

John Anderson  
(University of Edinburgh)

**The Domain of Semantic Roles**

In:

József Andor, Béla Hollósy, Tibor Laczkó and Péter Pelyvás, eds. 1998.  
*The diversity of linguistic description.*  
*Studies in linguistics in honour of Béla Korponay.* 1-38.  
Debrecen: Kossuth University, Angol-Amerikai Intézete.

[electronic reprint with kind permission of the editors]



John Anderson (University of Edinburgh)

## The Domain of Semantic Roles

### 0 Introduction

The arguments of a predicator identify and label the entities involved in the perceived situation type identified by the predicator itself.\* Each argument entity can be associated with a particular **role** in the situation; it is these roles that are our concern here rather than the role of arguments in discourse (cf. e.g. Dowty 1991). The nature of the situational roles played by these entities can be discriminated in more or less detail. In a sense, each predicator prescribes a unique set of roles. But it is possible to generalise, in the first instance, over analogous roles in cognitive scene-types seen as analogous, and in correspondingly related “fields” of the vocabulary. And in “fields” associated with certain institutionalised situations, in particular, these roles may be made lexically explicit in a particular language. Thus, in the situations described by English verbs like *sell*, *rent*, *barter* etc. one recurrent role is occupied by a “customer”; in those described by *concede*, *justify*, *accuse* etc. there recurs a “defendant”, perhaps (see e.g. Fillmore 1971b, 1972: section 42, 1977). More generally still, we can recognize that in many situations it is possible to attribute to a particular entity the role of “source of the action”, the agentive role. Thus we can say, following Anderson (1997a: section 3.2) that the “customer” in (1.a) and the “defendant” in (b):

- (1) a. Algernon bought a Lada from Bertram
- b. Algernon justified his decision unconvincingly

are both agentive, as “sources” of the immediate “action” described by the verb. There is, however, as observed there and elsewhere, no simple mapping between such generalised roles and the more specific institutionalised functions. The “customer” in (2), for instance, is not presented as the “source” of the immediate “action”:

- (2) Bertram sold a Lada to Algernon

even though the same “real-world” event or perception may be being referred to by (1.a) and (2). The speaker, for various reasons, including discursal, can choose which argument to present as “source of the action”. Agentive is a linguistic category which differs semantically, or cognitively, from other relations borne by arguments, but the identification of agentives is not determined by the “real world” or cognitive character of the scene being represented.

It is “generalised” roles such as agentive that case grammarians identify as case relations, those semantic relations which are claimed to be basic to the lexicon and syntax: the claim is that it is e.g. agentive rather than “customer” etc. that is

linguistically distinctive, or (specifically lexically) **contrastive**, in serving in particular to distinguish the argument structures of predicator types with respect to their syntactic potential. “Customer” vs. “salesperson” are, in a different manner, no more syntactically contrastive than selection of subject or unmarked direction of complementation: the “situational” categories, whatever their role in the lexicon, are irrelevant to the **subcategorisation** of predicators with respect to argument type; subjecthood follows from it, given an appropriate subject selection hierarchy; and direction of complementation is not sensitive to it. In what immediately follows I shall briefly review some of the attempts to characterise semantic roles, particularly within the case grammar tradition, with a view to eliciting whatever there might be of principle in such discussions to enable us to characterise the set of semantic roles and the semantic domain of the set. Principles of contrast and complementarity are discussed more extensively in section 2 in relation to participant roles. In section 3 I consider and repudiate some attempts to supplement such a set with an over-arching set of “macroroles”. Section 4 (re-)presents a hypothesis concerning the set of semantic relations which conforms to requirements of contrast and complementarity and embodies a particular substantive proposal – that of localism – concerning their semantic domain. Section 5 considers to what extent the hypothesis of 4 is applicable to circumstantial arguments. And in section 6 I look at the interaction of the domain of semantic roles with adjacent (co-expressed) “dimensions” and the extent to which there is empirical support for circumscribing such a domain.

### **1 A suitable case for treatment?**

There has been some agreement, and much disagreement, concerning the set of roles that fulfil the basic function in the grammar described in section 0. For recent surveys see e.g. Somers 1987; Cook 1989; and for a fuller account than immediately follows here see Anderson 1994b, and, for earlier views, 1971; 1977. Mostly, these roles are assumed to be universal in number and definition, and to contrast by virtue of their cognitive character. Otherwise, there is a lack of consensus on individual definitions and little attempt to characterise, or even recognise the need to characterise, the semantic domain they occupy.

The set of case relations offered in Fillmore (1968) – including Agentive, Instrumental, Dative, Factitive, Locative, Objective (pp. 24-5) – is tentative and not intended as necessarily exhaustive; and he outlines other possible sets elsewhere (1969; 1971a; 1971b: section 4). Starosta (1988) suggests a set rather different from his (and Fillmore’s) earlier proposals: Patient, Agent, Experiencer, Locus, Correspondent, Means. And Cook (1978: 299) proposes Agent, Experiencer, Benefactive, Object and Locative, while Longacre (1976: 27-34) has Experiencer, Patient, Agent, Range, Measure, Instrument, Locative, Source, Goal, Path. These sets at least show some overlap, in nomenclature and definitions (as the reader may readily ascertain for itself); much less of this is evident in, for example, the more exotic set proposed by Tarvainen (1987). Such uncertainty over the set of cases, also

well illustrated by the introductory discussion to Stockwell *et al.*'s (1973: ch.12, II.A) "sample lexicon", has often been cited in criticism of the case grammar framework (e.g. by Chapin 1972). It might, indeed, be regarded as a sign of lack of responsibility to describe a particular case relation as a "wastebasket" (Fillmore 1971a: 42). Unless a theory of case relations is properly constrained, new relations are liable to crawl out of (or be rescued from – Radden 1978) the "wastebasket" or from even less desirable spots.

It should, however, be pointed out that the same challenge, or problem, confronts any framework which includes case relations, or thematic roles (as in Gruber 1965, and its descendants). Moreover, as emerges (if nothing else does) from ch.1 of Anderson (1997a), the determination of the set of syntactic categories as a whole remains contentious. However, the "defendant" in this case has to concede that the resolution of the question of the constitution of the set of semantic functions is rather more crucial for a framework in which they play such a fundamental (including syntactic) role as is advocated by case grammarians. Thus, much effort has been devoted within the case grammar tradition not merely to the establishing of definitions and semantic/syntactic properties of the individual case relations (cf. e.g. Fillmore's (1972: section 32) discussion of Experiencer and *personally*), but also to the formulation of general principles governing the distribution of the relations and (less commonly) of a general substantive theory of the category of case (in this sense). I shall argue here that insufficient attention to both general aspects has led to proposals whose linguistic basis is insufficient and which fail to make the crucial distinction between linguistic representation and cognitive scene/"real world" mentioned above. Schlesinger (1995), among others, is also critical of case theorists in these respects, but his own proposals are not immune from such criticisms (cf. Anderson 1997b), as well as underplaying the universal aspects of role structure.

In the discussion which follows case-relational labels with initial capital letter (such as "Experiencer") are provisional, and reflect common usage. Some such semantic functions seem to be well established: Agentives and what I shall call Neutrals (Fillmore's Objective, Theme elsewhere), for instance, are generally invoked, with considerable agreement over the nature of the central instances of such; and their status as semantic functions is supported by a range of phenomena. And a Place or Locative relation is generally acknowledged, though its relation to such other putative case relations as Source and Goal (and Path) is contentious. It is also generally agreed that predicators of experience like *like* involve a distinct case relation, which Fillmore (1968) dubbed Dative; but the scope of this relation is controversial, with Fillmore (1971a, b), for instance, reassigning some former Datives to Goal and Neutral and relabelling the rest Experiencer: "where there is a genuine psychological event or mental state verb, we have the Experiencer; where there is a non-psychological verb which indicates a change of state, such as one of

dying or growing, we have the Object; where there is a transfer or movement of something to a person, the receiver as destination is taken as the Goal” (1971a: 42). Many investigators follow Fillmore (1968) in recognizing also an Instrumental case relation, allegedly illustrated by both of (3):

- (3) a. The vandals dented the BMW *with a hammer*  
 b. *A hammer* dented the BMW

and some (cf. e.g. Fillmore 1971a: 9) a distinctive Path:

- (4) Heinz travelled *through Celle*

Anderson (1971, 1977), however, rejects both of these last as case relations, as well as most of the others that have been proposed, in favour of a very restricted set. Much of this disagreement can be understood in terms of diverse interpretations of, and lack of attention to, the distributional and substantive constraints which case relations conform to.

The need for these constraints as well as differences in their application can perhaps best be appreciated on the basis of an examination of a Case on whose validity most researchers seem to be agreed, the Agentive. We can provide Agentive, as “source of the action”, with a distinctive semantic definition, and we can associate phrases so defined with a distinctive distribution, particularly in relation to their role in the subject selection hierarchy, as the preferred subject. Occurrence of Agentive apparently correlates with other semantico-syntactic properties: zero-manifestation in imperatives (*Kill Albert!* etc.), adverbial selection:

- (5) a. Emma killed Albert in cold blood/deliberately  
 b. \*Albert died in cold blood/deliberately

where interpretation of (b) requires some extension of our normal understanding of the argument-type demanded by *die*. Agentives are also, perhaps, “typically animate” (Fillmore 1968), even preferentially human, as in these examples; whereas the animacy of the Neutral is very much contingent on the particular predicator selected.

