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Metalinguistic diversity:
the Case from Case[1]

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1. Metalinguistic relativity

Translating across languages is never easy; and linguists have a longstanding interest in what gets lost in the translation and why. Translating across metalanguages is no easier; but for various reasons linguists have a longstanding disinterest in what gets lost in the translation and why — being generally more concerned to promote one perspective as 'true' with respect to a particular regime of truth (cf Foucault 1985) and to dismiss competing perspectives as 'false' with respect to that regime. Diversity across languages has in other words, been widely celebrated; whereas diversity across metalanguages has proven cause for concern. Contradiction has been promoted over complementarity, inadequacy over point of view, hegemony over heteroglossia, consistency over dialogism, economy over utility and so on. In this chapter a case will be made for valuing metalinguistic diversity alongside linguistic diversity, taking case relations as the focus of discussion. It will be suggested that there is more to be learned from an engaging conversation among complementary analyses,[2] than from the in/tolerance that has so often pre-empted constructive discussion in contemporary linguistics.[3]

2. Metalinguistic diversity

Work on case relations has been inspired by two main traditions of research, originating from the late 60s (from the work of Fillmore 1968 on case, and of Halliday 1967a, 1967b, 1968 on TRANSITIVITY and THEME). If we take Levin

(1985) and Halliday (1985) as exemplary, then there is no evidence of dialogue across these two traditions. The scope of the linguistic resources construed by the two research paradigms is however largely overlapping, with attention given to labelling of participant roles[4] and circumstances (cases for Fillmore) and to classification of the processes in which they are involved (subcategorization of verbs for Fillmore), alongside mechanisms for co-ordinating participant roles (or cases) and process types (or verbs). In order to display something of the diversity of descriptions which have evolved, we will begin here by reviewing Fillmore's original (1968) suggestions for cases and attempting to translate them into Halliday's (1985) participant roles and circumstances — drawing on the two publications which represent the most comprehensive and systematic introduction to each author's framework. This will be followed by a display of diversity in process classification and a brief note on argumentation.

2.1 *Participant roles and circumstances (cases)*

Fillmore's initial suggestions for cases, proposed as language neutral (i.e. universal), are reviewed in Table 1 (as worded in Fillmore 1968).

Table 1. *Suggestions for a universal case inventory: Fillmore 1968*

Agentive (A):
the case of the typically animate[5] perceived instigator of the action identified by the verb.
Instrumental (I):
the case of the inanimate force or object causally involved in the action or state identified by the verb.
Dative (D):
the case of the animate being affected by the state or action identified by the verb.
Factitive (F):
the case of the object or being resulting from the action or state identified by the verb, or understood as part of the meaning of the verb.
Locative (L):
the case which identifies the location or spatial orientation of the state or action identified by the verb.
Objective (O):
the semantically most neutral case, the case of anything representable by a noun whose role in the action or state identified by the verb is identified by the semantic interpretation of the verb itself; conceivably the concept should be limited to things which are affected by the action or state identified by the verb. The term should not be confused with the notion of direct object, nor with the name of the surface case synonymous with accusative.
Benefactive (B); *Time* (T); *Comitative* (C) [all undefined JRM]..

Note that the cases are defined notionally (as with the definition of categories such as noun in traditional school grammar e.g. a noun is the name of a person, place or thing; cf Starosta 1990 on Fillmore's 'situational' categories). There is thus a strong anti-Whorfian bias in this tradition: languages are held to construe reality through the same set of case relations. The linguist's job is to determine how case relations are realised in a given language and to classify the verbs with which these case relations may co-occur.

Fillmore's cases are translated into Halliday's 1985 framework in Table 2. The English prepositions Fillmore associates with cases are listed in bold

Table 2: Participants roles in Fillmore 1968 and Halliday 1985 compared

Fillmore	Halliday	Case for case: Examples
Agentive	animate Actor (Agent or Medium)	29: he opened x, 27: he ran
by	Behaver	31: he looked
	Sayer	28: he said..
Instrumental	inanimate Actor [effective] (Agent)	31,42: wind opened x
by, with	Circumstantial: manner: means	32,43: opened with chisel
Dative	Senser	34,35: he believed..
to	Recipient	27: he gave him a book
{Experiencer}	animate Goal	27: he killed him
	Carrier [intensive & possessive]	27: he is sad, x has..
	Actor [middle:eventive:...]	52: he died
Factitive	Goal [effective: creative]	2: x built the table
—	Range: process	202: x had a dream..
Locative	Circumstance: locative: space	85: x are in the box
various	Carrier	3: Chicago is windy
Objective	Goal [effective: dispositive]	40: he opened the door
—	inanimate Actor [middle]	41: the door opened
{Patient}	Phenomenon	30: likes it/it pleases
	Range: entity	[play the piano]
	projections (locution, idea, fact)	28: he said they're here
	Carrier (fact)	28: it's true he's coming
Benefactive	Circumstance:cause:behalf	John did it for me
(**for**)	[possibly Client]	[He poured him a drink]
Time	Circumstance: location: time	[He left at six]
various		

Table 3. *Hallidayan participant roles and circumstances (not explicitly categorised in Fillmore 1968)*

FILLMORE	HALLIDAY	EXAMPLES
?	Circumstance: extent	[He ran *five miles.*]
?	Circumstance: matter	[They talked *of kings.*]
?	Circumstance: cause	[He died *of fright.*]
?	Circumstance: role	[He left *as a vampire.*]
?	Carrier, Attribute	[*He*'s *tired.*]
?	Token, Value	[*She*'s *the winner.*]
?	Receiver	[She told *him* "Hello."]
?	Initiator	[*He* made them march.]
?	Inducer	[*He* convinced her of it.]
?	Attributor	[*She* made her giddy.]
?	Assigner	[*They* voted him chief.]

face under the name of the case relation where appropriate. In addition, in column 3 of the Table, English examples have been provided to instantiate the case relations involved, with relevant case underlined. 'X' in the examples stands as a symbol for additional participant or circumstance. Further, with the exception of Benefactive, the example for which has been taken from Fillmore (1971), the remaining examples in column 3 paraphrase Fillmore's (1968) examples as closely as possible within the limitations of space; additional examples have been enclosed in square brackets. Later, and now more current, terms for Dative (i.e. Experiencer) and Objective (i.e. Patient[6]) are also noted.

As can be seen, although translation is possible, Fillmore and Halliday are not speaking the same meta/language. Halliday's roles cannot be read as language specific instantiations of Fillmore's universal cases; the two traditions make quite different generalisations about case relations in English. In addition there are a number of participant roles and circumstances recognised by Halliday which were not labelled in Fillmore's initial proposals (although a number of these have been considered in later work in this tradition, as reviewed in Levin 1985). These additional Hallidayan categories are outlined in Table 3 above (with my own exemples in square brackets).

2.2 *Process classification*

As might be expected given the diversity of case relations outlined above, the classification of verbs 'projecting' these relations is similarly varied. To make this point, three systems of classification will be introduced: De Guzman's 1978 classification of Tagalog verbs within the lexicase framework evolved by Starosta out of Fillmore's work, Halliday's 1985 classification of process types in English and Dixon's 1991 classification of English verbs.

De Guzman's classification is presented in Figure 1, adapting notational conventions from systemic functional linguistics (hereafter SFL). Verbs are first classified as agentive or non-agentive, both of which features are further classified as +dative or -dative; the -dative class is then classified as +locative or -locative; finally the -locative is classified as +instrument or -instrument. Relevant case frames (e.g. Agent Dative Object) and example verbs (e.g. *utos* 'order') are listed next to terminal features in the network, which have also been glossed in bold face according to the short-hand labels De Guzman suggests (e.g. **[information]**).

Classification of this kind is very much concerned with the establishment of case frames, with verb classes referring literally to the presence or absence of specific cases. Halliday's classification of process types, on the other hand,

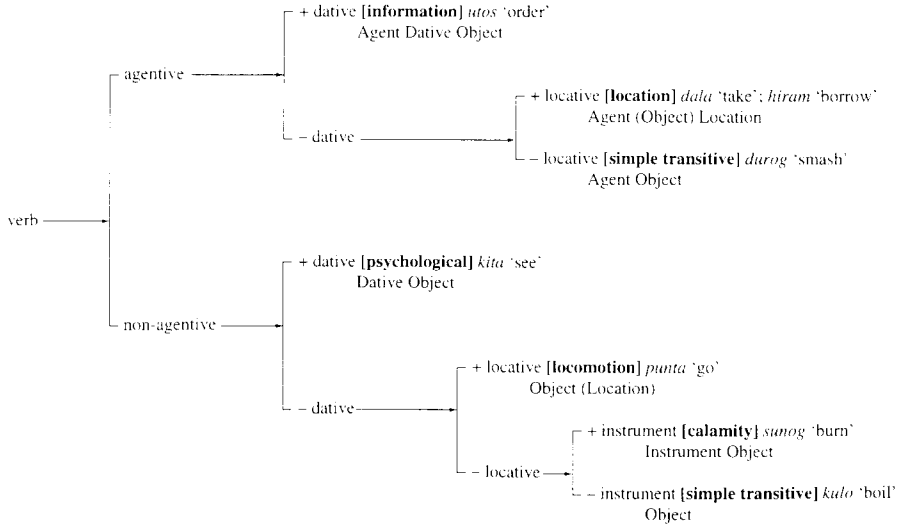

Figure 1. *Classification of Tagalog Verbs (after* De Guzman *1978)*

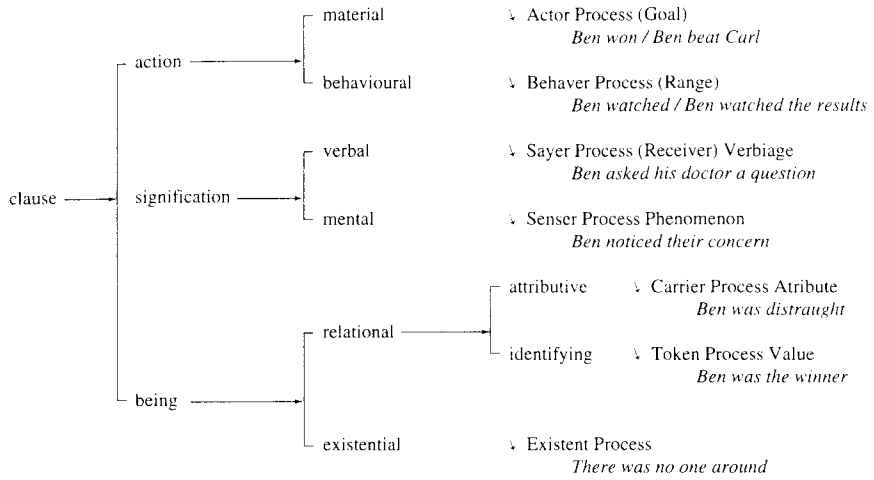

Figure 2. *Classification of English process types: elaboration of Halliday 1985*

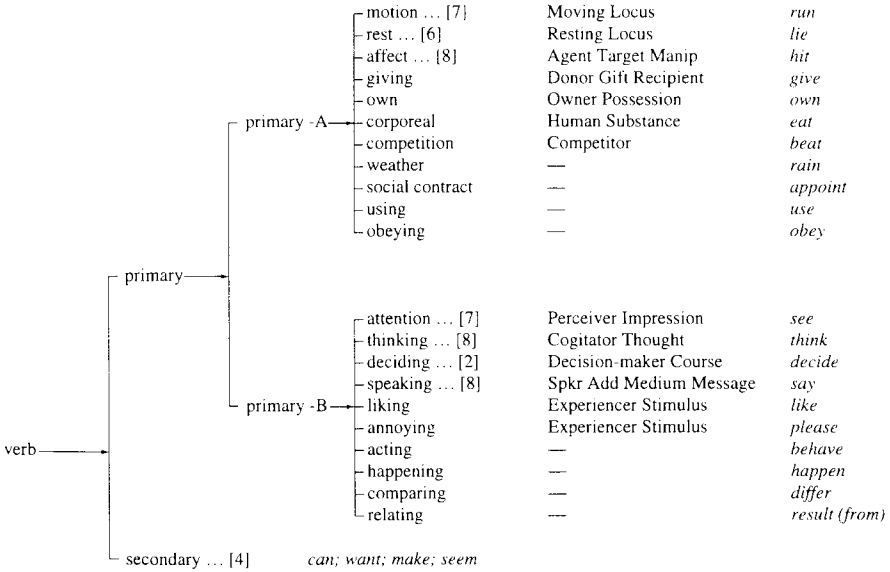

Figure 3. *Classification of English verbs in Dixon (1991)*

is not so transparently contingent on the simple presence or absence of specific participant roles. His 1985 classification is presented in Figure 2, with the features [action], [signification] and [being] introduced to formalise his grouping of [material] with [behavioural], [verbal] with [mental], and [relational] with [existential] clauses. Whereas De Guzman classifies verbs, Halliday classifies clauses — which he organises into different types of meaning. Rather than distributing the same cases in different configurations across different verb classes, Halliday associates a distinctive case frame with each kind of meaning: thus material clauses have a different case frame (Actor, Goal) to mental ones (Senser, Pheonomenon) and so on. The inventory of cases for Halliday, like the classification of process types, is treated as language specific, in contrast to case grammar (including lexicase) where the cases are universal but the verb classification is language specific. In Figure 2 the participant roles realising process type features have been specified (e.g. Sensor Process Phenomenon for mental) and exemplified by *Ben noticed their concern*. Optional roles are shown in parentheses.

