

## SUBJECTS, THEMES AND CASE GRAMMARS

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### I.

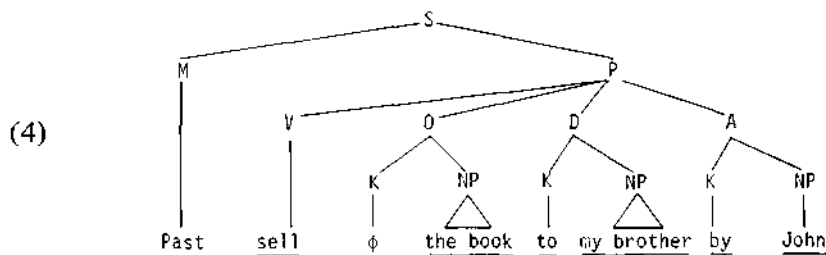
This paper starts from the basic assumptions that no formal grammar can be considered to be adequate unless it can provide semantic representations of sentences which include some indication of case relations and unless it can account for the influence of discourse structure and situational context upon their surface realizations. Speakers are able to express a particular 'cognitive experience' or 'message' in a number of different ways. Which form of expression is selected depends largely on the context of the situation and of the discourse. In particular, the discourse context determines largely which element of the underlying semantic representation is to be expressed first in the sentence structure, i.e. which element is to be the 'theme', "the point of departure, the take-off point of the clause" (Halliday 1970: 353). Normally this will be that part providing the easiest transition from what has preceded. An easy transition is obviously more readily achieved by repeating in some way something already known to the hearer rather than by introducing something new. Hence, in the normal case, the theme conveys 'given' information, and the non-thematic part of the sentence conveys 'new' information. When this is not the case, the sentence is 'marked' as non-normal by a particular intonation pattern or by particular lexical frames. We shall begin with a survey of the treatment of 'normal' sentences in some formal grammars which incorporate representations of case relations.

### II.

It is normal in English for the element selected as 'theme' to be made the grammatical subject of the sentence:

- (1) John sold the book to my brother
- (2) The book was sold to my brother by John
- (3) My brother was sold the book by John.

In each sentence the participants *John*, *book* and *brother* hold the same case relations to *sell*, namely 'agent', 'patient' and 'beneficiary', respectively.<sup>1</sup> If all three participants are already 'known' ('given'), then English prefers to realise the 'agent' noun as grammatical subject, i.e. sentence (1);<sup>2</sup> but if the agent is 'new' then one of the other participants will be selected as subject. This relationship between 'agent' and 'subject' has been formulated in most formal grammars. Fillmore (1968), for example, would give as the underlying phrase marker for these sentences something like the following:



where the NP *John* is dominated by the A(gentive) case marker, the NP *my brother* by the D(ative) case marker and the NP *book* by the O(bjective) case marker. The rules for subjectivizing one of these NPs are given informally by Fillmore in these words: "For most combinations of cases there is a 'preferred' or 'unmarked' subject choice ... In general the 'unmarked' subject choice seems to follow the following rule:

If there is an A, it becomes the subject; otherwise if there is an I(nstrumental), it becomes the subject; otherwise the subject is the O" (1968: 33).

<sup>1</sup> In this paper we shall not be examining the case relations themselves nor the validity of their assignment in particular instances. We are concerned primarily with the treatment of subjectivization and thematization in case grammars, and not in any sense with an analysis of the case relations of English or any other language. The particular cases proposed by different linguists are, therefore, to some extent, irrelevant to the discussion. For this reason too, it is unnecessary to go beyond a small corpus of examples – sentences expressing a *buying-selling* transaction – to illustrate the formal grammars in this area.