Some phrases that share their basic distribution with Agentives like *Emma* in (5.a) are not human, or even animate, however:

- (6) a. Lightning killed Albert  
 b. Albert was killed by lightning

and lack many of the associated properties. This can perhaps be allowed for in terms of Fillmore’s description of the Agentive as “typically animate”; perhaps, to reformulate this somewhat, *lightning* in (6) is a non-central Agentive. But what of (7):

- (7) a. The poison killed Albert  
 b. Albert was killed by the poison

and the like? For Fillmore (1968) *the poison* in (7) is an Instrumental, which in the presence of an Agentive is necessarily marked by *with*:

- (8) a. Emma killed Albert with the poison  
 b. Albert was killed with the poison (by Emma)

But the relation of *the poison* in (7.a) is in fact indeterminate, given Fillmore's definitions (it could be either Agentive or Instrumental), or a non-existent ambiguity is predicted for its role in such a predication (cf. Dougherty 1970; Anderson 1977: section 1.7.3).

One solution to this is to suggest that Instrumentals only ever occur with predicates that also take an Agentive (an instrument presupposes an agent), and are thus circumstantial (see section 5), and to regard *the poison* in (7) as Agentive: it is a non-central agent that we interpret as normally fitting (as an Instrument) into a frame or scene which includes an (unspecified) ultimate agent. Likewise, there is no distributional reason to recognize a distinct Force case (Huddleston 1970) associated with *lightning* in (6): volition and the capacity to wield an instrument are not necessarily to be attributed to non-central agentives. The fact that *the poison* in (7) and (8) is now interpreted as bearing two different semantic relations is analogous to the situation we associated with the "customer" role above: an entity bearing the same role, say "instrument", in a "real-world" situation may be represented linguistically in different ways (cf. the "customer" of (1.a) and (2)), in this instance as Agentive or Instrumental. This kind of invariance of representation is not something that should be assumed. A similar position is argued for by Schlesinger 1995: ch.4.

Similarly, it can be argued that though Fillmore (1971a: section 4) eliminates Result (or Factitive) uniformly in favour of Goal, a particular "result" situation again may be associated with different case structures. Thus, while it seems appropriate to associate his description of Result as "the end-result role of a thing which comes into existence as a result of the action identified by the predicator", and thus as a Goal, with examples like (9):

- (9) I converted my impressions into a poem

this is not the case (sic!) with the examples, like (10):

- (10) I wrote a poem

which Fillmore himself cites as instantiating a Goal: the goal in (10) is the existing of a poem; *a poem* itself is more appropriately seen as a Neutral, it represents the entity which undergoes the action of being brought into existence, in the same way as in (11):

- (11) I destroyed a poem

an entity is represented (as a Neutral) as being removed from existence, and is, of course, no more a Source than *a poem* is a Goal in (10). (9)-(11) represent

“existential journeys”; and, as in other journeys (such as is represented in *I sent a letter*), the “moving object” is a Neutral.

Such discussions illustrate the need for a set of distributional principles for the set of roles, as well as for semantic (or notional) definitions which recognize the importance of centrality vs. peripherality. We can approach a consideration of some of the principles that have been suggested by pursuing discussion of the Instrumental. I have suggested in what precedes, following Anderson (1977), that the subjects of (6.a) and (7.a) are not Instrumentals. In similar fashion, the instrument in (12) is not Instrumental:

(12) Algy used a clean napkin

but a Neutral undergoing the “action”, of “using”, as is elsewhere the function of Neutrals in “action” predications; the interpretation of “instrumentality” derives from the semantics of the verb, but not from its argument structure. Here Schlesinger (1995: ch.3, section 4.4) is inconsistent, despite his recognition that the Neutrals taken by *use* need not be matched by *with*-Instrumentals, in attributing his INSTR feature to such instruments, in that the only apparent motivation for this is shared semantics, of which (as we have noted) he is rightly sceptical: “... when two differently structured sentences describe the same situation, the corresponding noun phrases do not necessarily have the same case” (1995: 110). If these are rejected as Instrumental, “true” Instrumentals such as are realised in (8) do not participate in subject and object selection; indeed, as argued in Anderson (1977: ch.1; 1997a: section 2.8.2), they are not an independent component of the subcategorisation requirements of any predicate. To put it in its strongest form, the claim would be that Instrumentals are available with any Agentive predicate. Of course, as noted in these discussions, the class of Instrumental will vary with the class of agentive predicate: in English one travels *by* car rather than *with* a car (unless one is merely accompanying it). If the availability of Instrumentals can be allowed for by redundancy, i.e. they are non-contrastive, and their occurrence need never be stipulated in the entry of any predicator, then they are not **participant** but **circumstantial**. The drawing of a distinction between participant and circumstantial is the first step in arriving at a delimitation of the set of semantic relations. It is only to potential participants that distributional criteria such as Fillmore’s (1971a) principles of “contrast” and “complementarity” can be fully applied (see immediately below); circumstantials (corresponding to what some case grammarians have called “outer cases”) require a rather different approach.

## 2 Participants: Contrast vs. complementarity

Anderson (1977: ch.1) argues that a number of proposed (participant, or propositional) case relations are circumstantial. And the proposed Time case relation, for instance, is not even that; i.e. it is not an independent relation, participant or circumstantial. *On Tuesday* in (13.a) is a circumstantial denoting a



Place in time, on the time dimension; temporality as such is not a property of the case relation but of its complementary nominal:

- (13) a. Brenda left on Tuesday  
 b. The concert lasted from seven to eleven  
 c. A long period elapsed  
 d. Tuesday saw Brenda's departure

And the temporal phrases in (13.b) and (c) are, respectively, Source-and-Goal and Neutral, associated here with verbs that require that their Source-and-Goal (b) or Neutral (c) argument involve temporal reference. *Tuesday* in (13.d) is a non-central Experiencer: this is less extraordinary if the locative analysis of Experiencers discussed below is accepted.

I am suggesting, then, following Anderson (1971), that, even as a circumstantial, which occurrence seems to be the most "salient" for alleged Time phrases, a Time phrase is not semantic-rationally distinct from a Place; what distinguishes them is the referential domain of the argument, not the case relation it bears. This status is reflected in the fact that the markers of Place and of putative Time phrases are overwhelmingly the same (as with the English prepositions in (13)), and reflect similar distinctions imposed on the two domains, provided we take into account the perceived unidimensionality of time. This (as well as the "priority" of "spatial" terms) has been extensively documented for a number of language families/areas: see e.g. Bybee & Dahl 1989; Heine *et al.* 1991; Lichtenberk 1991; Traugott 1978.

Of course, some Place markers are specialised for use with complements invoking time, as with *since* and *until/till* in English. But this involves the same kind of selectional restriction that we can associate with the verbs in (13.b-c). These are all items that impose on an argument the requirement that it be interpretable in temporal terms, even if the nominal involved is "not especially associated with the notion 'time'", as Somers (1987: 151), following Langendonck (1974: 30), considers the examples in (14) to involve:

- (14) a. My father was injured during the war  
 b. Their marriage broke up after his illness

And even inherently "spatial" nominals, such as that in (15):

- (15) I haven't seen him since Berlin

can be so interpreted.

Such a proposal as I have made concerning Time is based on a strategy of eliminating, as distinctions in case relation, contrasts that are basically signalled otherwise. As such, it can be said to represent an implementation of Fillmore's (1971a: 40-1) **principle of complementarity**. Fillmore (1971a: section 3) also

offers two assumptions which he terms principles of **contrast**. The second principle, unformulated as such, is concerned with the establishment of contrasts in case relation associated with a single (syntactic) position. Fillmore illustrates this with comparative constructions and with the subjects of the same predicator in (16):

- (16) a. I am warm  
 b. This jacket is warm  
 c. Summer is warm  
 d. The room is warm

On one interpretation, according to Fillmore's analysis, *I* in (16.a) is an Experiencer (and *warm* a "psychological predicate"); *this jacket* in (b) is an Instrument; *Summer* in (c) is a Time; *the room* in (d) is a Place/Locative/Location. These assignments are argued to be supported by the recurrence of such distinctions in subject position with other predicates (Fillmore discusses *sad* in this connexion); but the attribution of all of the distinctions involved to the case relations is questionable. Implementation of "complementarity" would suggest that (c) and (d) (at least) in (16) do not involve a distinction in case relation (rather, as indicated above, of referential domain). Application of a principle of contrast here necessitates that the rest of the environment be kept constant, and thus the possibility of invoking "complementarity" eliminated.

It is also unclear what the syntactic consequences of some of the posited distinctions might be. Fillmore's discussion of comparatives (the claim being that only NPs of identical case relation can be compared) is inconclusive in this respect, in that it is apparent that many other semantic (and pragmatic) factors are involved in determining the acceptability of such constructions. And the same is true of the suggestion (Fillmore 1968: 22) that "only noun phrases representing the same case can be conjoined": see e.g. Anderson 1977: section 1.6; Schlesinger 1995: ch.4, section 4. Comparees and conjoiners may normally share their case relation, but problematical instances, such as (17):

- (17) a. ?\*This pebble and Zaire are warm  
 b. ??This pebble is less warm than Zaire

do not necessarily involve difference in case relation. And the conjoiners in both of (18) ((a) from Schlesinger 1995: 105):

- (18) a. Floods and guerrilla forces ravaged the area  
 b. ?\*Emma and the poison killed Albert

do not share their case relation according to many accounts – unlike that advocated here. Somers describes the constraint allegedly manifested by these claimed restrictions on comparison and conjunction, together with the principle we are about to look at, as being "for some commentators, ... the strongest and most reliable tool Case grammar has" (1987: 34). But the diversity of factors involved means that reliance on the evidence of what can be compared or conjoined forms a very

doubtful basis for a theory of case. The assumption certainly cannot be deployed “negatively”, to argue against the sharing of a semantic relation by the arguments in (17), for instance.