Diversity in classification principles is not simply a question of the language a linguist chooses to construe (cf Martin *in press* for a Hallidayan approach to Tagalog transitivity). To illustrate this, compare Dixon's 1991 classification of English verbs with Halliday's. Dixon distinguishes between primary and secondary verbs according to whether the verb can make up a sentence by itself or not, and then among primary verbs according to the potential class (NP or clause) of their complementation (for Dixon, S stands for intransitive subject and O for transitive object; he uses A for transitive subject):

- primary: verbs which can make up a sentence by themselves
- secondary: provide semantic modifications of some other verb
- primary-a: must have NPs (no complement clauses) in SO
- primary-b: may have NPs or complement clauses in SO
- secondary-a: *can, should, be going to, begin, try, hasten, dare...*
- secondary-b: *want, wish (for), hope (for), need, require, expect...*
- secondary-c: *make, force, cause, tempt, let, help, aid, assist...*
- secondary-d: *seem, appear, happen, look; matter, count...*

Dixon's classification is outlined[7] in Figure 3, up to a certain point in delicacy (again rendered in SFL notation for ease of comparison). Dixon's primary-a and primary-b distinction is roughly comparable with Halliday's action vs signification split, though not precisely parallel. Similar to Halliday,

Dixon specifies distinctive case frames for specific classes of verb, but at a higher level of specificity — recognising say Perceiver / Impression, Cogitator / Thought, Decision maker / Course and Experiencer / Stimulus where Halliday proposes only the more general Senser / Phenomenon.

2.3 *Arguing*

Case inventory and verb class diversity of this degree of course raises questions about the kind of argumentation used to motivate categories across the two traditions. We will briefly review Fillmore's argumentation here, which is generally felt not to have been robust enough to sustain the surge of interest his paradigm initially engendered.

Initially in 1968, Fillmore drew on Whorf's work on cryptotypes. A prototypical distinction was that drawn between dispositive and creative processes on the basis of the probe 'do to'. Thus *Ruin it* counts as an acceptable response to *What did John do to the table?*, but *Build it* does not. On the basis of this reactance Fillmore distinguished between the Objective (later Patient) case in *Ruin* ***it*** and the Factitive case relation in *Build* ***it***.

Reviewing his arguments in 1977, Fillmore elaborates his reasoning, in terms of three motifs:

Motif I:

> ... we recognize an ambiguous sentence whose ambiguity can be accounted for only by assuming that one of its nominals is interpretable as bearing either of two semantic roles in the sentence ... the second step in this argument form consists in exhibiting the same verb in a sentence where it takes two different nominals, each with just one of the two semantic roles sensed in the ambiguous sentence. (Fillmore 1977: 63).

Example: Factitive vs Objective (creative/dispositive)

(1)	i	I copied the letter.	A F or A O (ambiguous)
	ii	Point to the letter which I copied.	A F or A O (ambiguous)
	iii	I copied this from that.	A F O

Motif II:

> ... we may be dealing with different case relationships whenever we find a single verb collocating with two seemingly disparate classes of nominals in a given grammatical relation, with the nominals from the two classes seeming to exemplify different semantic roles in their sentences ... and again, this argument can be taken as completed if, as step two, we can find a single sentence with the same two roles parcelled out between two separate nominals ... (Fillmore 1977: 63).

Example: Objective vs Instrumental

(2)	i	My foot hurts.	O
	ii	This shoe hurts.	I
	iii	This shoe hurts my foot.	I O

[cf *This shoe and my foot hurt; *This shoe hurts more than my foot hurts.[8]]

Motif III:

> ... In a third kind of argument that I have used, different surface verbs are taken from single vocabulary fields — pairs like *rob* and *steal* or *buy* and *sell* — verbs which have matching (or partly matching) case structures but different assignments of grammatical relations ... *an analyst ... would be able to discover* [emphasis mine, JRM], in expressions of physical pain, roles involving things as the source of the pain, the location of the pain, the experiencer of the pain, and so on; and this could be done independently of whether the same verb or different verbs were used, independently of whether the same or different choices were made in the selection and orientation of the cases. (Fillmore 1977: 64).

Example: Dative vs Objective

(3)	i	It pleased me.	O D
	ii	I liked it.	D O

In passing, note it is usually not clear which of the pair analysts are expected to discover first. If *I bought the course notes from Kinko's* is taken as basic (A O Source), then *Kinko's sold me the course notes* would have a different (Source A O) reading than if it was taken as basic (say A D O?) and *I bought the course notes from Kinko's* derived from it (as D O A?).

(4)	i	I bought the course notes from Kinko's.	if A O Source, then [D O A?]
	ii	Kinko's sold me the course notes.	then Source A O, if [A D O?]

Implicitly or explicitly, reasoning of this kind has been very influential in the field. Dixon 1991 for example treats the analysis of *John* as Agent, the *vase/table* as Target and *the stick* as Manip unproblematically in the following paradigm, apparently along these lines — taking *John hit the vase with the stick* as the baseline.

(5)	i	John hit the vase with the stick.	ATM
	ii	John hit that stick on the table.	AMT
	iii	That stick hit the vase.	MT

It is not our concern here to challenge this and other relevant argumentation *per se*, but rather to deconstruct it. For this we need to move the discussion to a higher, metatheoretical plane.

3. Issues

In order to deconstruct the diversity displayed in section 1 above we need to relativize a range of parameters that are typically taken for granted in work on case grammar. These will be considered under 6 main headings below:

a: STRATUM:
at what level of abstraction from phonology is the description pursued (grammar or semantics)?

b: METAFUNCTION:
along which ideational dimensions (experiential vs logical) is reality construed?

c: RANK AND CLASS:
what is being classified (nouns, verbs or clauses)? and where is the classification pursued (grammar, lexis or lexicogrammar)?

d: AXIS:
for what level of delicacy in the classification of processes are case labels provided?

e: EXTENSION AND CAUSATION:
what is the relation between transitive and ergative perspectives in the description?

f: TYPOLOGY/TOPOLOGY:
is the description pursued on the basis of taxonomy or proto-type?

3.1 *Strata*

The basic issue here has to do with whether case relations are aligned as grammatical or as semantic relations, and if grammatical, whether deep or surface. In the Fillmorean tradition, case relations are treated as more abstract than syntax - as deep grammar in Fillmore's original formulation; this sort of deep grammar was reread as semantic in the generative semantics literature, and reinterpreted as lexical semantics in MIT based work. For Halliday, on the other hand, case relations are handled at the level of grammar in order to

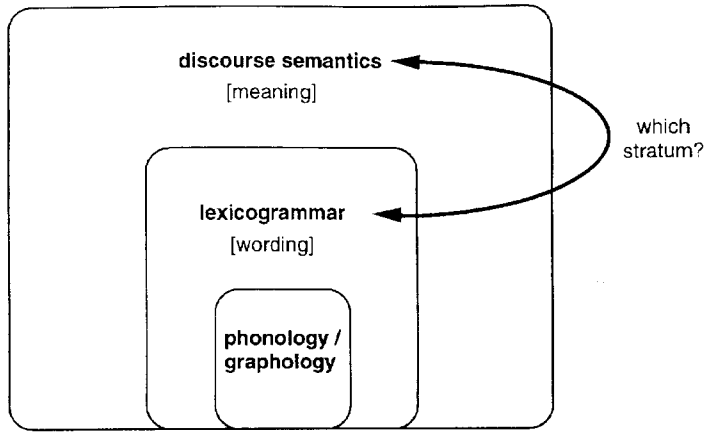

Figure 4. *Level of abstraction in the description of case relations*

enrich the argumentation that can be brought to bear; for similar reasons Starosta's lexicase framework treats case relations as relatively surface features. This issue is outlined in Figure 4, which adopts the stratal terminology proposed in Martin (1992*b*).

In part this is simply a question of architecture: what kind of modularity does a given framework use? But for some linguists, the possibility of arguing grammatically for case relations is contentious, and so needs to be addressed more fully here.

3.1.1 *What's a grammatical category?*

At the heart of this issue lies the question of what counts as a grammatical category, and what kinds of argumentation can be used to motivate one — alongside an attendant assumption that this can be legislated on a language neutral (i.e. univeral) basis. The conservative position takes a category such as English Subject as point of departure, and reviews its purportedly formal properties: it enters into agreement with the verb; it is associated with a distinctive pronominal case; and it inverts with part of the verb to distinguish mood and form tags as below:

- verb agreement — *I borrow* money / *He borrows* money.
- case[9] — *I borrowed* the money the bank *lent me*.
- subject verb inversion — *I must* borrow it / *Must I* borrow it.
- tags — I must borrow it, *mustn't I*?

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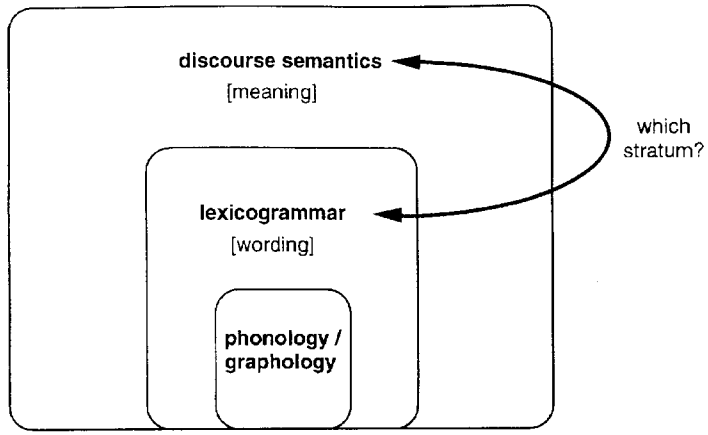

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Since in English, it is sometimes argued (see for example the debate between Huddleston 1988 and Matthiessen and Martin 1991) that relations such as Actor, Senser, Sayer and so on do not participate in 'formal'[10] associations such as these, such categories are semantic, not grammatical — and cannot be motivated in grammatical description.

If we turn to the kind of language that inspired Fillmore's original proposals however, it turns out that associations of this kind are in fact closely involved with case relations. The following paradigm from Ramos (1974) shows that Tagalog verbs are inflected to construe one peak of informational prominence, the *ang* phrase, as Agent, Object, Direction, Instrument and so on, as the following translation shows (in the translations, no attempt has been made to approximate the variation in textual meaning involved):

(6) AGENT/TOPIC:
h-um-iram ***ang*** *tao ng pera sa bangko sa pamamagitan ng*
borrowed man money bank
bahay niya.
house his
The man used his house to borrow some money from the bank.

(7) OBJECT/TOPIC:
h-in-iram ng tao ***ang*** *pera sa bangko...*
borrowed man money bank
The man borrowed the money from the bank...

(8) DIRECTION/TOPIC:
h-in-iran-an ng tao ng pera ***ang*** *bangko...*
borrowed man money bank
The man borrowed some money from the bank...

(9) INSTRUMENT/TOPIC:
i-p-in-ang-hiram ng tao ng pera sa bangko ***ang*** *bahay niya.*
borrowed man money bank house his
The man used his house to borrow some money from the bank.

And it turns out that it is this *ang* phrase which can be moved to the front of the clause, again for informational reasons, through *ay* inversion; and that it is this *ang* phrase which is the focus of almost all relativization in the language:

(10) *ay* INVERSION: [Topics, Circumstances only]
ang tao *ay h-um-iram ng pera sa bangko sa pamamagitan ng*
man borrowed money bank
bahay niya
house his
The man used his house to borrow some money from the bank.

(11) RELATIVIZATION: [usually restricted to Topics]
ang tao*-ng humiram ng pera sa bangko sa pamamagitan ng*
man borrowed money bank
bahay niya
house his
the man who used his house to borrow some money from the bank.

