, R. and G. Radden (eds.), *Issues in the theory of universal grammar*. Tübingen: Narr. 125-143.
- Anderson, J.M. 1984a. "Objecthood." In Plank, F. (ed.), *Objects: Towards a theory of grammatical relations*. New York: Academic Press. 29-54.
- Anderson, J.M. 1984b. "The natural history of dative sentences." In Blake, N.F. and C. Jones (eds.), *English historical linguistics: Studies in development (CECTAL Conference Papers Series 3)*. 241-278.
- Anderson, J.M. 1984c. "Case grammar and the lexicon." Coleraine: New University of Ulster. (*Working Papers in Linguistics and Language Learning* 10.)
- Anderson, J.M. 1987. "Case grammar and the localist hypothesis." In Dirven, R. and R. Günter (eds.), *Concepts of case*. Tübingen: Günter Narr. 103-121.
- Anderson, J.M. 1992. *Linguistic representation: Stratification and structural analogy*. Berlin: Mouton de Gruyter.
- Anderson, J.M. 1997. *A notional theory of syntactic categories*. Cambridge: Cambridge University Press.
- Anderson, J.M. 2000. "'What became of Waring?': Questioning the predicator in English." *Studia Anglica Posnaniensia* 35. 53-80.
- Anderson, J.M. 2001. "Raising control." *Studia Linguistica* 55. 77-111.
- Anderson, S.R. 1971. "On the role of deep structure in semantic interpretation." *Foundations of Language* 7. 387-396.

- Anderson, S.R. 1988. "Objects (direct and not-so-direct) in English and elsewhere." In Duncan-Rose, C. and T. Vennemann (eds.), *On language: Rhetorica Phonologica Syntactica, A festschrift for Robert P. Stockwell from his friends and colleagues*. London and New York: Routledge. 287-314.
- Baker, M.C. 1988. *Incorporation: A theory of grammatical function changing*. Chicago: Chicago University Press.
- Böhm, R. 1979. "On causing without a subject." *Lingua* 53. 3-31.
- Böhm, R. 1982. Topics in localist case grammar (with especial reference to English and German). Unpublished Ph.D. dissertation, New University of Ulster.
- Borg, A.J. and B. Comrie. 1984. "Object diffuseness in Maltese." In Plank, F. (ed.), *Objects: Towards a theory of grammatical relations*. New York: Academic Press. 109-126.
- Broadwell, G.A. 1988. "Multiple θ -role assignment in Choctaw." In Wilkins, W. (ed.), *Syntax and semantics 21: Thematic relations*. New York: Academic Press. 113-129.
- Cole, P.W. and S.N. Sridhar. 1976. "Clause union and relational grammar: Evidence from Hebrew and Kannada." *Studies in the Linguistic Sciences* 6. 216-227.
- Collinge, N.E. 1984. "How to discover direct objects." In Plank, F. (ed.), *Objects: Towards a theory of grammatical relations*. New York: Academic Press. 9-27.
- Comrie, B. 1975. "Causatives and universal grammar." *Transactions of the Philological Society* 1974. 1-32.
- Comrie, B. 1976. "The syntax of causative constructions: Cross-language similarities and divergences." In Shibatani, M. (ed.), *Syntax and semantics 6: The grammar of causative constructions*. New York: Academic Press. 261-312.
- Comrie, B. 1982. "Grammatical relations in Huichol." In Hopper, P. and S. Thompson (eds.), *Syntax and semantics 15: Studies in transitivity*. New York: Academic Press. 95-115.
- Comrie, B. 1985. "Causative verb formation and other verb-deriving morphology." In Shopen, T. (ed.), *Language typology and syntactic description, 3: Grammatical categories and the lexicon*. Cambridge: Cambridge University Press. 309-348.
- Culicover, P.W. and W. Wilkins. 1986. "Control, PRO, and the projection principle." *Language* 62. 120-53.
- Dryer, M. 1986. "Primary objects, secondary objects and anti-dative." *Language* 62. 808-845.
- Dubinsky, S. 1994. "Predicate union and the syntax of Japanese causatives." *Journal of Linguistics* 1994. 43-79.
- Falk, Y.N. 1991. "Causativization." *Journal of Linguistics* 27. 55-79.
- Faltz, L.M. 1978. "On indirect objects in universal grammar." *Papers from the Annual Regional Meeting of the Chicago Linguistic Society* 14. 76-87.
- Fillmore, C.J. 1968. "The case for case." In Bach, E. and R.T. Harms (eds.), *Universals in linguistic theory*. New York: Holt, Rinehart & Winston. 1-88.
- Fries, C.C. 1952. *The structure of English*. New York: Harcourt, Brace.
- Gibson, J. 1980. Clause union in Chamorro and in universal grammar. Unpublished Ph.D. dissertation, University of California, San Diego.
- Gibson, J. and E. Raposo. 1986. "Clause union, the stratal uniqueness law, and the *chômeur* relation." *Natural Language and Linguistic Theory* 4. 295-331.
- Givón, T. 1984. "Direct object and dative shifting: Semantic and pragmatic case." In Plank, F. (ed.), *Objects: Towards a theory of grammatical relations*. New York: Academic Press. 151-182.
- Green, G.M. 1974. *Semantics and syntactic regularity*. Bloomington: Indiana University Press.
- Hale, K. and S.J. Keyser. 2002. *Prolegomena to a theory of argument structure*. Cambridge, MA: MIT Press.