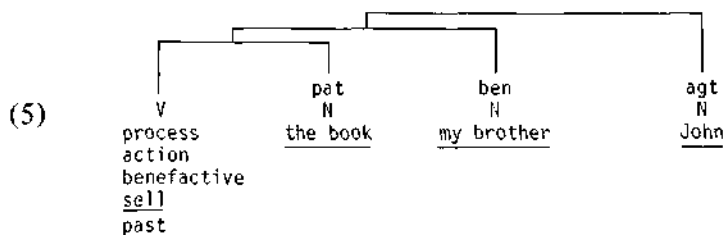
<sup>2</sup> This will also be true if all participants are 'new', as might well be the case with the opening sentence of a discourse or text (section X below).

This rule accounts for the normal choice of *John* as subject in (1). For the 'nonnormal' ('marked') subject relations in (2) and (3) Fillmore attributes to verbs of the type exemplified by *sell* a facility (not formally defined) which "allows either O or D to appear as subject as long as this 'nonnormal' choice is 'registered' in the V ... [i.e. by] the association of the feature [+ passive] with the V" (1968: 87).

More recently, Fillmore (1971) has modified his position. Now he prefers a case hierarchy in the order Agent, Experiencer, Instrument, Object, Source, Goal, Location, Time (where the earlier Dative is now subsumed under either Experiencer, Object or Goal). "The case in a given sentence which occurs first on the list determines what is to be the subject of the sentence in ... the 'unmarked' instance". Hence the agent NP *John* would be the 'unmarked' subject choice. "The Passive Transformation is a ... re-ranking transformation, having the effect of putting an original Experiencer or Object or Goal noun-phrase into first position, inducing a modification in the form of the verb, and associating the preposition *by* with the noun-phrase that got demoted" (1971: 42-43). Whereas before the 'marked' passive constructions were derived by a special type of subjectivization rule, they are now the result of two transformations, the optional Passive Transformation and the obligatory Subjectivization Transformation.

### III.

Although there is a clear recognition of the preference in English for the subjectivization of the agent NP and of the 'markedness' of the passive constructions, neither version of Fillmore's case grammar gives any motivation for the selection of an NP as subject (either directly as in the first version, or indirectly through the movement of NPs in Passivization). One possibility is the distribution of 'given' and 'new' information. It is in this respect that Chafe's model (1970) is of some interest. As in Fillmore's model, in the structure underlying sentences (1)–(3) case markers are assigned to each NP participant:



Where Chafe's model differs from Fillmore's, however, is in that the case categories 'pat', 'ben' and 'agt' (corresponding to Fillmore's O, D and A) are determined by the prior sub-categorisation of the V node, i.e. 'process', 'action', 'benefactive'. As it stands, (5) underlies only the active sentence (1). For the passive sentences (2)–(3) Chafe argues that the verb must be additionally specified as 'passive'. However, Chafe rightly argues that certain important aspects of subjectivization are not yet accounted for, and so he proposes a rule for the designation of NPs as conveying 'old' information or 'new' information. In the 'unmarked' (i.e. non-passive) instance, the nodes of (5) designated as 'new' would be *sell*, *the book* and *my brother*, leaving *John* as 'old' (as found in sentence (1)). But if the V has been specified as 'passive' then the distribution is different: the beneficiary N may be designated as either 'new' or 'old'; if it is 'new' then the patient N cannot be specified as 'new' and the result is the distribution found in sentence (2); if the beneficiary N is 'old' then the patient N *must* be specified as 'new' and the result is the distribution found in sentence (3). This assignment of the features 'old' and 'new' means that Chafe's actual subjectivization rule can be quite simple: all that is needed is a linearisation rule which subjectivizes the NP marked as 'old'.

Obviously, a similar procedure could be adopted by Fillmore. However, Chafe quickly recognises that the 'given–new' distribution in sentences is in fact quite independent of subject-choice. Alongside sentences (1)–(3) with normal intonation, where the subject NP (the theme) is 'old', we find the following with the thematic element heavily stressed:

- (6) *John* sold the book to my brother
- (7) *A book* was sold to my brother by John
- (8) *My brother* was sold the book by John.