So in Tagalog, grammatical parameters key on case and informational prominence, rather than on purportedly formal categories like English Subject; and in the literature this has frustrated the search for the formally defined category Subject in Philippine languages (cf Schachter 1976, 1977).

The point here is that assumptions made about the semantic or grammatical nature of case relations are at best language specific ones, which cannot be sustained as part of a general theory of the proper placement of case relations in a model of language.

3.1.2 *Arguing from grammar (Halliday)*

Another issue here has to do with the argumentation made available to establish grammatical parameters. Grammarians such as Whorf (1956) and Halliday (cf 1984a) have tended to move beyond a simple reliance on morphology, constituency and 'movement' to focus on a range of what Whorf termed reactances. Halliday's 1985 distinction between material and mental process is a case in point.

In distinguishing these process types Halliday draws attention to the different tenses used to construe ongoing activity, the question of whether activity can be construed in one or more directions, the kinds of complementation with which the processes are associated, the consciousness of key participant roles, and the nature of the pro-verb used to query the activity. These are summarised and exemplified in Table 4.

Table 4. *Halliday's criteria distinguishing material and mental process*

	[MATERIAL]	[MENTAL]
i: unmarked 'present'	present in present[11] *He's playing.*	present *He thinks so.*
ii: directionality	1 way *She built it.*	2 way *She likes it/It pleases her.*
iii: phenomenality	no metaphenomena[12] *He ate it.*	metaphenomena ok *He thinks he'll eat it.*
iv: consciousness	+/- conscious roles *It struck the shore.*	obligatory conscious role *It finally struck him that..*
v: pro-verb	do (to/with); happen *What'd he do to it?*	no pro-verb —

It is hard to see how criteria such as these can be rejected as irrelevant to grammatical argumentation[13] *per se*, unless our notions of grammaticalisation are restricted to a Latin-based orientation to morphological inscription — the very orientation which once led some commentators to observe that languages like Chinese had no grammar. Our point here is that linguists' reluctance to address case relations as a grammatical phenomenon is in large part a typological linguocentricity of this same order.

On the basis of the criteria outlined in Table 4, Halliday (1985) draws a distinction between behavioural and mental processes, opposing *watch* to *see*, *ponder* to *suspect*, *smile* to *like* and so on:

(12) i She's watching him.
ii She sees him.
(13) i He's pondering the issue.
ii He suspects there's an alternative.
(14) i She's smiling.
ii She likes it.

As Table 5 shows, as far as the cariteria in Table 4 are concerned, behavioural processes are more like material processes than like mental ones, sharing only the parameter of requiring one conscious participant.

In other respects behavioural processes construe the outward manifestation of inner mental states: they render perceptions, thoughts and feelings as observable actions. And this proves an important insight into the grammar of a class of verbs which on notional grounds appear to 'mean the same thing as' their mental process counterparts.

Table 5: Differences between English behavioural and mental process

	[BEHAVIOURAL]	[MENTAL]
i. unmarked 'present'	present in present *He's meditating.*	present *He thinks so.*
ii. directionality	1 way *She laughed.*	2 way *She likes it/It pleases her.*
iii. phenomenality	no metaphenomena **He meditated he'll..*	metaphenomena ok *He thinks he'll eat it.*
iv. consciousness	+conscious role *She watched the game.*	+conscious role *It finally struck him that..*
v. pro-verb	do (to/with); happen *What's he doing?* *— Meditating.*	no pro-verb —

Dixon (1991) groups Halliday's behavioural and mental processes together, presumably on notional grounds. This is justifiable with respect to philosophical criteria, which have often attracted linguists: behavioural processes can be used to paraphrase mental ones, without affecting truth value. But linguistically speaking, their co-classification misses all of the differentiating generalisations outlined in Table 5. Examples of Dixon's inclusion of behavioural processes (overt sensing) within mental processing are presented below:

attention [mental perception]: *watch, look (at), stare (at), peep (at), inspect, listen (to), spot, glare (at), peer (at), squint (at), examine, check, view* ... etc.
thinking [mental cognition]: *think over, ponder, meditate, brood (over), solve, work out, analyse* ... etc.
liking [mental affection - desire]: *abhor, admire, enjoy* ... etc.

3.2 *Metafunction*

We saw above that the nature of verb complementation (NP or clause) was an important classification criterion for both Halliday and Dixon, although less so for linguists working in the Fillmorean tradition. This raises the question of the borders around the study of case relations: how are case relations related to inter-clause relations, and within clauses, how are they related to verb seriali-

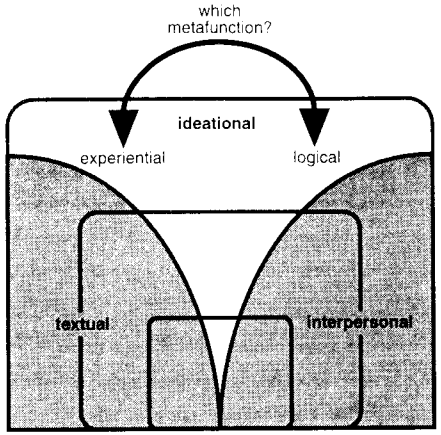

Figure 5. *Complementary ideational resources: logical and experiential meaning*

sation? In Halliday's terms, the relevant issue concerns the complementarity between experiential and logical construals of ideational reality (cf Figure 5).[14] This bears critically on the kind of representation, constituency or dependency, that might be most appropriately used to capture this complementarity (Matthiessen 1988).

Halliday (e.g. 1978) suggests that linguistic systems are organised along three major semantic parameters according to the semiotic reality they construe. He refers to these parameters as metafunctions, with the ideational construing experience as (if it was) natural reality, the interpersonal construing intersubjectivity as social reality and the textual organising the said ideational/interpersonal construals as text/process. This framework is outlined in Table 6.

Halliday splits the ideational metafunction into experiential and logical subcomponents, according to the way in which they construe experience. Basically, experiential meaning is oriented to constituency: it construes reality as bounded wholes, divisible into parts while logical meaning is oriented to interdependency: it construes reality as unbounded series, comprised of inter-

Table 6. *Hallidayan parameters for the organisation of semiotic resources*

METAFUNCTION	'REALITY CONSTRUAL'	'WORK DONE'
ideational (logical/experiential)	'natural' reality	(observer)
interpersonal	social reality	(intruder)
textual	semiotic reality	(relevance)

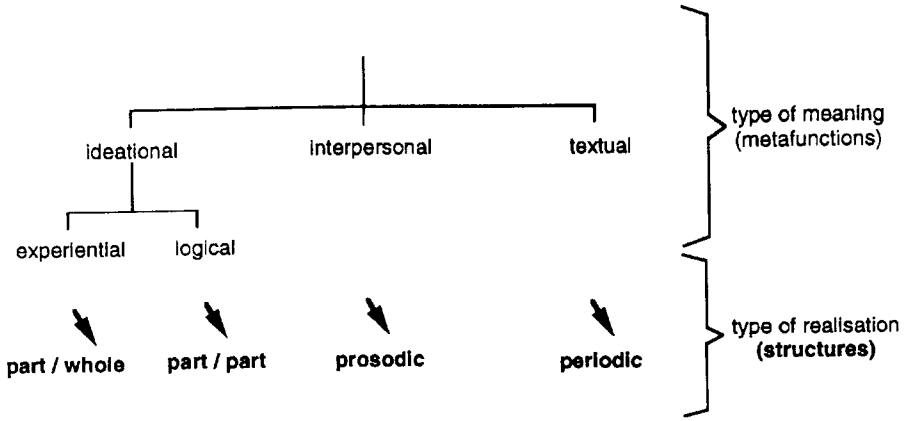

Figure 6. *Complementary types of structure in relation to metafunctions*

related steps. This association of ideational meaning with types of structure is summarised in Figure 6 following Halliday (1979), which includes as well his association of interpersonal meaning with prosodic and textual meaning with periodic realisation (for elaboration of the latter variables see Martin *forthcoming* and Matthiessen 1992*a*).

The experiential perspective on ideational meaning is exemplified in Figure 7 below, where an English happening is decomposed as process, nuclear participant, other participant and circumstance. It is typical for structures of this kind to compose themselves of a finite number of distinct parts, each playing a different role; and some case grammarians have made this property a formal constraint on their description (e.g. Starosta's 1978 argument in favour of one instance of a case per sentence). It also appears typical for structures of this kind to exhibit nucleus/satellite properties (cf Foley and van Valin 1984) and the co-tangential ovals in the diagram have been included to symbolise this orbital patterning (see Martin *forthcoming* for discussion). The experiential configuration in question might be realised through the following types of textual and interpersonal variation, among others:

(15) i Early in this century the Norwegians introduced explosive harpoons.
ii Explosive harpoons were introduced by the Norwegians early in this century.
iii Did the Norwegians introduce explosive harpoons early in this century?

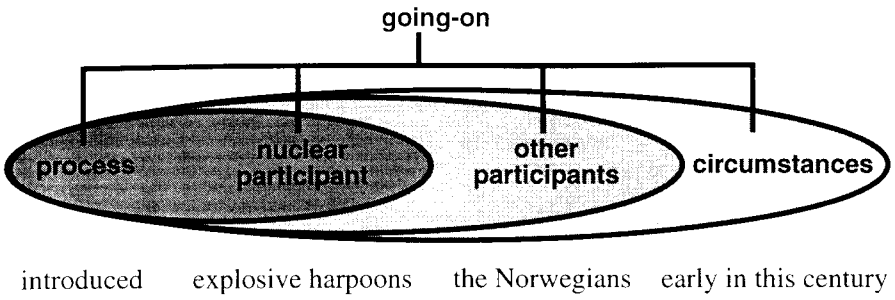

Figure 7. *Construing reality experientially through constituency*

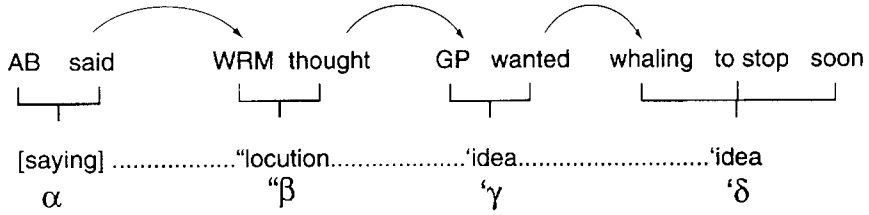

Figure 8. *Construing reality logically through interdependency*

The alternative logical construal of reality is represented in Figure 8, with respect to what Halliday (1985) refers to as projection — the meaning potential by which mental and verbal processes project ideas and locutions respectively as serialised chains. Since the logical systems involved here are recursive ones, interdependency structures of this kind can in principle be extended indefinitely.

3.2.1 *dependency notation*

Halliday's association of different types of structure (constituency and dependency) with different kinds of meanings (experiential and logical) raises questions about the appropriate form of representation for case structures. Fillmoreans have tended to build cases into 'deep' constituency diagrams, whereas the 'lexical projection' strategy associated with lexical semantics, whether in an LFG or GB paradigm, implies a dependency representation with the verb as head. If dependency representation is preferred, then case relations

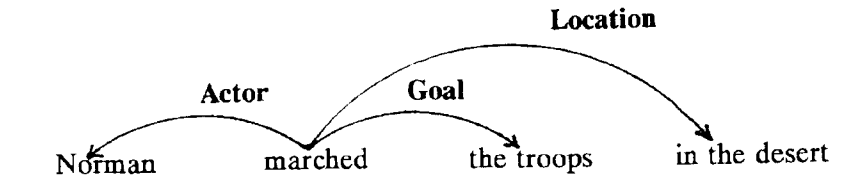

Figure 9. *Participant roles and circumstances as dependency valences*

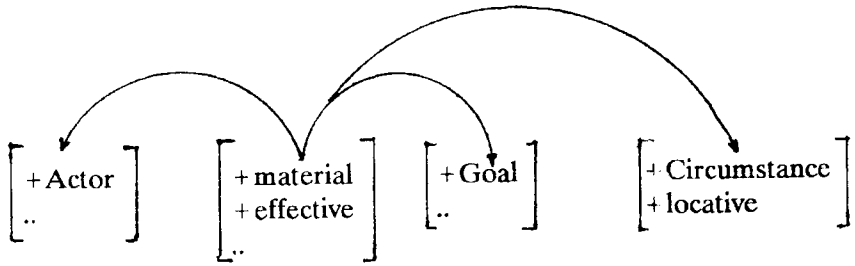

Figure 10. *Participant roles and circumstances as feature specifications*

for relevant participant roles and circumstances might be expressed either as valences on dependency arrows, as in Figure 9, or as part of the feature specification of complex symbols, as in Figure 10 (with case labels borrowed from Halliday 1985).