On the other hand, the ambiguity of (16.a) – psychological vs. physical – is plausibly associated with the contrasting semantic relations contracted by *I*, which select distinctive classes of predicators, with one class containing e.g. *friendly* and the other e.g. *dehydrated* – though with an overlap including *warm*, for example, and with a pervasive possibility for metaphorical extension. Anderson (1992: section 3.4) refers to this capacity to distinguish classes as **lexical contrastiveness**. It was on the basis of such that we distinguished participants from circumstantials: a participant case relation is associated with a distribution independent of other case relations which results in a non-inclusive partitioning of the set of predicators. Thus, in so far as “factitivity” is associated with a subset of Neutrals – arguments which display semantic and syntactic properties attributable to Neutrals – Factitive is not a case relation: factitive predicators are a subset of Neutral predicators.

The other principle of “contrast” discussed by Fillmore (1971a) is the **one-instance-per-clause** principle: i.e. a single clause will contain at most one (possibly compound) NP associated with a particular case relation. This has been generally accepted (even outside the case grammar tradition), and seems to be well supported. I have registered dissent elsewhere only with respect to Neutral, which Anderson (1971; also 1977: ch.1) suggests occurs twice in equatives (*The guy over there is the man she loves*, etc.). We return to its status, however, in section 4.

This principle has been frequently coupled with a companion, paradigmatic principle requiring that each NP bear at most one case relation (Fillmore 1968a: 24). However, it has been argued from a range of perspectives (by e.g. Anderson 1968, 1971, 1977; Huddleston 1970; Nilsen 1973; Culicover & Wilkins 1986; Broadwell 1988; Schlesinger 1995) that this is quite generally inappropriate (not just with respect to specific relations). The former, syntagmatic principle is thus more powerful in the discrimination of case relations. Again we return to this latter principle – and consequences of its non-adoption – in section 4.

### 3 Macroroles

Starosta (1988: section 4.3) accepts the **one-instance-per-NP** constraint, but introduces a third “case-like” category (beside case relations and what he calls “case forms”), namely “macroroles” (cf. Foley & van Valin 1984), of which there are two: Actor and Undergoer. The Actor is the Agent of a transitive clause or the Patient of an intransitive one. These are “established to account primarily for morphosyntactic rather than situational generalizations” (Starosta 1988: 145), and thus have a different alleged motivation from Foley & van Valin’s proposal, or e.g. Jackendoff’s “Actor” and “Patient” (see below), which are intended to characterise aspects of “conceptual structure” (1990: section 7.1). Thus, though one might have expected

elements labelled in this way to allow, perhaps, for such phenomena as others have associated with attribution of more than one case relation to a single argument, given Starosta's maintenance of the one-instance-per-NP constraint, this is not so. This innovation cannot then be used to allow for the fact that some intransitive subjects share more properties with transitive subjects than others. Rather, "it appears that Actor, like Patient, is present in every clause" (Starosta 1988: 146). Thus, both *the bookcase* in (19.b) and *Bert* in (c) would apparently be [+actr, +PAT]:

- (19) a. Bert has moved the bookcase  
 b. The bookcase has moved  
 c- Bert has moved

They share both the "macrorole" [+actor] and the case relation [+Pat]IENT). Despite the plausible interpretation of one sense of (19.c) as involving Bert as both "moving object", so Neutral, and "source of the action", Agentive, the semantic distinction, and its syntactic consequences ("unergativity" vs. "unaccusativity", if you like), remains intentionally uncaptured by such representations.

Unfortunately, Actor also does not seem to accord well even with the syntactic functions Starosta attributes to it. Thus, "the actant which may be omissible in imperatives ... is the Actor" (Starosta 1988: 151). But not all intransitive Patients show unmarked imperativization: this is unavailable not only with (19.b), which, after all, has a concrete inanimate Patient, but also with the (typically or, at least, often animate) Patients associated with verbs like *stumble*, *wilt*, *blister*, *decay* etc., under their normal (non-metaphorical) interpretation. The notion of "macrorole" neither offers the benefits of the availability of multiple case assignments to a particular NP nor secures the expression of other otherwise resistant generalisations.

Similarly, but for reasons different from those relating to Starosta's "macroroles", the positing by Jackendoff (1990: section 7.1) of an "action tier" of semantic relations is an elaboration without motivation. According to Jackendoff, "A notion missing from the theory of thematic relations in <Jackendoff 1983> and earlier sources (back to Gruber 1965) is that of 'affected entity' – the traditional role of Patient" (1990: 125). And he offers as "a rough-and-ready test for this role ... the ability of an NP to appear in the frame <(20)>":

- (20)  $\left. \begin{array}{l} \text{What happened} \\ \text{What Y did} \end{array} \right\} \text{to NP was ...}$

(*ibid.*) But the semantic-relational status of this distinction is in doubt, and its independence of (other) relations. Like "factitives", "patients" are Neutral ("theme") arguments, in so far as "patienthood" can be associated intrinsically with a particular subset of predicators, as in Jackendoff's (*ibid.*) <(21)>:

- (21) a. Pete hit the ball into the field

- b. What Pete did to the ball was hit it into the field
- c. \*What Pete did to the field was hit the ball into it

The Neutral *the ball* but not the Goal *the field* denotes a “patient”. Jackendoff (1990: 126) claims that e.g. Goals can also be “patients”, and he cites examples like (22):

- (22) a. The car hit the tree  
 b. What happened to the tree was the car hit it

where he takes *the tree* to denote a Goal. If so, it is, like *the ball* in (21), also Neutral – as compared with the simple Goal in *Fred hit at his assailant*. “Patienthood”, then, seems to be intrinsically associated with the Neutral arguments of certain classes of verb, notably, for instance, “de-existentials” such as the verb in (11) – and that in (30) below – and Goal Neutrals such as that in (21) and (22), but is precluded with certain others, such as, for obvious reasons, factitives like (10). With them the Neutral is “effected” rather than “affected”.

Moreover, a “patient” interpretation can be facilitated, even with predicators and semantic relations that are otherwise resistant, by appropriate manipulation of context. That is, apart from being associated with the Neutral of a set of predicators, patienthood is not a property of individual predicators, and thus not part of a system of participant semantic relations, as conceived of here. This is suggested, at least, by our “rough-and-ready test”. Thus, while, as Jackendoff (1990: 127) indicates, the Neutral object of (23) is perhaps a dubious “patient” – cf. (b), unhappy even with a definite determiner – as is the Goal – cf. (c):

- (23) a. Bill received a letter  
 b. ?\*What happened to a/the letter was Bill received it  
 c. ?\*What happened to Bill was he received a letter

the Neutral object of (24) is much better as such:

- (24) a. Somebody else received John’s parcel  
 b. What happened to John’s parcel was somebody else received it

as is the Goal of (25):

- (25) a. Jack received a serious head wound  
 b. What happened to Jack was he received a serious head wound

And even the non-subject, non-object Goal of (26) permits a “patient” interpretation:

- (26) a. Arnold threw a bomb into the bedroom  
 b. What happened to the bedroom was Arnold threw a bomb into it

(cf. (21)). Much of the distribution of “patienthood” thus does not relate to particular predicators; and in so far as it does, it involves a subset of Neutral arguments, distinguished as **categorial patients** vs. **contextual**.

Jackendoff also alleges that the “actor” role is independent of the “(other) thematic relations”. “If we pick out Actors by the test frame <(27)>, we find Actors in Source <(28.a)>, Theme <(28.b)> and Goal <(28.c)>” (Jackendoff 1990: 126):

- (27) What NP did was ...
- (28) a. The sodium emitted electrons  
(What the sodium did was emit electrons)
- b. Bill ran down the hill  
(What Bill did was run <Jackendoff = *roll*> down the hill)
- c. The sponge absorbed water (What the sponge did was absorb water)

But, whether or not the subjects in (28) are respectively Source, Theme and Goal, they are also in each case the “source of the action”, i.e. Agentive, though those in (a) and (c) may not be central instances of such. (28.b), indeed, is a paradigm case of the predicator with a {erg,abs}-subject (a subject which is simultaneously Agentive and Neutral) discussed below in section 4. And the fact that a verb like *run/roll* satisfies both the “actor” and the “patient” “tests”, as in (29):

- (29) a. Bill rolled down the hill  
b. What Bill did was roll down the hill  
c. What happened to Bill was he rolled down the hill

(Jackendoff 1990: 127-8) merely reflects the fact that *roll* is subcategorised for (whatever else) an argument which is Neutral and (optionally) Agentive – absent in (29.c) and for one sense of (a). The “actor” “test” selects Agentives, though not necessarily central (human, volitional) ones. Thus, the human non-Agentive of (30.a) is not selected – cf. (b):

- (30) a. Audrey died (last week)  
b. \*What Audrey did (last week) was die  
c. What happened to Audrey was she died

But, as the Neutral with a de-existential verb, it is a (rather drastic) “patient”, as (c) is witness to. Curiously, Jackendoff describes *die* as a verb which takes “[vol<itional>] Actors” (1990: 129)!

I conclude that the positing of an “action tier” of semantic relations is unwarranted. Indeed, it seems to me that the framework advocated by Jackendoff (1990) is, not unlike some of the autosegmental (phonological) frameworks he invokes as an analogy, grossly overburdened, invoking as it does not only an “action tier” of semantic relations, as well as a “thematic tier”, but also “traditional” subcategorisation in terms of “deep” phrasal categories. His discussion, like Starosta’s, offers no motivations for departing from the more interesting position adopted within the case grammar tradition that only a restricted set of semantic relations is contrastive with respect to subcategorisation and its syntactic and lexical

consequences. Likewise, the “macro-roles” of Foley & van Valin (1984) represent in this respect an unnecessary elaboration of the theory of semantic roles.