Chafe must recognize that subject NPs may be 'new'. However, in dissociating subjectivization from the 'given–new' distribution he leaves himself with an incomplete explanation for the appearance of a NP in subject-position. Chafe has improved upon Fillmore in identifying the influence of 'given' and 'new' when normal (unmarked) subjectivization operates, i.e. where a 'given' element is to be made subject. But for the nonnormal instances of subjectivization, when the subject NP is 'new' he can suggest nothing better than Fillmore's rules of preference (agent instrument patient beneficiary).

## IV.

Standing in paraphrastic relationship to sentences (2) and (3) we have:

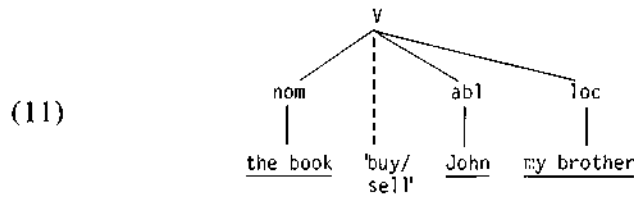
- (9) My brother bought the book from John  
 (10) The book was bought by my brother from John

where the subject and theme of (9) is the same NP as that which is subject and theme in (3), and the subject of (10) is the same NP as the subject in (2). When *brother* is theme, then speakers may often prefer (9) to its paraphrase (3) on the grounds that an active construction is felt to be less 'marked' than an equivalent passive construction. A formal model should be able to show the relationship of these sentences to each other both in terms of semantic structure and in terms of thematization.

In Fillmore's model sentences (9) and (10) would be derived from a structure quite different from (4) both with regard to the lexical entry at V and to the case categories – instead of *sell* we would have *buy*, and instead of Goal we would presumably have Source (Fillmore 1971: 42). To show the synonymy of (9) and (3) and of (10) and (2) requires the elaborate process of semantic interpretation described by Katz (1967) plus some additional indication that the NP subjectivized in (9) is the 'same' as that subjectivized in (3), and that a different NP is subjectivized in both (10) and (2). Alternatively each synonymous pair must be derived from a single 'deeper' structure by a series of lexical and syntactic transformations (Lakoff 1971).

## V.

One of the most thorough examinations of the English case system is to be found in Anderson (1971), who adopts the kind of dependency grammar which Robinson (1969) and Fillmore himself (1971) recognise as providing a more adequate representation of the relational character of cases than it is possible to achieve in phrase structure grammars. Anderson (1971: 129ff) suggests that the common structure underlying all these sentences (1)–(3), and (9)–(10) is:



Trees are generated by the operation of 'constituency rules' upon subcategorisations of V. In this instance V has been subcategorised as +locative and +directional and the cases 'nom', 'abl' and 'loc' have been generated. What distinguishes the *buying* sentences from their *selling* equivalents and vice versa is the placing of the feature 'erg' (derived by a further subcategorisation of V as +ergative): in the case of *buy* (i.e. (9) and (10)) 'erg' is associated with 'loc', and in the case of *sell*, (1)–(3), 'erg' is associated with 'abl'. The various subjectivizations are the result of further subcategorisations of V and of the introduction of the features 'stat', 'subj' or 'obj' into the structure. For sentences (2) and (10), where the 'nom' NP *book* is subjectivized, V is subcategorised as +stative, with the result that the feature 'stat' is added to 'nom' and a feature 'cop' (later realised as one of the forms of the copula *be*) is inserted before V. For (3), also +stative and with an inserted 'cop', it is the 'loc' which is modified by the addition of 'stat'. Sentences (9) and (1) are both –stative and so cannot be distinguished by the placing of 'stat' – in these cases, the features 'subj' and 'obj' are assigned as guides in the subsequent subjectivization operations. In (9) it is the "locative phrase that is subjectivized", whereas in (1) the locative is "objectivized". With these 'syntactic' features 'stat', 'subj' and 'obj' added to the case categories Anderson is able to apply a generalized 'sequencing rule', covering a very wide variety of case configurations and verb types, which places noun phrases in the order found in the 'surface structure' of sentences:

$$(12) \left( \begin{array}{c} \text{subj} \\ \boxed{\text{nom}} \\ \text{erg} \\ \text{nom} \end{array} \right) V \text{ (nom) (nom) (abl) (loc) (erg) .}$$