One important difference between the dependency representation (Figures 9 and 10) and the constituency one (Figure 7 — the tree alone, ignoring the co-tangential ovals) is that the verb is constructed as nuclear in the dependency notation. Note however that this provides only a partial account of the orbital concerns represented by the co-tangential ovals in Figure 7, since the distinction between inner and outer participants, and between participants and circumstances is not captured. It further raises the question of whether it is the verb which is nuclear in case frames, or the process and its most closely associated participant as suggested by Halliday (1985). The choice of constituency or dependency representation, then, is not a purely notational one.

The issue is complicated by the tendency of some languages to draw on logical resources to construe case frames. English for example uses a genuinely recursive logical system to add an indefinite number of agents to a case frame. The relevant systems are outlined in Figure 11 and examples of realisations in Table 7.

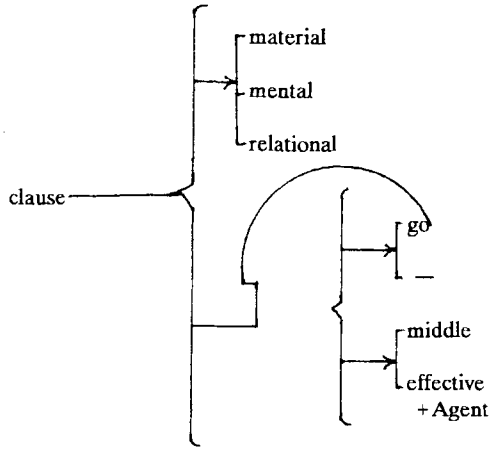

Figure 11. *Recursive agency in English (after Halliday 1985: 151)*

Table 7. *Recursive and non-recursive* AGENCY: *sample realisations of some options from the network (Figure 11).*

[middle]	[middle:effective]
The troops marched	*Norman made the troops march*
Norman knew they'd win	*Norman persuaded George they'd win*
Norman was excited	*The war made Norman excited*
[effective]	[effective:effective]
he marched the troops	*Norman let him march the troops*
He convinced Norman	*George let him convince Norman*
Norman was the leader	*They elected Norman leader*

A meaning potential of this kind develops regressive interdependency structures, with additional Agents serialised to the left of a minimal Process/Medium nucleus:

(16) [middle]
The troops marched.

(17) [middle:effective]
Norman force the troops to march.

(18) [middle:effective:effective]
The general let Norman force the troops to march.

(19) [middle:effective:effective:effective]
George made the general let Norman force the troops to march.

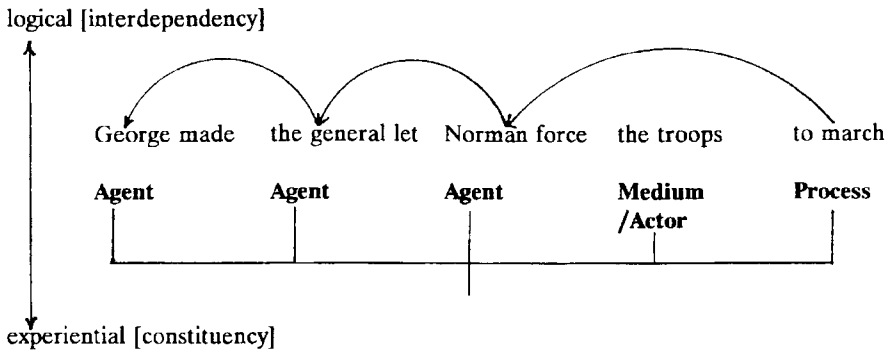

Figure 12. *Tension across logical and experiential representations of recursive agency in English*

This creates a tension in English between experiential and logical forms of representation. The experientially based constituency representation captures something of the boundedness of English case frames (i.e. for the most part more than one Agent participant can be introduced only by expanding the verbal group with *force, let, make* etc.) The logically based dependency representation captures, on the other hand, something of the potentially open-ended serialisation of agency in English. Neither a simple constituency nor a simple dependency representation can handle a complex interplay of this kind on its own. The two forms of representation are played off against each other in Figure 12.

Note that interplay of this kind is a language specific concern. In Tagalog the presence of additional Agents is signalled through verb morphology (De Guzman 1978, Starosta 1978) and case frames become rapidly saturated as outlined below:

(20) *p-um-unta* *ang bata* *sa tindahan*
went child shop
Process Medium Location
The child went to the shop.

(21) *nag**pa**-punta* *siya* *ng bata* *sa tindhan*
had go s/he child shop
Process Agent Medium Location
S/he had the child go to the shop.

(22) *nag**pa-pa**-punta* *si Gloria* *sa kaniya* *ng bata* *sa tindahan*
had go Gloria her child shop
Process Agent Agent Medium Location
Gloria had her have the child go to the shop.

(23) **nag-**pa-pa-pa**-punta*
[saturation: selection of third Agent not possible]

Since the agency system is limited in this way, there is no real need to complement a constituency representation with a logical one, assuming that complementary forms of representation are possible in the framework deployed for modelling case relations (as they are in SFL).

For some languages, this complementarity may be quite central to case description. In Akan Agents, Beneficiaries and a number of Circumstances are all construed through logical resources (Matthiessen, personal communication). Expansion of the process to allow for the Receiver of information in a verbal process is outlined in Figure 13. Again, it appears natural to deploy both constituency and dependency forms of representation to display the complementarity of logical and experiential resources for construing ideational meaning.

(sayer)	**Pro-**	**<Verbiage>**	**-cess**	**Receiver**
	α	→	**β**	
	Okaa	***as em***	***kyer ee***	***Kofi***
	say	**something**	**show**	**Kofi**
	He told Kofi something.			

Figure 13. *Verb serialisation for Receivers in Akan*

3.3 *Point of departure: rank, clause/word; class, nominal/verbal*

The third metatheoretical issue we will pursue here has to do with the point of departure for case analysis. Fillmoreans (e.g. Ramos 1974) have tended to begin with the cases themselves, and then turn to the classification of processes and their associated case frames. The lexical semantics tradition (as reviewed in Levin 1985 and including Dixon 1991) on the other hand starts with the subcategorisation of verbs, for which cases are proposed. And Halliday (1985) takes the clause, rather than the word (whether noun or verb), as point of departure, assigning case frames to clause classes. The choice between ranks is outlined in Figure 14.

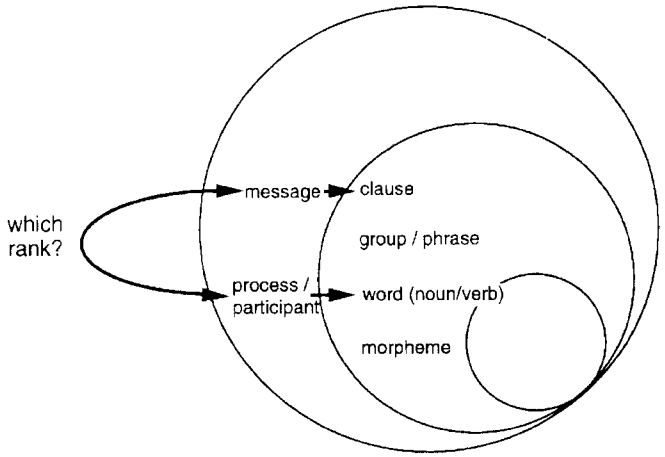

Figure 14. *From the perspective of what rank (clause or word) does the description of case relations proceed?*

The issue here is partly a question of the size of unit (clause or word) involved. But beyond this it involves the question of whether a nominal or verbal perspective, or some fusion of the two offers the most insight into case relations. If morphology is taken as a guide, then languages marking cases on nouns (e.g. Latin) might be argued to favour the nominal perspective, languages marking case relations on verbs (e.g. Tagalog) the verbal perspective, and languages lacking nominal or verbal case marking (e.g. Chinese) the clausal one. Moving beyond morphological realisation, there are obvious problems for both the nominal and verbal perspectives given the presence in many languages of case frames consisting simply of a process (e.g. Tagalog *umuulan* 'it's raining'), or simply of participant roles (e.g. Tagalog *siya ang pangulo* 'she's the president'; TM stands for Topic Marker in example 25):

(24) PROCESS ONLY (no participants)
um-u-ulan
raining
It's raining.

(25) PARTICIPANTS ONLY (no process)
siya *ang* *pangulo*
s/he TM head
S/he's the president.

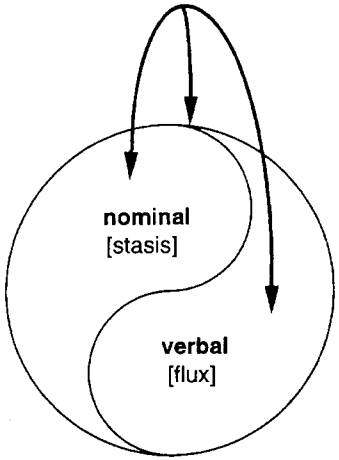

Figure 15. *Is the point of departure for case description nominal, verbal or a combination of the two (i.e. the clause nucleus)?*

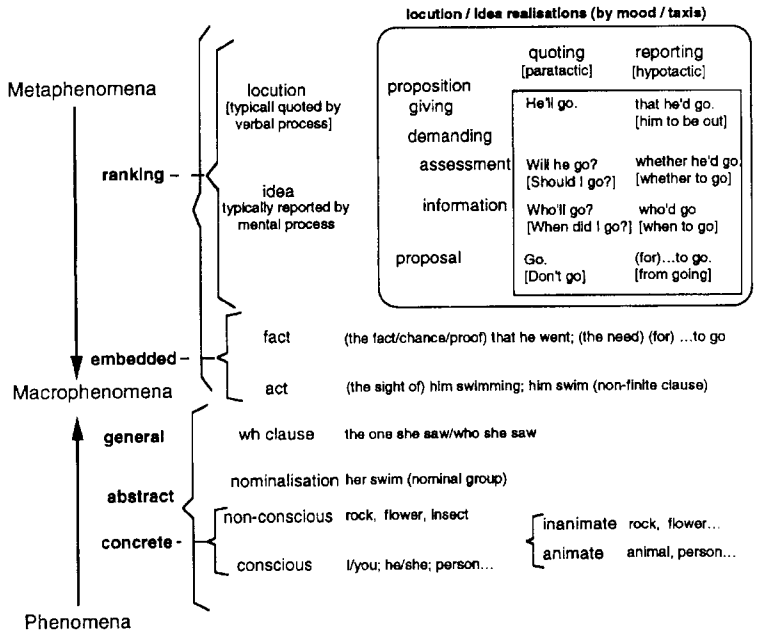

Figure 16. *A range of phenomena relevant to the analysis of case relations (elaborated from Halliday 1985)*

Nominal points of departure lead naturally to the effacement of meteorological processes; more seriously, verbal points of departure lead naturally to the effacement of relational processes — a substantial class of processes in all languages, and a very rich class indeed in languages with a history of written registers in which this class is the major resource through which uncommonsense knowledge is construed (Halliday and Martin 1993). The alternative points of departure at issue here are outlined in Figure 15.

3.3.1 *Against the noun*

One of the major weakness of the nominal perspective on case relations is that it constructs too narrow a view of the phenomena construed by transitivity systems. Typically, cases are established for animate or inanimate things, acting alone or on one another. Other kinds of phenomena, more typically associated with mental and verbal processing rather than physical action, tend to be ignored; and this means in turn that mental and verbal processes themselves have tended to be marginalised, often treated as problematic kinds of action (see Matthiessen 1992b for a partial redress). This further fudges the experiential/logical complementarity outlined above, since mental and verbal processes enter into interdependency relations with projected clauses (Figure 8 above) alongside constituency relations with nominal phenomena such as *he* and *it* in the first example below (orders of phenomena based on Halliday 1985):

(26) *He* watched *it*.	phenomena [endowed with consciousness or not]
(27) He watched *its fall*.	phenomenon (nominalisation)
(28) He watched *what fell*.	phenomenon (nominalised wh-clause: embedded)
(29) He saw *it falling*.	macro-phenomenon (act: embedded)
(30) It upset him *that it was falling*.	metaphenomenon (fact: embedded projection)
(31) He knew *that it was falling*.	metaphenomenon (idea, projected; not embedded)
(32) He said *that it was falling*.	metaphenomenon (locution, projected; not embedded)

The richest classification of relevant phenomena is offered by Halliday (1985), as outlined[15] in Figure 16. In spite of their relevance to the subclassification of mental processes with respect to perception, affection and cognition, many of these phenomena would play a negligible role in descriptions which begin by defining cases for nouns (see Matthiessen 1992b, 1995). Note in passing that Halliday treats the consciousness[16] of participants as a more significant factor than their animacy, since consciousness opposes mental process to material ones (a criterial distinction across languages), whereas animacy plays a criterial (i.e. grammaticalised) role only in the subclassification of certain classes of material processes in selected languages (Foley and van Valin 1984).