- Hetzron, R. 1976. "On the Hungarian causative verb and its syntax." In Shibatani, M. (ed.), *Syntax and semantics 6: The grammar of causative constructions*. New York: Academic Press. 371-398.
- Hewitt, B.G. 1979. *Abkhaz*. Amsterdam: North-Holland.
- Huddleston, R.D. 1970. "Some remarks on case grammar." *Linguistic Inquiry* 1. 501-511.
- Huddleston, R.D. 1984. *Introduction to the grammar of English*. Cambridge: Cambridge University Press.
- Hyman, L.M. and A. Duranti. 1982. "On the object relation in Bantu." In Hopper, P. and S. Thompson (eds.), *Syntax and semantics 15: Studies in transitivity*. New York: Academic Press. 217-239.
- Jackendoff, R.S. 1990. "On Larson's analysis of the double object construction." *Linguistic Inquiry* 21. 427-456.
- Jackendoff, R.S. and P.W. Culicover. 1971. "A reconsideration of dative movements." *Foundations of Language* 7. 397-412.
- Jespersen, O. 1924. *The philosophy of grammar*. London: George Allen & Unwin.
- Kandiah, T. 1968. "Transformational grammar and the layering of structure in Tamil." *Journal of Linguistics* 4. 217-245.
- Keenan, E.L. and B. Comrie. 1977. "Noun phrase accessibility and universal grammar." *Linguistic Inquiry* 8. 63-99.
- Kimenyi, A. 1980. *A relational grammar of Kinyarwanda*. Berkeley: University of California Press.
- Kulikov, L.I. 1993. "The 'second causative': A typological sketch." In Comrie, B. and M. Polinsky (eds.), *Causatives and transitivity*. Amsterdam: John Benjamins. 121-153.
- Kuno, S. 1973. *The structure of the Japanese language*. Cambridge, MA: MIT Press.
- Kuroda, S.-Y. 1965. "Causative forms in Japanese." *Foundations of Language* 1. 1-30.
- Larson, R. 1988. "On the double object construction." *Linguistic Inquiry* 19. 335-391.
- Larson, R. 1990. "Double objects revisited: A reply to Jackendoff." *Linguistic Inquiry* 21. 589-632.
- Lewis, G.L. 1967. *Turkish grammar*. Oxford: Oxford University Press.
- Marantz, A. 1984. *On the nature of grammatical relations*. Cambridge, MA: MIT Press.
- Mitchell, B. 1985. *Old English syntax* (2 vols). Oxford: Clarendon Press.
- Mohanan, K.P. 1983. "Move NP or lexical rules? Evidence from Malayalam causativisation." In Levin, L., M. Rappaport and A. Zaenen (eds.), *Papers in lexical-functional grammar*. Bloomington: Indiana University Linguistics Club.
- Napoli, D.J. 1992. "The double-object construction, domain asymmetries, and linear precedence." *Linguistics* 30. 837-871.
- Nedyalkov, V.P. and G.G. Silnitsky. 1973. "The typology of morphological and lexical causatives." In Kiefer, F. (ed.), *Trends in Soviet theoretical linguistics*. Dordrecht: Reidel.
- Palmer, F.R. 1994. *Grammatical roles and relations*. Cambridge: Cambridge University Press.
- Pinker, S. 1989. *Learnability and cognition: The acquisition of argument structure*. Cambridge, MA: MIT Press.
- Plank, F. (ed.). 1984. *Objects: Towards a theory of grammatical relations*. New York: Academic Press.
- Poutsma, H. 1926. *A grammar of Late Modern English, II: The parts of speech, II*. Groningen: P. Noordhoff.
- Poutsma, H. 1928. *A grammar of Late Modern English, I: The sentence, I*. Groningen: P. Noordhoff.

- Rosen, C. 1983. "Universals of causative union: A co-proposal to the Gibson-Raposo typology." In Chukerman, A., M. Marks and J.F. Richardson (eds.), *Papers from the Nineteenth Regional Meeting of the Chicago Linguistic Society*. 338-352.
- Rosen, S.T. 1990. *Argument structure and complex predicates*. New York: Garland.
- Saunders, R. and P.W. Davis. 1982. "The control system in Bella Coola." *International Journal of American Linguistics* 48. 1-15.
- Schlesinger, I.M. 1995. *Cognitive space and linguistic case*. Cambridge: Cambridge University Press.
- Shibatani, M. 1982. "Japanese grammar and universal grammar." *Lingua* 57. 103-123.
- Siewierska, A. 1984. *The passive: A comparative linguistic analysis*. London: Croom Helm.
- Song, J.J. 1996. *Causatives and causation: a universal-typological perspective*. London: Longman.
- Taylor, H. 1971. *Case in Japanese*. South Orange: Seton Hall University Press.
- Underhill, R. 1976. *Turkish grammar*. Cambridge, MA: MIT Press.
- Zaenen, A. 1984. "Double objects in Kikuyu." *Cornell University Working Papers in Linguistics* 5.
- Zimmer, K. 1976. "Some constraints on Turkish causativisation." In Shibatani, M. (ed.), *Syntax and semantics 6: The grammar of causative constructions*. New York: Academic Press. 339-412.