#### 4 Contrastivity, complementarity and localism

Anderson (1977: particularly ch.2) deploys complementarity, the (modified) one-instance-per-clause principle and non-unary case relation assignments for NPs to argue, without recourse to “macroroles”, for a very reduced set of (participant) semantic relations. For instance, he suggests that Path is a combination of Source and Goal; that Goal is a variant of **loc(ative)** – with a predicate that also takes a Source, or **abl(ative)**, i.e. a directional predicate. Experiencers are interpreted as a combination of loc (or abl) with a case relation which, uncombined with loc (or abl), characterizes agentives: a case relation he calls **erg(ative)**.

Thus, in these terms, the case relations in (19) are respectively represented as in (31.a-c), where **abs(olutive)** corresponds to Neutral, which is distinguished terminologically as a reminder that, unlike with most conceptions of Neutrals, it is combinable with other semantic relations:

- (31) a. {erg}                      {abs}  
       b. {abs}  
       c. {erg,abs}  
       d. {erg,loc,abs}  
       e. {abl,abs}  
       f. {loc,abs}  
       g. {erg,loc}                {abs}

and those in (16.a-c) as respectively (31.d-f) – with (16.d) being identical to (16.c), while (31.g) is associated with Experiencer predications like (32):

- (32) Barbie knows/likes Greek

Throughout these representations – which exhaust the set of case relations, though not the set of possible combinations – abs is associated with the nominal denoting the entity most intimately involved in the predication, whether it is also the source of the action (31.c), a potential causal source (31.e), a location (31.f), a psychological location (32.d) or none of these.

Despite the unusualness of, for instance, this last assignment and that in the case of the equivalent transitive of (32), i.e. (31.g), I shall not here restate the detailed arguments offered elsewhere in their favour (cf. e.g. Anderson 1971: chs.7 & 9; 1977: chs.2 & 3; 1978; 1984b; 1987; 1992: section 3.3). But I recall that, in relation to the interpretation of (21), for instance, Anderson (1977: section 2.6.3) attempts to show that Fillmore’s (1968) Dative (and thus more restricted Experiencer) is in complementary distribution with Place – there are no predicators which select both as labels for participants – while Anderson (1984a: 18-22; 1984b:

section 4) shows that Datives/Experiencers share semantic and syntactic properties with both Place and Agentive. Hence the assignment of {erg,loc} to such as the subject of (32). Likewise, for further instance, Anderson argues that, as suggested above, it is inappropriate to propose a “factive” case relation with respect to (10) – or a “destructive” one for (11). The objects in these sentences are semantic- relationally in complementary distribution with Neutral; these are Neutral – or, in terms of Anderson (1977), abs – entities whose precise manner of participation in the situation is, as with other Neutrals, signalled by the predictor. Above, I suggested that these involve movement into or out of existence.

Here, however, I want simply to insist that principles of complementarity and contrast (particularly the one-instance-per-clause condition) motivate only a limited set of semantic relations, a set which is also compatible with a substantive theory of semantic relations – a theory which shortly must be our concern. No further distinctions in semantic relation are lexically contrastive. My insistence is then a challenge to any proposed semantic relation outwith the set allowed in table 1.

case relations	abs	erg	loc	abl
CASE			PLACE	PLACE
COMPONENTS		SOURCE		SOURCE

abs = absolutive; erg = ergative; loc = locative; abl = ablative

Table 1: *Localist case components*

On the basis of contrastivity and, independently, of a particular substantive hypothesis, that of **localism** (see further below), Anderson (1977: 115) proposes the set of only four case relations of this table, with each relation characterized in terms of combinations of the notional components PLACE and SOURCE, such that abs is unmarked and erg is a non-PLACE SOURCE, source of the event or situation, physical or mental, potentially in control of it. (Amongst subsequent discussions based on rather different assumptions, and, despite its combative presentation, see Ostler 1980 for a somewhat similar articulation.)

Some possible combinations and their implementation have already been given via (31) above. Thus, (again) for example, the Experiencer subject of (32) is represented as the loc(ation) of the state denoted by the verb and also the source of responsibility (erg) for it. Accordingly, in many languages the Experiencer is marked by a Dative case inflexion which is also associated with the expression of concrete location/goal. Hjelmslev’s remarks on Tabassarian are typical: “ce cas désigne d’abord l’objet indirect, en y comprenant ce qui dans les langues européennes est le sujet des verba sentiendi... Mais ensuite le datif admet des



emplois concrets-locaux où il indique un rapprochement ou la direction vers” (1935: 154). And compare more generally Anderson 1984b. (33), on the other hand, is an example where each semantic relation is associated with a distinct argument:

- (33) Oliver transferred the plug from the hair-drier to the toaster  
       {erg}                    {abs}                    {abl}                    {loc}

Such predications represent the maximal valency structure allowed for in Allerton’s (1982) analysis of English: see particularly his section 3.5.

The central instances of loc and abl(ative) involve, in terms of table 1, positive vs. negative orientation with respect to a “concrete” PLACE, as illustrated in (33). Abs (non-PLACE, non-SOURCE) is non-specific, with the relation between its argument and the verb being interpreted in accord with the other types of functor present (“thing located”, etc.), but central instances are intimately and exhaustively involved in the situation denoted by the predication; abs arguments enter into the most detailed selectional restrictions with the predicator they complement (e.g. Moravcsik 1978). Such a character appears to be entirely appropriate to the null combination of table 1; to the extent that abs is, in these (and other) respects, the unmarked semantic relation, Jackendoff’s contention that “the notion of a default conceptual role is incoherent” (1990: section 2.2) seems to me quite unwarranted. Erg is a non-PLACE SOURCE, the “source of the situation”, central instances of which are human and volitional, with the central “situation” being seen as “actional”; the Silverstein hierarchy (1976) describes decreasingly central ergs. The SOURCE component shared by erg and abl is reflected in recurrent syncretism in expression of the two relations: cf. Latin *a(b)*, German *von* (Schuchardt 1922: 244-6); and, for further exemplification, see e.g. Green 1914; Anderson 1971: section 11.22. Notionally, the presence of erg and abl render, respectively, abs and loc directional, “goals” of the action or the movement. The basis of the localist proposal is that this exhausts the set of semantic relations: all contrastive roles are reducible to (combinations of) these four.

The representations in (31) and (33) introduce an aspect of notation relating to an important terminological distinction. The braces therein enclose the specification of the **semantic role** contracted by the particular argument with respect to a particular predicator. Roles may be simple or complex, i.e. involve one or more of the **semantic relations** abs, erg, loc and abl. This distinction has consequences, for instance, for how we are to interpret the scope of the one-instance-per-clause restriction. Does it inhibit replication of the same relation or merely of the same role? See Anderson (1997a: section 3.5) for some discussion, where it is maintained that, under slightly different interpretations, both restrictions can be imposed and maintained (except with abs).

The characterisations in table 1 recognise a general substantive principle determining the character of case relations, to complement the distributional and

individual properties mentioned above as generally invoked in support of particular assignments of case relation to some argument or other. As observed in Anderson (1997a: section 3.2), they instantiate one articulation of the localist hypothesis whose history is charted by Hjelmslev (1935/37), and in terms of which the domain of case is structured by components utilised in our perception of spatial situations: there are no necessarily “abstract” case relations. On localism see further particularly Hjelmslev 1935/37; Anderson 1971: parts III & V; 1973; 1977: ch.2; 1982; 1987; 1989; Lyons 1977: section 15.7; Böhm 1982; Miller 1985. The hypothesis is one attempt to provide a general definition of (notional) case, in the wide sense adopted by Hjelmslev (1935/37), who recognises a “functional category” corresponding to Anderson’s (1997a) **functor**, manifested either morphologically or via an adposition. We can thus avoid at least some of the problems of uncertainty and overlap associated with notional definitions particular to individual case relations. The importance of a non-particularist approach to case is forcibly expressed by Hjelmslev (1935: 4):

Délimiter exactement une catégorie est impossible sans une idée précise sur les faits de signification. Il ne suffit pas d’avoir des idées sur les significations de chacune des formes entrant dans la catégorie. Il faut pouvoir indiquer la signification de la catégorie prise dans son ensemble.

Apart from within the localist tradition, and despite the proliferation of particularist localist analyses (generally unacknowledged as such) by others, e.g. by Gruber (1965) and Jackendoff (1976; 1983; 1990), it is only recently (with developments in cognitive grammar and elsewhere) that there has been a more general recognition of the need for such a holistic viewpoint.

As again observed in Anderson (1997a: section 3.2, the postulation of a universal theory of case is, of course, not to say that the “same” situation will be expressed in terms of the same “case frame” in different languages, or (as we have seen) always in the same way in a particular language, or that what can be an {erg}, say, in language A will necessarily correspond to an {erg} in language B (cf. e.g. Dahl 1987). The English Experiencer ({erg,loc}) usage of (13.d) is alien to a large number of languages, for instance, as are inanimate Agentives (cf. e.g. Schlesinger 1995: 220, note 6). Rather, these relations form the basis for constructing clause structures in any language, and the upper bound of their applicability is seen to be limited primarily, within the localist tradition, by the spatial templates with which they are associated.