3.3.2 *Against the verb*

Beginning with verbs instead of nouns potentially broadens the range of phenomena that can be made criterial in transitivity analysis; indeed Dixon (1991) takes a number of Halliday's macro- and meta-phenomena into consideration. This perspective, however, tends to suffer from a complementary effacement of relational processes, which in many languages (e.g. Tagalog) do not generally contain verbs. In languages (e.g. English) where they do generally contain verbs, the verbs involved typically do not lend themselves to decomposition in terms of either the motifs of causation or motion and location which have been so influential in the classification of action verbs (see review in Levin 1985: 57-60). It is thus important to consider here (a) the nature of some of the case frames proposed by Halliday for relational processes in English, to see how damaging their effacement might prove to the verb-based lexical semantic tradition, and (b) to draw attention to the problems in treating adjectives as verbs — a partial solution often adopted.

a: RELATIONAL CASE FRAMES

Let's begin with the distinction between attributive (Carrier Attribute) and identifying (Token Value) processes, established by Halliday in his original proposals. In attributive clauses, the Carrier is classified or described by the Attribute *he's a friend/he's nice*; in identifying clauses on the other hand the Token is equated with the Value, on different levels of abstraction *he's the chairperson*. Halliday (1967a: 71) exemplifies the distinction through an attested misunderstanding of the following kind:

(33) I thought he was a friend of mine.
— Oh, what's he done?
— No, I mean I thought it was someone I knew but...

The second speaker interprets *he was a friend of mine* as attributive and queries the first speaker's affront (e.g. perhaps something along the lines of ... *but in fact he's just snubbed me*); the first speaker then clarifies the intended identifying reading (...*but in fact it was someone else*). The same ambiguity is exploited for humorous effect in the following anecdote reported in Column 8 of *The Syndey Morning Herald* on 7/4/89. (*Just Right* is an Australian breakfast cereal, made by Kellog's):

(34) Tim Stack, telling the story of Goldilocks to four year old Nathan got to the point of "And Mother Bear's porridge was t-o-o cold; but **baby bear's was just right**." Nathan's eyes lit up — "I thought **it was porridge**?" ...

Here Tim intends the attributive reading to which most readers familiar with the story naturally attend. Nathan however pursues an alternative reading, open apparently to Australian novices; he hears the process as naming baby bear's cereal, identifying it as instantiating the product Just Right. The ambiguity in question is outlined structurally in (35i-iii):

(35)	i	Mother Bear's porridge	was	too cold
		Carrier	**Process**	**Attribute**
	ii	baby bear's	was	just right
		Carrier	**Process**	**Attribute**
				[intended meaning]
		Value	**Process**	**Token**
				[heard Kellog's Just Right]
	iii	it	was	porridge
		Value	**Process**	**Token**

Similarly the following piece of graffiti from the inner Sydney suburb of Glebe plays on a similar attributive/identifying ambiguity which is what constructs it into a memorable piece of graffiti worth writing on a wall. This ambiguity is analysed in (36), where the analysis in (36i) represents the reading *it's all this place is worth*, while that in (36ii) "says" *there isn't any rent that's fair*:

(36) i no rent is fair rent
Token represents **Value**
ii no rent is fair rent
Carrier classified as **Attribute**

Ambiguity across relational process classes is not the only possibility. Even within one class, the identifying process, the significance of distinctive case labelling can be motivated along similar lines. Damon Runyon, the American short story writer, produced the clause *What he did for a living was the best he could* which Halliday once used to illustrate this point. Typically, in identifying structures of this kind information flow is textured in such a way that the more abstract participant, the Value — here *what he did for a living* — comes first and is subsequently instantiated by the Token, as in *What he did for a living was teach linguistics*. Runyan plays on this expectancy for humorous effect by forcing a reversed Token then Value re-reading, since *the best he could* turns out to be more abstract than *what he did for a living*.

(37) i what he did for a living was teach linguistics
Value **Process** **Token**
ii what he did for a living was the best he could
Value **Process** **Value**
Token

Alternative readings of the kind illustrated here demonstrate the importance of establishing distinctive case frames for attributive and identifying processes, and for distinguishing Token from Value within identifying ones. This can be further highlighted through the case grammarian's traditional conjoining test. Thus *The fastest was the fittest one* ('x represented y') is fine, as is *The fastest was Ben* ('x was represented by y'); but **The fastest was the fittest one and Ben* is unreadable as the distinct roles of Token and Value cannot combine:

(38) the fastest was the fittest one
Token Process Value [x represented y]
(39) the fastest was Ben
Value Process Token [x was represented by y]
(40) *The fastest was the fittest one and Ben. [conjoined Token and Value]

(41) The fastest and the fittest one was Ben. [conjoined nom gps as Value]
(42) The fastest ones were Ben and Flo. [conjoined nom gps as Token]
(43) The fittest one and Ben have just arrived. [conjoined nom gps as Actor]

It is important to note here that while the verb *be* is by far the most common verb used to construct relational processes, English has a rich system of more specific realisations, which according to Halliday (Halliday and Martin 1993) has been expanding significantly in written registers under the influence of science over the past 400 years. A few of the key identifying classes are outlined below (from Martin 1992*b*; for attributive classes see Matthiessen *in press*):

a: EQUALITY
equal, add up to, make, come out as/at, amount to;
translate, render, paraphrase, reformulate, transliterate
b: SIGNIFICATION
signify, realise, code, encode, express, expound;
spell, write, transcribe, read;
mean, denote, connote, define;
call, name;
symbolise, represent, stand for, refer to, imply, index, express, reflect, personify;
indicate, suggest, betoken, connote, smack of, evoke, evince, betray, reveal
c: ROLE
play, act, act as, function as, portray;
typify, personify

Beyond these intensive classes there are existential, possessive and circumstantial clauses to consider. Below we exemplify from Tagalog a few of the verbless relational paradigms we referred to before:

(44) [existential]
may *pagkain* *sa kusina*
exists food kitchen
There's food in the kitchen.

(45) [possessive with *may*]
may *pagkain* *siya*
exists food s/he
S/he's got some food.

(46) [possessive with *sa*]
sa kaniya *ang* *pagkain*
her/him TM food
The food is his/hers.

(47) [circumstantial]
sa kusina *ang* *pagkain*
kitchen TM food
The food's in the kitchen.

b: ADJECTIVES AS VERBS

One way in which verb-based lexical semantic analysis can begin to attend to relational process is to treat adjectives as verbs, and so provide case frames for descriptive attributive processes (e.g. *She's tall*). This of course raises the question as to whether adjectives are appropriately classified as verbs. This could perhaps be motivated for languages that can (e.g. Tagalog) or typically (e.g. Japanese) do inflect adjectives for time (i.e. tense/aspect), setting aside the complementary connections between adjectives and nouns and between adjectival and nominal groups across languages (e.g. comparison: *good, better, better than Richards/a good one, a better one, a better one than Richards/a good batsman, a better batsman, a better batsman than Richards*) which argue against treating adjectives as verbs across languages. One disadvantage of treating adjectives as verbs would be the strong line that would then be drawn between attributive clauses with adjectival Attributes and other attributive and identifying clauses. Consider the following paradigm:

(48) i Border's good.
ii Border's a good batsman. [cf *Border's the greatest.*]
iii Border's a good batsman.
iv Border's the captain. [cf *Border's the greatest batsman ever.*]

These examples disassociate the attributive/identifying opposition from in/definiteness. In the paradigm, examples (48i-ii) are intended as attributive; on the attributive reading (48ii) classifies Border as a member of the class of good batsmen (on this reading, the clause is not reversible: **A good batsman is Border*). Examples (48iii-iv) on the other hand are intended as identifying; on the identifying reading (48iii) presents Border as an example of a good batsman (on this reading, the clause is reversible, typically with the indefinite article realised in its salient form: *One good batsman is Border*). The two readings are outlined below:

(48) ii Border 's a good batsman, (and he's a good sport too)
Carrier looks **Attribute**
[*A good batsman is Border]
iii Border 's a good batsman, (and so's Richards)
Token exemplifies **Value**
[One good batsman is Border, another is Richards]

Classifying adjectives as verbs then offers a challenge to paradigms to treat descriptive attribution, classifying attribution, exemplfying identification and exhaustive identification as a cline. It may be that there is as much to be lost as to be gained by expanding verb-based case analysis into the relational process area along such lines.

3.3.3 *For the clause*

It follows from 2.3.1 and 2.3.2 above that the problems inherent in noun-based or verb-based analyses can be avoided by adopting the clause rather than nouns or verbs as point of departure; in semantic terms this means treating the process and its most closely associated participant (for Halliday, the Medium) as the nucleus around which the description is constructed. Clause-based analysis of this kind facilitates the co-ordination of case frames with interpersonal and textual considerations. Interpersonally, it is clear across languages that resources for positioning speakers in dialogue (e.g. tone, mood, polarity, tagging) are clause-based, not word based. And textually, it is again clear that information flow is a property of clause, and probably group organisation, not word structure (Mathesius 1975; Hopper and Thompson 1980; Schachter 1976, 1977; Martin 1992*a*). It is no accident that noun-based and verb-based approaches to case relations have tended not to take responsibility for the discourse bases of transitivity. Halliday (1985) suggests a multi-tiered approach to English clause structure in order to focus attention on metafunctional harmony and dissonance, as exemplified in (49i-iii). Here (49i) represents the analysis of the clause in terms of 'particle as particle',

while interpersonal prosodic structure (49ii) and textual wave structure (49iii) are given a constituent-like form of representation, so that (49ii) presents 'prosody as particle' and (49iii), 'wave as particle':

(49)

	These two approaches		are supplemented		by a third
i	**Value**		**Process**		**Token**
ii	Mood		Residue		
iii	Theme		Rheme		

Developing these metafunctional considerations, the clause based approach would provide more appropriate framing for the interpretation of what Halliday (1985) refers to as grammatical metaphor. For example, it is a general feature of action processes in English, and across languages, that they do not involve metaphenomena (the ideas, locutions and facts shown in Figure 16; section 2.3.1), whereas mental processes do. Thus *the fact that he'd harassed his assistant upset him* is fine, but **the fact that he'd harassed his assistant destroyed the capital* is not:

(50) [material]
- i *The fact that he'd harassed his assistant destroyed the capital.
- ii *It destroyed the capital that he'd harassed his assistant.

(51) [mental]
- i The fact that he'd harassed his assistant upset him.
- ii It upset him that he'd harassed his assistant.

Exceptions to the principle excluding metaphenomena from action processes do occur; consider, for example, *The fact that he'd harassed his assistant destroyed him*. But when they do, it is precisely where the 'action' process in question can be given a mental interpretation (i.e. *destroyed* standing for *upset*). The fact that examples such as these are based on the principle of metaphor is highlighted by the restricted mental process paradigm through which they can be transformed; for example, the textual and interpersonal variation, viz., *??It destroyed him that he'd harassed his assistant* is improbable:

(52) [mental] dressed up as [material]
- i The fact that he'd harassed his assistant destroyed him.
- ii ??It destroyed him that he'd harassed his assistant.

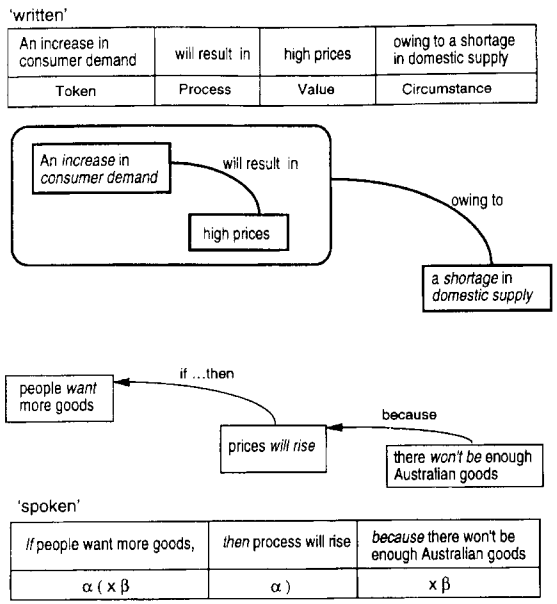

Figure 17. *Interpreting grammatical metaphor (ideational metafunction)*

The importance of clause frames for interpreting grammatical metaphor can be further highlighted by considering examples in which information is radically redistributed. Consider the following variants linking *The result of an increase in consumer demand will be high prices* to *people might want more goods and so prices will rise*:

(53)
- i The result of an increase in consumer demand will be high prices...
- ii An increase in consumer demand will result in high prices...
- iii High prices ... will be due to an increase in consumer demand.
- iv The reason for high prices will be because people want more goods...
- v If people want more goods, then prices will rise...
- vi People might want more goods and so prices will rise...

Halliday (e.g. in Halliday and Martin 1993) treats this as the cline between more typically written (e.g. 53i) and more typically spoken (e.g. 53v) construals. His theory holds that 'written' language is read against 'spoken' as figure, against ground:

figure: An increase in consumer demand will result in high prices...
ground: If people want more goods, then prices will rise...

In this model a lexicogrammatical structure like *An increase in consumer demand will result in high prices owing to a shortage in domestic supply* stands for, on one reading, the meaning 'if people want more goods, then price will rise, because there won't be enough Australian goods'. This interpretation of the metaphor is outlined in Figure 17. Note that lexically based nominalisation is too weak a theory to capture the interpretation offered here. In fact, the key process, *will result in* derives in the written form from a spoken conjunction, not a verb (as does the preposition *owing to*); and it is this process, *will result in*, around which the written case relations are construed (as Token, Value and Circumstance of cause). The relevant case frame in other words cannot be derived from a verb and its associated roles.

3.4 *Axis*

As we have seen, in the Fillmorean tradition, the definition of case roles is relatively independent of verb classification; defining cases typically precedes classifying verbs in description. In both lexical semantics and SFL on the other hand, cases and process type are more closely associated, with cases in some sense deriving from verb classes (as in Dixon 1991). For Halliday, working in an SFL framework, the relation between the two is axial: configurations of process, participant and circumstance are treated as the structural realisation of clause systems. Case frames in other words redound tightly with clause features. In SFL one of the main uses of case frames is to facilitate text analysis and interpretation, since labelling a clause as Token^Process^Value is quicker than analysing it feature by feature as, say, [being:relational:identifying/effective:operative]. This raises a question as to what level of delicacy is most appropriate for case labelling.

Fillmoreans have tended to produce the most general answer to this question, preferring to establish a small set of universal labels for cases independent of process type and of particular languages. Halliday uses language specific labels, with distinct cases for different classes of process as we have seen. Halliday (1985) recognizes seven major classes (material, behavioural, mental, verbal, existential, attributive and identifying), all with distinctive case frames. Dixon (1991) proceeds a step further in specificity, generally preferring case frames for sub-types of these. And there is no reason in principle why a lexical semanticist might not take things a step further,

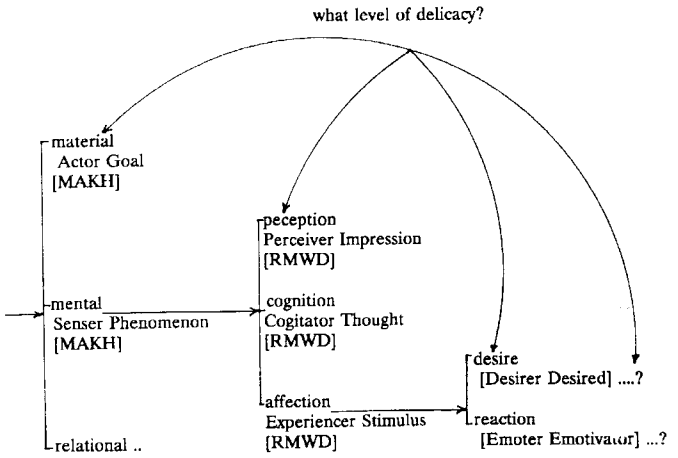

Figure 18. *At what level of delicacy are case relations configured?*

splitting a putative category like affection into desire (Desirer Desired) and reaction (Emoter Emotivator). The last three alternatives are outlined as questions of delicacy in Figure 23 (cases glossed as MAKH are taken from Halliday 1985; those glossed RMWD, from Dixon 1991).

Note that in a clause based Hallidayan specification of this kind, lexis and grammar are related through delicacy; grammar and lexicon do not function as separate modules in the description (see Hasan 1987 on the grammarian's dream). This means that in SFL the question of whether case relations are essentially grammatical or lexical phenomena becomes a moot point. Lexis is treated as delicate grammar, and it is up to the analyst to decide at what level of delicacy case labels will be specified. This is something which is hard to legislate on a register neutral basis. When analysing science discourse for example (see Halliday and Martin 1993; Rose et al. 1992; Veel 1993), the importance of description, classification, exemplification and definition is such that Halliday's (1985) Carrier Attribute and Token Value labelling turns out to be rather crude. A more delicate labelling, such as that outlined below, would certainly provide a more functional shorthand for text analysis. Greater specificity in labelling makes the labels more semantically transparent (contrast Token with Example and Term below; cf Halliday 1984a on ineffability). The price to be paid for this is that the case labels themselves in a Hallidayan description no longer redound with significant generalisations across attributive or identifying clauses; for example, the reversibility criterion distinguishing attributive from identifying processes could still be associ-

ated with the relevant clause features, but not with case labels *per se* since cases would be provided at too specific a level of generality.

(54) i Whales are large. (Carrier Process Description)
ii Whales are mammals. (Carrier Process Classification)
iii Gills are one adaptation. (Example Process Value)
iv Gills are water breathing lungs. (Term Process Value)

Metatheoretically what is significant here is that the level of speicificity at which case relations are established needs to be kept clearly in mind when comparing descriptions. This is easiest to specify in a SFL framework where lexis is treated as delicate grammar, and so translating Fillmorean and lexical semantic descriptions into this framework as in Figure 1 (for De Guzman's lexicase) and 3 (for Dixon's lexical semantics) above should facilitate dialogue around this issue.

3.5 *Extension and causation*

As reviewed in 2.2 above, SFL offers complementary experiential and logical perspectives on the construal of ideational reality. Within the experiential construal, Halliday (1985) offers in addition complementary perspectives on the relation between clause nuclei and additional participants. He refers to these perspectives as transitive and ergative, and suggests that the dialogism between these two evolutionary currents is such that contemporary English can only be understood in terms of an interplay between the two (although with the ergative becoming more predominant than the transitive over time).

By transitive Halliday refers to construals of reality which take an 'intransitive' Actor/Process configuration as basic, and ask whether or not this nucleus affects another participant, which he calls Goal. By ergative he refers to construals of reality which take a 'middle' Process/Medium configuration as basic, and ask whether or not this nucleus was brought about by another participant, which he calls Agent. The transitive perspective focusses on the relation between *He cooked* and *He cooked the quiche*, while the ergative perspective focusses on the agnation between *The quiche cooked* and *he cooked the quiche*. The case labelling proposed by Halliday is exemplified in Figure 19.

The two perspectives are compared again in Figure 20 below. Case marking system across languages tend to be organised around one or the other

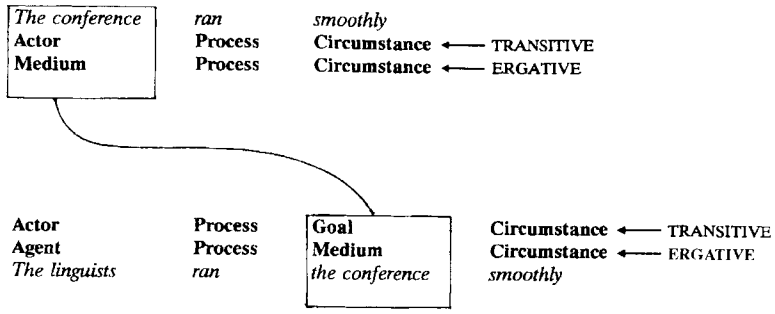

Figure 19. *Transitive and ergative: Two perspectives*

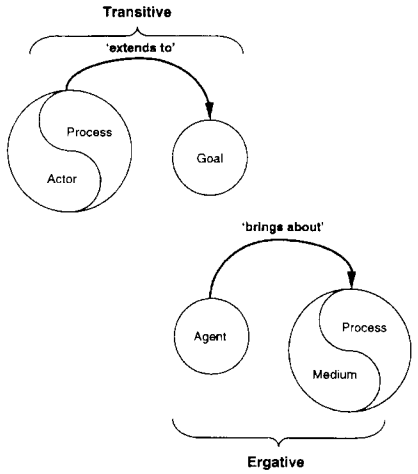

Figure 20. *Transitive and ergative perspectives compared*

of these systems, with many languages displaying a 'mixed' system such as that suggested by Halliday for English by explicitly grammaticalising both perspectives (see Dixon 1979). Note that for Halliday transitivity and ergativity refer to the complementary ways in which languages construe experience, and do not depend directly on the presence or absence of transitive or egative morphology in case marking.

What Halliday treats as a phylogenetic tension across perspectives, other case grammarians may treat as a question of delicacy. If we look at the evolution of Fillmorean cases in Starosta's lexicase framework, we can note the emergence of a universalist ergative perspective out of an earlier, more

Table 8. *The evolution of lexicases in relation to Halliday's ergative roles*

Starosta 1978:	Starosta 1988:	Halliday (ergative)
Agent	Agent	Agent
Experiencer	Agent	Agent/Medium
Patient	Patient	Medium
Benefit	Correspondent/Patient (no prep)	Beneficiary
Instrument	Means (inner)	Circumstance
Manner	Means (outer)	Circumstance
Locus	Locus (inner)	Circumstance
Place	Locus (outer)	Circumstance
Time	?	Circumstance
	[localistic case markers..]	

transitive one; Starosta's (1988 ergative perspective is similar to Halliday's (1985) ergative interpretation of English). The relevant participant roles are compared in Table 8.

Intriguingly, as part of this process, Starosta 1988 proposes the macro-roles of Actor and Undergoer to capture generalisations which cannot be captured using ergative role:

> **Actor=** "the entity to which the action of the verb is attributed, where action is interpreted broadly to include actions, happenings, and conditions in general" = Agent of a transitive and Medium of an intransitive [+the inner Correspondent of impersonal psychological verbs such as German *kalt*]; present in every clause
> **Undergoer=** one to which the process is extended".

Essentially, the transitive perspective has to be re-invoked to capture generalisations about actors (cf Foley and van Valin for a related descriptive move). Generalisations around the actor role have been strongly influenced by Schachter's 1976, 1977 work on Tagalog and include a concern with factors of the following kind:

imperatives:	Actor is the participant ordered to perform an action
reflexivization:	Actor controls reflexivization
word order:	Actor tends to precede other roles
clitic pronouns:	key on Actor (even if language otherwise ergative)
morphology:	Actor/Topic verbs have richer paradigms

In lexicase theory (as with Foley and van Valin's Role and Reference Grammar), the macro-roles Actor and Undergoer are seen as more general

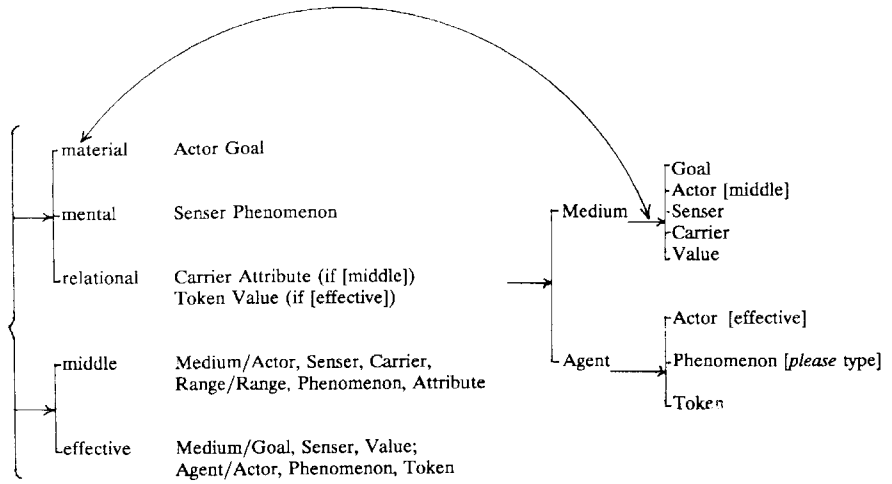

Figure 21. *Complementarity and generality as alternative perspectives on transitive and ergative reality construals*

than the other ergatively oriented cases. This contrasts with Halliday's framework in which transitive and ergative perspectives are complementary and thus cross-classify the clause (cf Davidse 1992). Were Halliday to adopt generality rather than complementarity to detemine the relation between transitive and ergative perspectives, his Agent and Medium might be reconceived as macro-roles, subclassified by transitive ones. The alternatives are outlined in Figure 21.