### 5 Circumstantials

In this and the following section we consider briefly to what extent there are phenomena connected with traditional or other operationally coherent ideas of “case” and “case relations” which require supplementation of the localist theory outlined above. A major aspect of this question, the characterisation of grammatical

relations, is discussed in some detail by Anderson (1977; 1997a: section 3.1), where it is argued that grammatical relations are derivative of the semantic; here we are concerned with the nature of circumstantial phrases, and in section 6 with “case” systems whose content appears to involve dimensions additional to those allowed for in table 1.

Among the many uncertainties and contentious issues surrounding notions of “case”, some of which we’ve encountered here, perhaps the least explored is the character and status of circumstantials (for some recent discussion, see e.g. Somers 1987: chs.1 & 9). Nevertheless, Anderson (1986; 1992: section 4.3) suggests that, despite their apparent diversity, the set of circumstantials can be described using the same set of (combinations of) semantic relations as are appropriate to distinguishing participants; and that the hierarchy of circumstantials in terms of their closeness of relation to the central proposition is associated with the specificity of the verb class with which they are compatible. Thus, with respect to the latter proposal, Instrumentals, and adverbs like *deliberately*, in so far as they are compatible only with Agentive verbs, are more tightly integrated than Outer Locatives or circumstantial Time phrases (cf. Somers 1987: 189-90), which are not so restricted. Let us, however, focus on the former suggestion, that the set of semantic relations relevant to circumstantials is the same as that for participants – i.e. the set of table 1 above. If this is so, then circumstantials demand no further elaboration of the theory of semantic relations, apart from the characterisation of their circumstantiality. The demonstration of this contention would be a huge undertaking, however, involving examination of every putatively distinctive circumstantial type; here I merely want to indicate the direction such an argument might take, primarily in relation to one particular taxonomy, that of Poutsma (1928).

Before we embark on this, it is perhaps worth reiterating my proposal that circumstantiality relates to lack of lexical, or subcategorisational contrastivity: circumstantials, unlike participants, do not established distinctive subcategorisational classes of predicators. As non-complements they are also optional. But brute “optionality” is not criterial for circumstantiality. Indeed, outside the requirements that abs be universally present in a predication (Anderson 1971 etc.) – another indication of a “default” status for abs – and that, in certain constructions in certain languages, so should a subject, and, with many transitives, an object, non-realisation of non-specific arguments is not at all uncommon, particularly as concerns either or both of the PLACE participants (loc and abl in table 1) in a directional predication (cf. *Fred has gone* and the like). Indefinite reference allows non-expression. It is clear at least that the semantic relations characterised in table 1 by presence of the PLACE component occur as circumstantials, as well as participants, in relation to the expression both of concrete space, as illustrated in (34):

(34) a. Michael buys his shoes in *London*

- b. *From John O’Groats to Berwick, they all drink Irn-Bru*

and of time – (35):

- (35) a. Michael left *on Tuesday*  
 b. Bert has avoided vegetables *since 1943*  
 c. Margaret lived next door *until last week*

But they are also instantiated by more “abstract” circumstantials which have often been regarded as semantic-relationally distinctive. Thus, the “manner” phrase of (36.a), the “cause” of (b) and the “purpose” of (c):

- (36) a. Bertie left *in a hurry*  
 b. Reginald died *from an overdose of Madonna videos*  
 c. Selwyn betrayed her *for personal gain*

can be interpreted as relationally respectively loc, abl and directional (Goal) loc, as reflected in the selection of prepositions; and the various “abstract” domains of reference are introduced and differentiated by the lexical items other than the markers of role. The latter two in (36) illustrate subclasses of Poutsma’s class of “causality” adjuncts, which class he distinguishes from “place”, “time” and “manner” adjuncts (1928: 320), illustrated by (34), (35) and (36.a) respectively. Other “causality” adjuncts are similarly interpretable as PLACE circumstantials. Thus, the (directional) loc of “consequence” of (37.a) corresponds to the abl of “cause” of (36.b), and the abl equivalent to the (loc) “purpose” of (36.c) is the “reason” of (37.b):

- (37) a. Reginald sacrificed himself *to no avail*  
 b. Selwyn betrayed her *out of spite*

Just as the circumstantial of (36.a) locates the predication in a particular mode of “activity”, so the “causality” adjuncts of (36/37) specify “abstract” Sources or Goals (volitive or not) for the “activity” associated with the predication. With Poutsma’s “causality” adjuncts of “condition” and “concession”, a proposition is located respectively in a possible situation/world and a possibly actual but unfavourable situation/world. The possibility that these circumstantials may be related to different levels of interpretation (e.g. proposition *vs.* predication) does not disguise their locational (PLACE) character. They thus do not require for their description semantic relations additional to those allowed for by table 1. And other, less obviously “spatial” circumstantials are interpretable as combinations of the PLACE relations with the non-PLACE. To these we now turn.

The argument introduced in Poutsma’s final type of “causality” adjunct is not necessarily “abstract”: this is the Instrumental, which I have argued to be a circumstantial available with Agentive verbs. This all Instrumentals have in common, but it may be that the set Instrumentals is not semantic-relationally homogeneous, within a particular language and/or over languages. Certainly, they

display a variety of realisations, shared with Paths, Comitatives, Agentives (Anderson 1977: section 2.5.5). However, one possible analysis which at least unifies some of the realisational phenomena is one whereby the Instrumental in (38):

(38) Algy wiped the fork *with a clean napkin*

is (whatever else) an abs, an abs which, like the (italicized again) abs in (39.a) also denied status as a grammatical relation, is also marked as such by *with*:

(39) a. Bob loaded the cart *with apples*  
 b. Bob loaded apples onto the cart

Anderson (1997a: section 3.1.2) argues that the sentences in (39) display the roles given respectively in (40):

(40) a. {erg}            {abs,loc}    {abs}  
 b. {erg}            {abs}        {loc}

with the “holistic” character of the locative in (a) (such that the {abs} entity *apples* exhausts the relevant dimensions of the location) being associated with co-presence of abs. The *with*-marking in (39.a) signals that the simple {abs} argument has been “passed over” with respect to object status, it does not bear a grammatical relation. In (38) the circumstantiality of the second abs precludes grammatical relation status, and the non-grammatical-relation-bearing abs is again marked with *with*. And we could take Comitatives also to be such – i.e. circumstantial abs, whatever other relation – presumably loc – might be involved:

(41) a. Mary left *with her sisters*  
 b. Beppo murdered Mary *with her sisters*

Comitatives typically show an “ergative” pattern, being construed in both examples in (41) along with the participant abs, subject in (a), object in (b). See further Korponay (1985: section 2.2) for exemplification and discussion of further potential instances of abs *with*.

The status of *with* as marker of “disenfranchised” abs leads to ambiguities such as that in (42):

(42) Fred ate his couscous *with vine leaves*

The Instrumental circumstantial abs associated with the “implement” sense of *with vine (grape) leaves* can be differentiated from the Comitative as simultaneously also {loc,abl}, i.e. a Path, rather than simply {loc}. Some Instrumentals, such as that in (43.a):

- (43) a. Walt travelled *by car*  
 b. Walt left *by the back door*

show a marker reflecting this status as “abstract” Paths – cf. the more obviously “path”-like (b). Similarly, the circumstantial Agentive of (44.a) – which can be represented as {erg,loc,abl}:

- (44) a. He arranged it *through his solicitors*  
 b. She travelled *through Epirus*

shares its marker with the Path – {loc,abl} – of (b). The circumstantial Agentive of (44.a) lacks the abs of the Instrumental, and is thus presented as less immediately controlled, while its erg is associated with relative independence of action.

This gives us the circumstantial characterisations involving non-PLACE relations in (45.a):

- |         |            |               |               |
|---------|------------|---------------|---------------|
| (45) a. | Comitative | Instrumental  | Agentive      |
|         | {loc,abs}  | {loc,abl,abs} | {erg,loc,abl} |
| b.      | {erg,loc}  |               |               |

This pattern suggests that there should also be a (45.b) possibility. I suggest that there are two, one directional and the other not. The latter is illustrated by (46.a), the former by the Benefactive of (b):

- (46) a. His parrot has just died *on him*  
 b. Tarquin built a beautiful new house *for his wife*

These are circumstantial Experiencers/Recipients. As with Instrumentals and Agentive circumstantials, Benefactives modify an Agentive verb. However, Benefactives in English can also occupy an “internal”, object position, as in (47):

- (47) Tarquin built *his wife* a beautiful new house

We could perhaps associate this with the specification {erg,loc,abs}, which (exceptionally) enables the circumstantial to share objecthood, and, indeed, to outrank the participant {abs} (*a beautiful new house* in (47)) in this respect. However, it seems to me that Anderson (1997a: 241-3) provides a preferable account of such Benefactives (involving a complex derived predicator).

This sketch of the representations for a range of circumstantials is intended to illustrate the possibility that they do not require reference to semantic relations additional to those appropriate to distinguishing participants. Indeed, if circumstantials all involve a PLACE relation, as in the examples considered above, then the set of possibilities with them is even more restricted, and the circumstantials even more obviously localist. The structuring of the “abstract” circumstantial domains – such as Poutsma’s “causality”, “manner” – rather obviously involves “literal” (or suppletive – Anderson 1987) locational/directional metaphors. Regrettably, I can not elaborate on this here, in that other concerns

demand our attention. Relevant discussions are Lakoff & Johnson 1980; Paprotté & Dirven 1985; Claudi & Heine 1986; Lakoff 1987; Heine *et al.* 1991; and many more recent contributions. Let us look now, rather, at another, somewhat different respect in which the theory of semantic relations underlying table 1 might be considered to be under-expressive.

## 6 Complex relations

Even in some systems of inflexional case, it is clear that the range of distinctions allowed for by the set of semantic relations in table 1, even in combination, is not sufficient to provide for all the alleged differences in case. Hjelmslev (1935/37) was perhaps the first to provide an explicit formulation of the other “dimensions” which appear to be appropriate to the characterisation of the semantic domain of the category of case. However, in many languages these dimensions are relevant only to the description of adpositions, or of (relational) nouns – and this will influence the discussion which follows, which argues that further dimensions – i.e. beyond what is allowed for by table 1 – are independent of the role dimension and fail to show its syntactic centrality, and therefore should not be attributed to the category that Anderson (1997a) dubs “functor”, which, as we have noted, may be realised by means of adposition or (case) inflexion. However, let us begin by looking at the phenomena with which we must be concerned, taking as our starting-point Hjelmslev’s detailed illustration of the articulation of his three dimensions with respect to the (morphological) case systems of the Caucasian languages Tabassarian and Lak. Here I concentrate on the former.

Hjelmslev’s first dimension, then, “direction”, covers roughly the same semantic domain as table 1 – though, unlike the nineteenth-century localists, he extends a localist interpretation to nominatives, which Anderson (1977, 1997a) regards as realising a “neutralised”, grammatical relation). The dimension displays three zones, negative (‘from’), neutral and positive (‘to’), with which particular cases may be associated, with (in any system, and varying in identity from system to system) one case, the “intensive” term, concentrated on one of the zones and the rest being semantically more diffuse (“extensive”). (For more detailed discussion of Hjelmslev and other earlier localists, see Jessen 1975; Miller 1985; Anderson 1994a.)

The second dimension, with poles which Hjelmslev labels “cohérent” vs. “incohérent”, involves “une différence dans le degré d’intimité avec lequel les deux objets envisagés par le rapport casuel sont liés ensembles” (1935: 96). This allows us to differentiate, among other things, between the “local” cases (or adpositions) traditionally labelled inessive vs. adessive, illative vs. allative, elative vs. ablative: the former are “cohérent”. We can illustrate this distinction (in quasi-Hjelmslevian fashion) with the partial paradigm from Finnish presented in table 2.

	0	+	÷	
incohérent	talolla	talolle	talolta	‘ad-’/‘ab-’
cohérent	talossa	taloon	talosta	‘in-’/‘ex-’
		‘ad-’/‘in-’	‘ab-’/‘ex-’	
‘-essive’		‘-lative’		

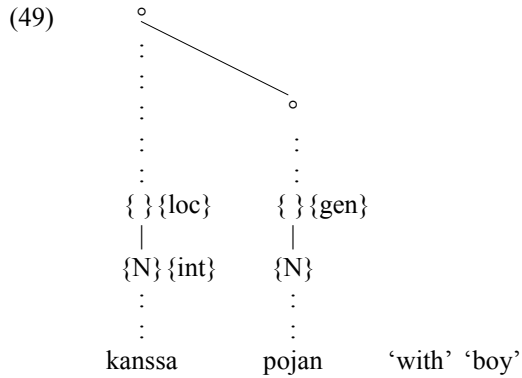
Table 2: *Interior and non-interior cases in Finnish*

The top row of “0 + ÷” in table 2 differentiates the case forms (“neutral”, “positive”, “negative”) along the (horizontally presented) dimension of “direction”; the vertical dimension of the table represents “(in-)cohérence”, as indicated by the column on the far left. I have described the display in the table as “quasi-Hjelmslevian” in that, in terms of Hjelmslev’s theory of case, the assignment of case forms to categories involves other considerations than are taken account of in table 2, such as the distinction (alluded to above) he makes between “intensive” vs. “extensive” terms in a dimension. But it does represent a commonly adopted articulation of such a sub-system: the “cohérent” cases of table 2 are sometimes called “interior”, as incorporated into the table legend.

The third Hjelmslevian dimension involves “subjectivité” vs. “objectivité”, distinguished by him as follows: “Une relation entre deux objets peut être pensée *objectivement*, c’est-à-dire sans égard à l’individu pensant, et elle peut être pensée *subjectivement*, c’est-à-dire par rapport à l’individu pensant” (1935: 132). Hjelmslev illustrates this with the distinction between the French prepositions *devant* and *derrière*, on the one hand (“subjective”), and *au-dessus* and *au-dessous*, on the other (“objective”). Lyons (1968: section 7.4.6), for instance, also distinguishes between a “relative” vs. an “absolute” point of reference, where “by a ‘relative’ point of reference is meant some component of the typical situation of utterance which serves for the indication of situation or direction”. This description suggests a distinction akin to Hjelmslev’s. But the term “*relative* point of reference” (my italics – JA) thus does not seem to be sufficiently restrictive, distinctive. Indeed, any elaboration beyond Hjelmslev’s first dimension involves “relativity” of some sort: “interior” cases locate something in a space defined “relative” to (the boundaries of) some object. Those cases traditionally labelled “relative” (corresponding to e.g. *near*) attribute location in a (possibly one-dimensional) space relative to an object. It seems clear from their discussions that both Hjelmslev and Lyons, however, are invoking specifically (pseudo)-deictic relativity with respect to the third dimension. However that may be (see further below), this third dimension allows Hjelmslev to distinguish the set of possessive cases (‘at/to/from behind’ – “posterior” cases) in a language like Tabassarian (which requires all three of his dimensions – cf. 1935:







It is the nominal that embodies the interiority dimension, however it is to be characterised (the feature “int” being an obvious stopgap). And I am suggesting in general that distinctions beyond Hjelmslev’s dimension of “direction” – such as are indicated by “int” in (48/49) – are associated with incorporated {N}s designating spaces relative to a reference entity; it is this which characterises relative cases, or – more generally – relative functors. Such incorporations are permitted centrally to cases which are purely PLACE (in terms of the components of table 1).

The potential internal complexity of morphologised functors is apparent even in a language like Tabassarian, with respect to most of the system of cases. Thus, the cases of Tabassarian that Hjelmslev differentiates as the “instrumental-comitative” and the “supracomitative” share a formative *-ri* which combines with distinct formatives to form morphological complexes: the expression of “instrumental-comitative” is *-f-ri*, with the *-f* formative recurring in the “second conversive” *-f-indi*, for instance. Hjelmslev (1935: 141) recognizes that the individual formatives in such sequences (in Tabassarian and elsewhere – e.g. Lak, pp.166-83) – what he terms “particules” – have independent semantic content: each is associated with a “cellule”. The second formative in the sequence expresses distinctions associated with the dimension of “direction”, distinctions also attributable to combinations of the semantic relations in table 1; the first specifies the nature of the relative space invoked. Consider the paradigm of table 3:

	subessive	second-inessive
lative	-k-na	-f-na
comitative	-k-ri	-f-ri
directive	-k-indi	-f-indi
ablative	-k-an	-f-an
locative	-k	-f

Table 3: *Subessives and second-inessives in Kabardian*

which reflects combinations of either a “subessive” or “second-inessive” first-place “particule” (horizontally) with all of the second-place distinctions (vertically). Table 3 uses Hjelmslev’s alternative, more transparent labels for cases, which makes clear the significance of the component parts displayed in the examples of the table. Hjelmslev (1935: 141-4) distinguishes eight possibilities among the first-position formatives represented by *-k* and *-f* in the table:

first-adessive, first-inessive, interessive, postessive,  
second-adessive, second-inessive, superessive, subessive

which combine with the five-way distinction among second-place elements to generate 40 of the complement of cases.

The character of Hjelmslev’s descriptions of the cases, which finds little to differentiate between, respectively, the first- and second-adessive and the first- and second-inessive, except that the latter “se prêtent plus ... aux emplois ‘abstraites’ et purement syntagmatique” (1935: 144), suggests that all of the “local” (i.e. purely PLACE in terms of the decomposition suggested in table 1) cases of Tabassarian are relative. Thus, for instance, not only does the “particule” of the first-inessive “insiste toujours sur l’idée de l’intérieur (le fait d’être contenu à l’intérieur de, ou de pénétrer dans ou sortir de l’intérieur, respectivement)” (Hjelmslev 1935: 142) but also the first-adessive “insiste toujours sur l’idée de l’extérieur, d’une façon analogue” (p.143). The relative-space first-place formatives combine with the second-place to form relative cases. Hjelmslev glosses the lative second-inessive *-f-na* as “allant à, pénétrant dans” (1935: 156), and the lative second-adessive *-h-na* as “indiquant un rapprochement, d’ordinaire sans pénétration” (p.155), so that e.g. *fu’ri-h-na* is translated as “allant près de la voiture”.

We can contrast here, for example, the non-relative (i.e. simplex) *at*, *to* and *from* of English. Lindkvist, for example, says (1950: section 602) of a central use of *to*:

*To* is used to indicate a movement directed towards an object apprehended as the goal of the movement and reaching it or a point in such immediate proximity to it as to admit of the conception of the object as reached by the movement.

and he comments (1950: section 204) on one use of *at*:

*At* is used with complements denoting areas, surfaces and spaces to represent them as *points* and indicate that something is located *within an area or space or on a surface*, but only with a view to localization, not to stressing their character as enclosing spaces or supporting surfaces etc.

What Lindkvist is describing are what I have been calling non-relative functor uses, which do not locate via an associated space. Compare with these descriptions his comments (1950: section 2), for example, on the central use of *in*:

*In* is used to indicate the body in the interior of which an object is situated. The relative directional locs in English are, appropriately, overtly more complex: *into*, *onto*.