This raises the larger issue of monosystemicity in linguistic description: do we prefer models which construe languages as relatively homogenous systems, or do we follow Firth and Bakhtin, preferring models which construe languages as polysystemic, heteroglossic phenomena? Certainly a variety of realisational features indicate the significance of mixed systems (e.g. Dixon 1979) — with nouns marked differently from pronouns; variation across 1st, 2nd and 3rd persons; differences between subject switching systems and other case marking; differences across imperative and indicative moods; and so on. Indeed Painter (1984) raises the possibility that languages are inherently dialogic as far as transitive and ergative perspectives are concerned by documenting the association of transitive patterns with pragmatic (proto-impera-

tive) utterances and ergative patterns with mathetic (proto-indicative) utterances in the language development of one English child. It may turn out that the different uses to which language is put lend themselves to different types of reality construal. The more this turns out to be the case, the more polysystemic accounts such as Halliday's will be preferred.

It may also be the case that the monosystemic bias of current accounts has been influenced by the concentration of research effort on action processes, which lend themselves to analysis in terms of the motifs of causation and of motion/location. Verbal, mental and relational processes are less amenable to analysis of this kind, and may turn out to generate alternative perspectives on reality construal, such as for example the contripetal/centrifugal system suggested by Martin (in press) for Tagalog, inspired by mental processes. Transitive and ergative perspectives may turn out, in other words, to have institutionalised an action biased view.

3.6 *Typology/topology*

The final issue to be reviewed here concerns the complementarity of typological and topological modes of description. Typological description is concerned with classification; it categorises phenomena into oppositions, with phenomena either belonging to a category or not. Topological description on the other hand is organised around proto-types; it associates phenomena with cores, with phenomena treated as more or less closely associated with each other.

As we have seen, case grammarians, like most linguists, have generally proceeded typologically. A set of criteria are assembled, which can be used to distinguish one set of phenomena from another. Where criteria cluster, firm categories can be established. Ideally, these categories themselves form oppositions which exhaust the data under examination. Along these lines, case grammarians such as Fillmore and Starosta establish universal case inventories; others such as Halliday and Dixon use similar reasoning to determine inventories of processes.

For example, Halliday (1985) focuses on five key criteria in his analysis of process types (see Table 4 section 2.1.2.):

i the way in which the process construes ongoing activities or states of affairs (simple present or present continuous?);
ii the bi-directionality or not of the construal (e.g. the *like/please* mental process opposition);

iii the nature of the phenomena associated with the process (are metaphenomena possible?);
iv the consciousness of one participant (obligatory or not?);
v the form of the wh question associated with the process (pro-verb *do to/with* or not?).

For Halliday, along these ctieria English process types cluster into three main groups: material, mental and relational. Thus his classification of English process types fits into the typology represented in Figure 22.

Note in passing that one important feature of an SFL approach to typological analysis is that it is exhaustive. As a first step, criteria are assembled which apply to all process types and organise them into categories. This approach contrasts with that generally pursued in lexical semantics (as reviewed in Levin 1985), where verbs are decomposed into features, and case frames proposed, without any general claims being made about having exhausted the relevant descriptive parameters for a whole language. An approach of this kind is perhaps best characterised as proto-typological; it is still at a criteria assembly phase. The danger with spending too much time in this phase is that selectivity in the verbs considered makes certain criteria appear more important than they might eventually turn out to be — for example animacy (vs. consciousness), motion/location (vs. orders of phenomena), causation (vs. generality and abstraction) and so on in accounts preoccupied with verbs of motion and violent action.

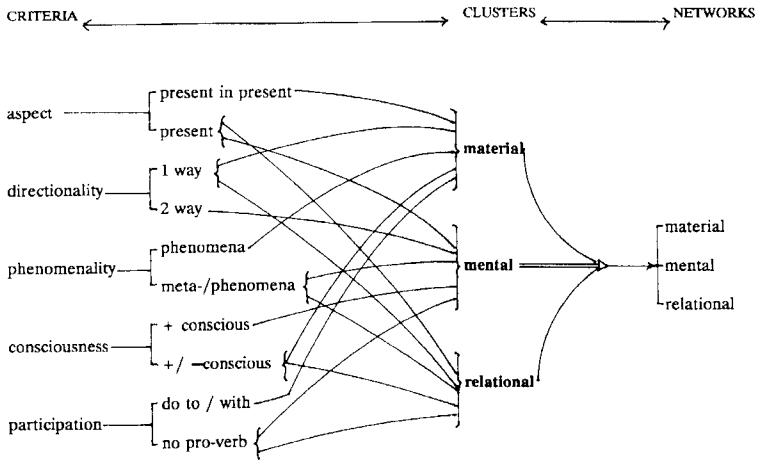

Figure 22. *Halliday's 1985 typology for English process types*

Topological description is similarly oriented, in its mature phase, with whole systems. Lemke (n.d.) characterises topological analysis along the following lines (definition of a topology in small caps). In his paper Lemke applies this mode of description to genre analysis; Martin and Matthiessen 1991 explore a range of grammatical problems from complementary typological and topological perspectives.

> A **topology**, in mathematical terms, IS A SET OF CRITERIA FOR ESTABLISHING DEGREES OF NEARNESS OR PROXIMITY AMONG THE MEMBERS OF SOME CATEGORY. It turns a 'collection' or set of objects into a space defined by the relations of those objects. Objects which are more alike by the criteria are represented in this space as being closer together; those which are less alike are further apart. There can be multiple criteria, which may be more or less independent of one another, so that two texts, for instance, may be closer together in one dimension (say horizontal distance), but further apart in another (vertical distance). What is essential, obviously, is our choice of the criteria, the parameters, that define similarity and difference on each dimension. These parameters can be represented as more or less alike. The same set of parameters allows us to describe both the similarities and the differences among texts, or text-types (genres). [Lemke, n.d.]

As far as the description of process types in concerned, topological analysis can be exemplified as follows, drawing on Halliday 1985 and Matthiessen (1995) (neither of whom explicitly distinguish typological and topological orientations in their descriptions, but both of whom make use of topological parameters). To begin, let's define a space bounded by proto-typical material, mental and relational processes (as established typologically in Figure 22 above); the space is articulated 'geographically' in Figure 23.

(55) DOING/HAPPENING
She's jogging. [material]
(56) PERCEPTION/COGNITION/INTENTION/REACTION
She thinks so. [mental]
(57) BEING/HAVING
She's fast. [relational]

As Halliday (1985) and Matthiessen (1995) discuss, there are a number of process types which do not fit snugly into any one of these centres; they thus cause problems for typological description, which insists that they do fit into existing categories, or that the description be revised to accommodate them. These include: behavioural processes, which demand one conscious

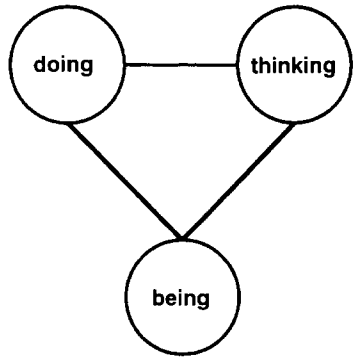

Figure 23. *Topological space for English process proto-types*

participant like mentals processes, but otherwise resemble material ones (as discussed in 2.1.2 above); verbal processes, which do not demand a conscious participant, unlike mental processes, and take a Receiver (*told **her** that...*), but otherwise resemble mental ones; mental state processes, which project metaphenomena (*is unsure **if he'll go**...*) like mental processes, but otherwise resemble relational attributive ones; and phased attributive processes, which take continuous present tense (***is getting** tired...*) like material processes, but otherwise resemble relational ones. In some respects, then, these process types are geographically 'in between' material, mental and relational ones:

(58) BEHAVING
She's watching him. [behavioural:perception]
(59) SAYING
She asked him if he was going. [verbal]
(60) MENTAL STATE
She's curious whether he'll go. [relational;projecting]
(61) BECOMING
She's getting curious. [relational:attributive:change]

Typologically, rogue processes such as these 'mess up' the description. They either have to be supressed, or fudged into the description in some way, possibly by setting up more general process types which group them with proto-types under some more general category. This was the strategoy adopted in Figure 2 above when Halliday's approach to English process types was first introduced. Unfortunately, complicating the classification in this

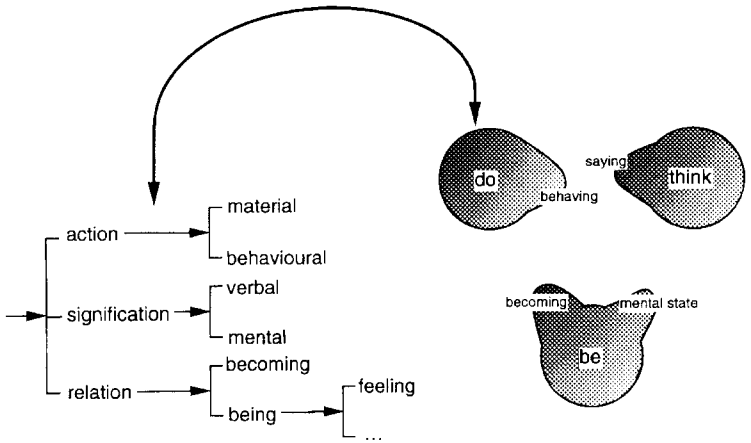

Figure 24. *Typological and topological perspectives on English process types*

way does not do justice to the 'gravitational' factors at issue here. Even if the relevant systemic features are read as a cline, the degrees of likeness and difference spelled out above are fudged. This tension between typological and topological descriptions is outlined in Figure 24:

4. Metalinguistic diversity

In this chapter we have shown that along at least six major parameters, linguistic theory in general offers considerable scope for variation among case grammars. Certainly there is far more meaning potential available than has yet been taken up in specific descriptions. By way of review, one particular framework is profiled in Table 9, viz., Halliday's SFL framework for the description of transitivity in English. The metatheoretical orientation of his framework is highlighted in bold face.

It is beyond the scope of this chapter to explicitly profile related approaches in this detail. But where metalinguistic relativity is a concern, they do need to be so profiled, and confirmed with relevant practitioners, since publications seldom provide enough information to determine all the relevant parameters (and in many cases, the relevant questions have never been posed). Once established, profiles of this kind could form the basis for a new genre of

Table 9. *Metatheoretical profile for Halliday's approach to English transitivity*

STRATA
- — semantics **and**/or grammar
- — **natural** or arbitrary relation between semantics and grammar
- — deep grammar, **cryptogrammar**, surface grammar [re argumentation, evidence]

METAFUNCTION:
- — experiential **and**/or logical
- — constituency **and**/or dependency
- — interaction with **interpersonal** and **textual**

RANK
- — **clause** vs [group/phrase] vs word vs morpheme
- — noun vs verb
- — complementation vs **orders of phenomena** [meta- and macro-phenomena]

AXIS
- — text focus **and**/or system focus
- — universal **and**/or particular
- — grammar **and**/or lexis [re lexis as delicate grammar]

EXTENSION AND CAUSATION
- — generality (roles and macro-roles)
- — **complementarity** (transitive **and**/or ergative)

TYPOLOGY/TOPOLOGY
- — typology **and**/or topology

metatheoretical interrogation, which might replace the dismissive argumentative posturing (e.g. Huddleston 1988) or simple effacement (e.g. Levin 1985) which now characterises most discourse on metalinguistic relativity.

Crucial to the genre of metatheoretical discourse would be an interpretation of the syndrome of metatheoretical selections that determine the shape of a description. Halliday for example is interested in a description of case relations (among other things) that can be deployed (cf Halliday 1964, 1984b) for purposes of social action. This means that the description has to be responsible to considerations of text in context, where this is interpreted in broadly socio-semantic terms. It is from this ideological commitment that his syndrome of selections flows. For example, it is easier to relate case frames to interpersonal and textual meaning at the rank of clause rather than word; these inter-relations are crucial to the interpretation of discourse, as it unfolds in social contexts; once social context is brought into the picture, then differences between spoken and written language are critical, and the

complementarity of logical and experiential construals of reality needs attention; all of this raises issues of genesis, since meanings evolve (in the community, in the individual and in the text), which raises any number of considerations: does topology make phylogenesis easier to interpret than typology? how can we decribe the evolution of science discourse without a description of relational processes? what is the role of both transitive and ergative perspectives in the ontogensis of different moods? can we account for logogenesis without a rich account of grammatical metaphor? and so on. Syndromes of metatheoretical features in other words construe a given famework's fashion of speaking; metatheoretical relativity manifests a model's ideological concerns. In this arena there is no truth, only power. The real question is: how do the linguists in question use their theory to live?