I am proposing, then, that the distinctions introduced by the first-place formatives in the Tabassarian case system are distinct from the system of semantic relations and are not intrinsic to the functor category; they reflect, as elsewhere, incorporated relational {N}s. But what of the second-place formatives distinguished by the rows in table 3? Consider the glosses suggested by Hjelmslev (1935: 141), replicated here:

lative: “exprimant le mouvement vers, et par conséquent un rapprochement net”;  
 comitative: “désignant accompagnement, ‘(ensemble) avec’ ...?”;  
 directive: “indiquant la direction vers, mais sans comporter nécessairement l’idée nette de rapprochement”;  
 ablative: “désignant un éloignement qui est selon les circonstances plus ou moins vague”;  
 locative: “désignant le ‘repos’, ni rapprochement ni éloignement net”.

The locative is simply (non-directional) {loc}, which combines with first-place distinctions to form relative cases; Hjelmslev glosses the comitative second-adessive *-h* (locative, as usually, getting no distinct expression) as “étant près de, à côté de”. Likewise, the ablative is {abl}; Hjelmslev’s description in part reflects the frequent “abstract” uses of the “particule”, particularly with the adessives. The directive appears to contrast minimally with the lative: if we represent the “rapprochement net” of the lative, involving terminal inclusion in one of the relative spaces indicated by the first-place formatives, as being associated with an abs, we can identify lative and directive as respectively (directional) {loc,abs} and {loc}. Likewise, we can differentiate the comitative from the locative in terms of presence vs. absence of abs (cf. (45.a) above). This gives the categorisations shown in (50):

(50)	lative	comitative	directive	ablative	locative
	{loc,abs}	{loc,abs}	{loc}	{abl}	{loc}
	directional		directional		

In this way, the second-place formatives, unlike the first-place, can be said to realise the content of the functor category itself, given the characterisation of the relations attributable to functors provided by table 1.

Tabassarian also shows two cases which look like specialisations of combinations involving the ablative *-an*: the “temporal postessive” – better, I think, “temporal ablative” – *-lan* ‘after’; and the “ablative-comparative” *-t’an*. More transparently, the “equative-predicative” *-s-u* combines the “equative” *-sa* ‘like’ and “predicative” *-a/-o/-u*. Given this, it is tempting to take the “equative” to involve a first-place formative, so that apparently uncombined instances, as in *ner-sa* ‘like a stream’ (Hjelmslev 1935: 148), are interpreted as (equative-)locatives, with (as is

usual with Tabassarian locatives) zero second-place formative: cf. the final row of table 3. ‘Likeness’ is then another “space” for relative location. However, otherwise the “predicative” marks predicative adjectives only, just as the “attributive” in *-i* (Hjelmslev 1935: 139-40, 154) attaches to just adjectives. This suggests that the “equative” is an adjectivaliser (cf. English *stream-like*), just as the *-d* formative of (51) is a nominaliser:

- (51) bic’ur-d-i  
 little-NML-ERG (‘the little one’)

(Hjelmslev 1935: 140). And just as, following Hjelmslev, we can dismiss this latter as a case (“... il ne s’agit pas d’un morphème casuel ...”), so too the “equative” would be basically derivational. The simple “equative” may, as an adjective, be either attributive or predicative; the “equative-predicative” is only predicative. The “equative” may also take a noun inflected for genitive as a base (= ‘like that of a N’); this supports a derivational rather than inflexional interpretation. And this is a conclusion that seems to be generalisable – as I shall now argue.

Despite the tradition whereby similar phenomena are referred to in French grammars of Basque as “surdéclinaison”, the interpretation of such structures again involves a derived nominal, it would appear. Relevant forms appear in (52):

- (52) a. etcheko ‘of the house’  
 b. etchekoak ‘those/the people of the house’  
 c. etchekotzat ‘for (the benefit) of the house’

*Etcheko* in (52.a) is marked with the “local genitive” suffix *-ko*, which can function as an independent case, e.g. as marking the “modifier” of another noun (*etcheko nausia* ‘the master of the house’); but in (52.b) and (c) other inflexions have been added, respectively the plural absolute (called “nominative” in many grammars of Basque – as is the corresponding case in Tabassarian grammars) and the prolativ (“for ...”). However, rather than suggesting that in such instances a single simple noun bears two cases, it seems preferable to regard the “local genitive” in (52.a) as being able to form the base for a derived noun to which may then be added further case inflexions. The structure of (52.b) and (c) thus involve two nouns, one derived from the other; what is unusual is that the base noun in (52), as in the Tabassarian “genitive-equative”, is itself inflected for case. But I’m suggesting that the complexity here is basically derivational rather than inflexional.

The “equative” of Tabassarian thus does not require any extension of our idea of the content of case. Nor, I suggest, do markers of predicativity or attributiveness. The other Tabassarian cases appear to be simplex (but some of them sometimes select a different stem from the complex cases illustrated in table 3). One of these is a dative, interpretable, as commonly, as {erg,loc}:

- (53) iču-z ivu raqö'darčuz  
 us-DAT you not-see ('We don't see you')

(Hjelmslev 1935: 154). There is also a case, without overt marker, which is associated with abs, whether or not the abs is simultaneously erg – the so-called “nominative” – and one, illustrated in (51), that typically marks a transitive Agentive. We have, as in Basque, an “ergative” morphological system. The latter is also an “instrumental” marker (Hjelmslev *ibid.*), a not uncommon situation, and not unsurprising, given the representations in (45.a).

Again, none of this requires elaboration of the notion of semantic relation envisaged here. Laying aside the formation of the Tabassarian “equative” (as derivational) and the marking of predicatability and attributiveness, we can say that an examination of this most extensive of case systems does not provide us with motivations for attributing to the functor category content additional to that allowed for by table 1. The complexity of the system involves combinations of the semantic relations and, particularly, incorporation of “relational” nominals. Since these {N}s complement the functors, and they may, in different systems, be given independent realisation (as in *in front of* or the Finnish of (49)) as well as morphological (as in Tabassarian), it is unsurprising that the morphological presence of Hjelmslev's other dimensions, interpreted here as involving such {N}s, presuppose that of the first, functoral one – Hjelmslev's dimension of “direction”.

It is the functoral distinctions – combinations of abs, erg, loc, abl – in terms of which predicators are subcategorised. Choice of the “relational” noun that complements a functor may selectionally “fine-tune” the subcategorisation: so, English *enter*, for example, requires a loc that is “interior”, as indicated in (54.a)

- (54) a. They entered into negotiations  
 b. They entered the room

though this is not overt when the loc is combined with abs, as in (b); but, basically, *enter* is, subcategorisationally, simply a directional verb. Trivially, “interior-as-goal” is a kind of goal.

Once more, it is not possible to demonstrate that there are not phenomena in some language(s) which arguably involve case – or, more generally, functors – and which require elaboration of the theory given here. But I suggest that the proposed delimitation of the domain of semantic roles and the general applicability of the theory – together with the demonstration of particular applicability to potentially problematical systems such as that of Tabassarian – both make that unlikely and determine what would count as counter-evidence. For an example of the latter: is there an “abstract” semantic (case) relation which is not reducible, on good grounds, to some combination of the elements allowed for in table 1? This is what Anderson (1977: ch.2; 1978; 1984b; 1987) tried to show was not true of the proposed

Experiencer/Dative relation. Again, a number of languages have had attributed to their case systems a partitive. Are such problematical for the localist theory advocated here?

Concerning partitives we can immediately observe that typically they are diachronic specialisations of an ablative, and that, in so far as they realise a functor marking a participant in a predication, they signal not so much, as with other cases, the manner of participation of an argument as the degree. In Finnish, for instance, the partitive both retains “ablative” uses, as illustrated by (55.a):

- (55) a. Jussi tuli kotoa  
         J. came home:PART    (‘Jussi came from home’)  
       b. Jussi sai rahaa  
         J. got money:PART   (‘Jussi got (some) money’)  
       c. Luin kirjaa  
         I:read book:PART    (‘I was reading the/a book’)

(Rigler 1992: section 4.1), and elsewhere signals “partial involvement”, as in (b) and (c), often translatable in “aspectual” terms, as in (c). Anderson (1997a: 297) suggests that these latter usages reflect, as elsewhere, as illustrated by (56), the role of the partitive in NP structure:

- (56) pullo viskiä  
       bottle whisky:PART   (‘bottle of whisky’)

rather than signalling a clausal relation. And he points out that this is confirmed by the fact that even if the number of the initial noun in (57) were plural the verb would remain singular:

- (57) Leipää on pöydällä  
       bread:PART is on:the table   (‘There is some bread on the table’)

The partitive signals NP-internal structure. The semantic role of that NP in the clause, and that of the postverbal NPs in the predications in (55.b) and (c) is that of abs. And the role of the partitive in NP structure is in turn characterisable in terms of SOURCE, as suggested by its association with ablatives: the partitive marks the label for the whole from which is extracted some subpart.

Here and elsewhere the localist hypothesis involves an expectation that no semantic relations beyond those allowed for by combination of the features of table 1 – and thus no purely “abstract” relations – will be encountered.

#### Note

\* I acknowledge with gratitude that the initial work for this paper was carried out while the author enjoyed a British Academy Readership (1991-3). It thus shared its gestation with the book that forms the major outcome of the Readership, Anderson

(1997a), as well as with work leading to Anderson (1994a,b). Parts of the present work – particularly the introduction and the following three sections – can thus be seen to expand on the relevant parts of these publications, particularly the last of them.

### References

- Abraham, Werner (ed.)  
1978. *Valence, semantic case, and grammatical relations*. Amsterdam: Benjamins.
- Allerton, David J.  
1982. *Valency and the English verb*. London & New York: Academic Press.
- Anderson, John M.  
1971. *The grammar of case: Towards a localistic theory*. Cambridge: Cambridge University Press.  
1973. *An essay concerning aspect*. The Hague: Mouton.  
1977. *On case grammar: Prolegomena to a theory of grammatical relations*. London: Croom Helm.  
1978. On the derivative status of grammatical relations. In: Abraham (ed.), 661-94.  
1982. Case grammar: The motion picture. Linguistic Agency, University of Trier.  
1984a. En tout cas. *LALIES* 3: 7-24.  
1984b. The natural history of dative sentences. In: Blake & Jones (eds.), 241-78.  
1986. Structural analogy and case grammar. *Lingua* 70: 79-129.  
1987. Case grammar and the localist hypothesis. In: Dirven & Radden (eds.), 103-21.  
1989. The localist basis for syntactic categories. In: Kakouriotis (ed.), 7-32.  
1992. *Linguistic representation: Structural analogy and stratification*. Berlin: Mouton de Gruyter.
- 1994a. Localism. In: Asher (ed.), 2276-82.  
1994b. Case grammar. In: Asher (ed.), 453-64.  
1997a. *A notional theory of syntactic categories*. Cambridge: Cambridge University Press.  
1997b. Review of Schlesinger 1995. *English Language and Linguistics* 1: 369-78.
- Asher, R.E. (ed.)  
1994. *Encyclopedia of language and linguistics*. London: Pergamon.
- Bach, Emmon & Robert T. Harms (eds.)  
1968. *Universals in linguistic theory*. New York: Holt, Rinehart & Winston.
- Blake, Norman F. & Charles Jones (eds.)  
1984. *English historical linguistics: Studies in development*. (CECTAL Conference Papers 3.)



- Böhm, Roger  
1982. *Topics in localist case grammar (with especial reference to English and German)*. D.Phil. thesis, New University of Ulster.
- Broadwell, G.A.  
1988. Multiple  $\Theta$ -role assignment in Choctaw. In: Wilkins (ed.), 113-29.
- Bybee, Joan L. & Östen Dahl  
1989. The creation of tense and aspect systems in the languages of the world. *Studies in Language* 13: 51-103.
- Chapin, Paul G.  
1972. Review of Stockwell, Schachter & Partee 1968. *Language* 48: 645-67.
- Claudi, Ulrike & Bernd Heine  
1986. On the metaphorical base of grammar. *Studies in Language* 10: 297-335.
- Cole, Peter W. (ed.)  
1977. *Current issues in linguistic theory*. Bloomington, Ind.: Indiana University Press.
- Cook, Walter A.  
1978. A case grammar matrix model (and its application to a Hemingway text). In: Abraham (ed.), 296-309.  
1989. *Case grammar theory*. Washington DC: Georgetown University Press.
- Culicover, Peter W. & Wendy Wilkins  
1986. Control, PRO, and the projection principle. *Language* 62: 120-53.
- Dahl, Östen  
1987. Case grammar and prototypes. In: Dirven & Radden (eds.), 147-61.
- Davidson, Donald A. & Gilbert H. Harman (eds.)  
1972. *Semantics of natural language*. Dordrecht: Reidel.
- Dirven, R. & G. Radden (eds.)  
1987. *Concepts of case*. Tübingen: Günter Narr.
- Dixon, R.M.W. (ed.)  
1976. *Grammatical categories in Australian languages*. Cambridge: Cambridge University Press.
- Dougherty, Ray S.  
1970. Recent studies in language universals": Review of Bach & Harms 1968. *Foundations of Language* 6: 505-61.
- Dowty, David  
1991. Thematic proto-roles, subject-selection, and lexical semantic defaults. *Language* 67: 547-619.
- Fillmore, Charles J.  
1968. The case for case. In: Bach & Harms (eds.), 1-88.

1969. Types of lexical information. In: Kiefer (ed.), 109-37; also in: Steinberg & Jakobovits (eds.), 370-92.
- 1971a. Some problems for case grammar. *Georgetown University Monograph series on Languages and Linguistics* 24: 35-56.
- 1971b. Verbs of judging. In: Fillmore & Langendoen (eds.), 273-89.
1972. Subjects, speakers and roles. In: Davidson & Harman (eds.), 1-24.
1977. Topics in lexical semantics. In: Cole (ed.), 76-138.
- Fillmore, Charles J. & D. Terence Langendoen (eds.)  
1971. *Studies in linguistic semantics*. New York: Holt, Rinehart & Winston.
- Foley William A. & Robert D. van Valin  
1984. *Functional syntax and universal grammar*. Cambridge: Cambridge University Press.
- Green, A.  
1914. The analytic agent in Germanic. *Journal of English and Germanic Philology* 13: 514-52.
- Greenberg, Joseph H., Charles A. Ferguson & Edith A. Moravcsik (eds.)  
1978. *Universals of human language, 3: Word Structure*. Stanford CA: Stanford University Press.
- Gruber, Jeffrey S.  
1965. *Studies in lexical relations*. Ph.D. dissertation, MIT.
- Heine, Bernd, Ulrike Claudi & Friederike Hünemeyer  
1991. From cognition to grammar - evidence from African languages. In: Traugott & Heine (eds.), 149-87.
- Hjelmslev, Louis  
1935/37. La catégorie des cas. *Acta Jutlandica* 7: i-xii, 1-184; 9: i-vii, 1-78.  
[Reprinted 1972, Munich: Fink.]
- Huddleston, Rodney D.  
1970. Some remarks on case grammar. *Linguistic Inquiry* 1: 501-11.
- Jackendoff, Ray S.  
1976. Toward an explanatory semantic representation. *Linguistic Inquiry* 7: 89-150.  
1983. *Semantics and cognition*. Cambridge MA: MIT Press.  
1990. *Semantic structures*. Cambridge MA: MIT Press.
- Jessen, Marilyn E.  
1975. *A semantic study of spatial and temporal expressions in English*. Ph.D. thesis, University of Edinburgh.
- Kakouriotis, A. (ed.)  
1989. *Second symposium on English and Greek: Description and/or comparison of the two languages*. Thessaloniki: School of English, Aristotle University.

- Kiefer, Ferenc (ed.)  
1969. *Studies in syntax and semantics*. Dordrecht: Reidel.
- Korponay, Béla  
1985. *Outlines of a Hungarian-English case grammar*. Budapest: Tankönyvkiadó.
- Lakoff, George R. & Mark Johnson  
1980. *Metaphors we live by*. Chicago IL: Chicago University Press.
- Langendonck, W. van  
1974. Internally referring prepositions and the subcategorization of space and time denominations in a Netherlandic case grammar. *Leuvense Bijdragen* 63: 1-41.
- Lichtenberk, Frantisek  
1991. Semantic change and heterosemy in grammaticalization. *Language* 67: 475-509.
- Lindkvist, Karl-Gunnar  
1950. *Studies on the local sense of the prepositions in, at, on, and to in Modern English*. Lund & Copenhagen: C.W.K. Gleerup & Ejnar Munksgaard.
- Longacre, Robert E.  
1976. *An anatomy of speech notions*. Lisse: Peter de Ridder.
- Lyons, John  
1968. *Introduction to theoretical linguistics*. Cambridge: Cambridge University Press.  
1977. *Semantics*. Cambridge: Cambridge University Press.
- Miller, Jim E.  
1985. *Semantics and syntax*. Cambridge: Cambridge University Press.
- Moravcsik, Edith A.  
1978. On the distribution of ergative and accusative patterns. *Lingua* 45: 233-79.
- Nilsen, D.L.F.  
1973. *The instrumental case in English*. The Hague: Mouton.
- Ostler, N.  
1980. *A theory of case-linking and agreement*. Bloomington, Ind.: IULC.
- Paprotté, Wolf & René Dirven (eds).  
1985. *The ubiquity of metaphor*. Amsterdam: Benjamins.
- Poutsma, H.  
1928. *A grammar of late Modern English, I: The sentence, I*. 2nd edn. Groningen: Noordhoff.
- Radden, G.  
1978. Can 'area' be taken out of the waste-basket? In: Abraham (ed.), 327-38.

- Rigler, Elina  
1992. *The spatio-temporal structure of narrative texts: A study of aspect*. Ph.D. thesis, University of Edinburgh.
- Schlesinger, Izchak M.  
1995. *Cognitive space and linguistic case*. Cambridge: Cambridge University Press.
- Schuchardt, Hugo  
1922. [ed. Leo Spitzer] *Hugo Schuchardt Brevier*. Halle: Niemeyer.
- Silverstein, Michael  
1976. Hierarchy of features and ergativity. In: Dixon (ed.), 112-71.
- Somers, Harold L.  
1987. *Valency and case in computational linguistics*. Edinburgh: Edinburgh University Press.
- Starosta, Stanley  
1988. *The case for lexicase grammatical theory*. London & New York: Pinter.
- Steinberg, Danny D. & Leon A. Jakobovits (eds.)  
1969. *Semantics: An interdisciplinary reader*. Cambridge: Cambridge University Press.
- Stockwell, Robert P., Paul Schachter & Barbara Hall Partee  
1972. *The major syntactic structures of English*. New York: Holt, Rinehart & Winston.
- Tarvainen, K.  
1987. Semantic cases in the framework of dependency theory. In: Dirven & Radden (eds.), 75-102.
- Traugott, Elizabeth  
1978. On the expression of spatio-temporal relations. In: Greenberg *et al.* (eds.), 369-400.
- Traugott, Elizabeth & Bernd Heine (eds.)  
1991. *Approaches to grammaticalisation*. Amsterdam: Benjamins.
- Wilkins, Wendy (ed.)  
1988. *Thematic relations (Syntax and semantics 21)*. New York: Academic Press.