To date, the best that linguists and other commentators have been able to do in this area is to recognise generalised transdisciplines such as cognitive science and social semiotics, and to situate descriptions rather casually within these enterprises. For real dialogue, and the genesis of new theories, metatheoreticians will have to do better than this — in a way that makes explicit connections with grammatical description, from which descriptions the future of linguistics ebbs and flows.

Notes

1 This paper is a partial record, which it has fallen to me to provide, of a course I co-taught with Christian Matthiessen in 1991 focussing on case relations; his ideas infuse the paper at every point in the discussion.

2 Such as that displayed by Chao (1934) in his classic article on the non-uniqueness of phonemic solutions, an article which unfortunately never functioned as a rhetorical model for American linguistic discourse; it is of course no accident that Chao's voice is a non-Western one.

3 See Martin 1992a for a critique of this discourse in the context of one public dismissal of Halliday's perspective on Theme in English; Harris (1992) is particularly revealing on this issue in his *The Linguistic Wars*.

4 In the absennce of a theory neutral lingua franca, Hallidayan terminology will be used consistently to frame the discussion; it will be glossed with respect to other systems where appropriate. The bias introduced thereby is unavoidable at this stage of our work on metalinguistic diversity.

5 In his later revision, Fillmore (1971: 42) revises this criterion, removing animacy: "I no longer confuse selection restrictions to animate with true case-like notions."

6 The potentially confusing appropriation of the term Theme for Objective/Patient relations in the Government & Binding literature (eg., Levin 1985) will be avoided in this paper; instead the term will be reserved here for the textual relations for which it was introduced by the Prague School.

7 The numbers in square brackets after a feature (eg., [7] after *motion*) indicate the number of subclasses which have been elided in Figure 3.

8 Cf. "Only noun phrases representing the same case may be conjoined [or later, compared, JRM]. Similarly, the fact that only one representative of a given case relationship may appear in the same simple sentence...." from Fillmore 1968 'The case for case'; see also Starosta's 1978 'The one per sent solution'.

9 Nominative is in fact restricted to finite (ie., modally responsible) Subjects; cf *[[him borrowing so much money]] upset me.*

10 Following Halliday (1985), Matthiessen and Martin (1991) suggest that these associations can in fact be functionally interpreted, with respect to the interpersonal meaning of the English Subject as modally responsible.

11 Generally referred to as the *present continuous tense* in traditional grammar; for Halliday's logical analysis see Halliday (1976*b*, 1985).

12 Except in writing, where a quote may be projected by an ensuing behavioural process, eg., *"Where will it all end?", he meditated.*

13 Hopper and Thompson (1980) provide a very useful survey of a range of grammatical phenomena relevant to case argumentation.

14 In this Figure Halliday's metafunctions (the ideational, interpersonal and textual, including the logical and experiential subcomponents of the ideational) have been mapped over the stratal organisation displayed in Figure 4.

15 In Figure 16 quoted and reported propositions and proposals are exemplified, following Halliday 1985; non-finite reported examples are enclosed in square brackets.

16 Halliday & Matthiessen point out that verbal processes focus attention on yet another distinction, between participants which can function as symbolic sources (i.e. 'signers', including speakers and texts) and those which cannot.

References

Chao, Y.R. 1934. The non-uniquenes of phonemic soutions of phonetic systems. *Bulletin of the Institute of History and Philology, Academica Sinica,* Vol. IV, Part 4. 363-397. [reprinted in M. Joos [Ed.] 1957 *Readings in Linguistics I.* Chicago: University of Chicago Press. 38-54]

Davidse, K. 1992. Transitive/ergative: the Janus-headed grammar of actions and events. *Advances in Systemic Linguistics*, edited by Martin Davies and Louise Ravelli. London: Pinter. 105-135

De Guzman, V. 1978. *Syntactic Derivation of Tagalog Verbs.* (Oceanic Linguistics Special Publication 16) Honolulu: University of Hawaii Press.

Dixon, R.M.W. 1979. Ergativity. *Language*, 55: 59-138.
Dixon, R.M.W. 1991. *A New Approach to English Grammar, on Semantic Principles*. Oxford: Clarendon.
Fillmore, C. 1968. The case for case. *Universals in Linguistic Theory*, edited by Emon Bach and T. Harms. New York: Holt, Rinehart and Winston. 1-88.
Fillmore, C. 1971. Some problems for case grammar. *Linguistics: developments of the sixties - viewpoints of the seventies*, edited by R. J. O'Brien. Washington, D.C.: Georgetown University Press (Roundtable Monograph Sereis on Language and Linguistics 24). 35-56.
Fillmore, C. 1977. The case for case reopened. *Grammatical Relations (Syntax and Semantics 8*, edited by P Cole and J M Saddock. New York: Academic Press. 59-82.
Foley, W. and R. van Valin. 1984. *Functional Syntax and Universal Grammar*. Cambridge: Cambridge University Press.
Foucault, M. 1985. Truth and power. *Feminist Knowledge as Critique and Construct - Unit A: reader*. [translated by Paul Patton and Meaghan Morris] in Geelong, Vic.: Deakin University Press.
Halliday, M.A.K. 1964. Syntax and the consumer. *Report on the Fifteenth Annual (First International) Round Table Meeting on Linguistics and Language Study*, edited by C. I. J. M. Stuart. (Monograph Series in Language and Linguistics 17). Washington, DC: Georgetown University Press. 11-24. [reprinted in part *Readings in Systemic Linguistics* 1981 edited by M. A. K. Halliday and J. R. Martin. London: Batsford. 21-28]
Halliday, M.A.K. 1967a. Notes in transitivity and theme in English: Part 1. *Journal of Linguistics*, 3.1. 37-81.
Halliday, M.A.K. 1967b. Notes on transitivity and theme in English: Part 2. *Journal of Linguistics*, 3.2. 199-244.
Halliday, M.A.K. 1968. Notes on transitivity and theme in English: Part 3. *Journal of Linguistics*, 4.2. 179-215.
Halliday, M.A.K. 1976a. Types of process. *Halliday: system and function in language*, edited by G. Kress. London: Oxford University Press. 159-173.
Halliday, M.A.K. 1976b. The English verbal group. *Halliday: system and function in language*, edited by G. Kress. London: Oxford University Press. 136-158.
Halliday, M.A.K. 1978. *Language as a Social Semiotic: the social interpretation of language and meaning*. London: Edward Arnold.
Halliday, M.A.K. 1979. Modes of meaning and modes of expression: types of grammatical structure, and their determination by different semantic functions. *Function and Context in Linguistic Analysis: A festschrift for William Haas*, edited by D.J. Allerton, E. Carney and D. Holdcroft. Cambridge: Cambridge University Press. 57-79.
Halliday, M.A.K. 1984a. On the ineffability of gramatical categories. *The Tenth LACUS Forum 1983*, edited by A. Manning, P. Martin and K. McCalla. Columbia, S.C.: Hornbeam Press. 3-18. [reprinted in *Linguistics in a Systemic Perspective*, edited by J.D. Benson, M.J. Cummings and W.S. Greaves. 1988. Amsterdam: Benjamins.
Halliday, M.A.K. 1984b. Linguistics in the University: the question of social accountability. *New Directions in Linguistics and Semiotics* edited by J E Copeland. Houston: Rice University (Rice University Studies). 51-67.
Halliday, M.A.K. 1985 *An Introduction to Functional Grammar*. London: Arnold. [revised edition 1994]

Halliday, M.A.K. and J.R. Martin. 1993. *Writing Science: literacy and discursive power*. London: Falmer (Critical Perspectives on Literacy and Education) and Pittsburg: University of Pittsburg Press (Pittsburg Series in Composition, Literacy, and Culture).
Halliday M.A.K. and Christian Matthiessen. **forthcoming**. Systemic functional grammar: A first step into the theory.
Harris, R.A. 1992. *The Linguistic Wars*. Oxford: Oxford University Press.
Hasan, Ruqaiya 1987. The grammarian's dream: lexis as most delicate grammar. *New Developments in Systemic Linguistics Vol. 1: theory and description*, edited by M.A.K. Halliday and R.P. Fawcett. London: Pinter. 184-211.
Hopper, P. and S. Thompson. 1980. The discourse basis of transitivity. *Language*, 56: 251-300.
Huddleston, R.D. 1988. Constituency, multi-functionality and grammaticalization in Halliday's Functional Grammar. *Journal of Linguistics*, 24. 137-174.
Lemke, J.L. no date. The topology of genre: text structures and text types. Unpublished paper.
Levin, B. 1985. *Lexical Semantics in Review*. Cambridge, Mass.: Centre for Cognitive Science, MIT (Lexicon Project Working Papers 1).
Martin, J.R. 1992a. Theme, method of development and existentiality: the price of reply. *Occasional Papers in Systemic Linguistics*, 6: 147-184.
Martin, J.R. 1992b. *English Text: System and structure*. Amsterdam: Benjamins.
Martin, J.R. *forthcoming*. Types of Structure. *Burning Issues in Discourse: A Multidisciplinary Perspective*, edited by E. Hovy and D. Scott. Heidleberg: Springer.
Martin, J.R. *in press*. Transitivity in Tagalog: a functional interpretation of case. *Meaning and Form: A Systematic Functional Interpretation*, edited by M. Berry, C. Butler, R.P. Fawcett and G. Huang. Norwood, N.J.: Ablex (Meaning and Choice in Language: studies for Michael Halliday).
Martin, J.R. and Christian Matthiessen. 1991. Systemic typology and topology. *Literacy in Social Processes: papers from the inaugural Australian Systemic Linguistics Conference*, (Deakin University, January 1990), edited by F Christie. Darwin: Centre for Studies in Language in Education, Northern Territory University. 1991. 345-383.
Mathesius, V. 1975. *A Functional Analaysis of Present Day English on a General Linguistic Basis*. The Hague: Mouton.
Matthiessen, Christian 1988. Representational issues in systemic functional grammar. *Systemic Functional Approaches to Discourse*, edited by J.D. Benson and W.S. Greaves. Norwood, N J: Ablex. 136-175.
Matthiessen, Christian 1992a. Interpreting the textual metafunction. *Advances in Systemic Linguistics*, edited by Martin Davies and Louise Ravelli. London: Pinter. 37-81.
Matthiessen, Christian 1992b. Language on language: the grammar of semiosis. *Social Semiotics*, 1.2: 69-111.
Matthiessen, Christian *in press*. *Lexicogrammatical Cartography*. Tokyo: International Language Sciences Publishers.
Matthiessen, Christian and J. R. Martin. 1991. A response to Huddleston's review of Halliday's Introduction to Functional Grammar. *OPSL* 5. 1991. 5-74.
Painter, C. 1984. *Into the Mother Tongue: a case study of early language development*. London: Pinter.

Ramos, T. 1974. *The Case System of Tagalog Verbs.* (Pacific Linguistics Series B 27) Canberra: The Linguistic Circle of Canberra.

Rose, D., D. McInnes and H. Korner. 1992. *Scientific Literacy (Literacy in Industry Research Project - Stage 1).* Sydney: Metropolitan East Disadvantaged Schools Program.

Schachter, P. 1976. The subject in Philippine languages: topic, actor, actor-topic, or none of the above. *Subect and Topic*, edited by C. Li. New York: Academic Press. 491-518.

Schachter, P. 1977. Reference-related and role-related properties of subjects. *Grammatical Relations (Syntax and Semantics 8)*, edited by P. Cole and J. M. Saddock. New York: Academic Press. 279-306.

Starosta, S. 1978. The one per Sent solution. *Valence, Semantic Case and Grammatical Relations*, edited by W. Abrahamn. Amsterdam: John Benjamins. 459-576.

Starosta, S. 1988. *The Case for Lexicase: an outline of lexicase grammatical theory.* London: Pinter.

Starosta, S. 1990. Essay Review on H L Somers Valency and Case in Computational Linguistics. *Machine Translation 5.* 79-96.

Veel, R. 1993. *Literacy in School Science.* Sydney: Metropolitan East Disadvantaged Schools Program.

Whorf, B.L. 1956. *Language, Thought and Reality: selected papers of Benjamin Lee Whorf*, edited by J. B. Carroll. Cambridge, Mass.: MIT Press.

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