Thus, Anderson treats variations in subjectivization in the same way as semantic variation, so that the difference between (9) and (3) is no greater than that between (3) and (2). In the first case the difference is attributable to the placing of 'erg': in (9) with 'loc' and in (3) with 'abl'. In the second, it lies in the placing of 'stat': in (3) with 'abl' and in (2) with 'nom'. By contrast, the relationship between (9) and (3) can be indicated only very indirectly in Fillmore's and Chafe's models. Anderson's approach would seem to be much closer to our linguistic intuition on this point. On the other hand, it would appear to be counter-intuitive that the subcategorisation of the verb (as +stative or +subjective) should determine which noun phrase is to be subjectivized. It is far more natural to assume that it is the thematization (and subjectivization) of a NP that determines what form the following verb should take (active or passive) – just as natural as that in subject-verb concord it should be the noun which determines the form of the verb and not vice versa. Exactly the same objections can be made against Chafe's proposals, since he too makes verb subcategorisation the principal determinant of subject-choice, and also an important factor in the 'given'–'new' distribution. In this respect, then, Fillmore and other transformational grammars are more 'natural' than Anderson or Chafe.

## VI.

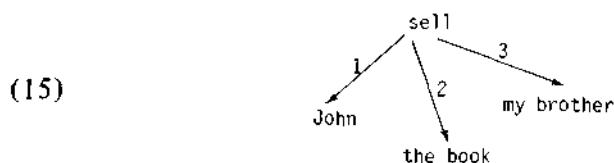
A more serious objection to Anderson's model as well as to Chafe's is that it cannot easily account for the thematizing of noun phrases which are not made grammatical subjects. As Firbas (1964, 1966) has shown, English exhibits a strong inclination to make any thematic element the subject of the sentence, whether it is the 'agent' of the action or not. Hence, the often observed proclivity of English for passive constructions. Other languages, such as German, Russian and Czech, prefer to preserve the association of 'agent' and 'grammatical subject' and to thematize non-agentive (and non-subjective) nouns by subject-verb inversion (a procedure obviously made possible by the overt grammatical case systems of these languages):

(13) *Meinem Bruder hat Hans das Buch verkauft*

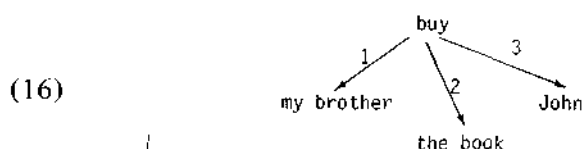
(14) *Моему брату продал Иван эту книгу*

To account for such sentences obviously requires the dissociation of thematization and subjectivization. Mel'čuk shows how this can be done in a formal model, while also providing a comprehensive treatment of the kind of semantic relationship present between (1)–(3) and (9)–(10), and of many other lexical and phraseological relationships (Mel'čuk and Žolkovskii 1970; Žolkovskii and Mel'čuk 1971).

For Mel'čuk, the structure underlying sentences (1)–(3) and (13)–(14) would be:



where the valences 1, 2 and 3 are equivalent (for verbs in the same class as *sell*) to Anderson's 'abl-erg', 'nom' and 'loc' respectively. Underlying (9) and (10) is the following structure:



where the valences 1, 2 and 3 are now equivalent to Anderson's 'loc-erg', 'nom' and 'abl' respectively. The two structures (15) and (16) are related by a set of 'paraphrasing rules' comprising (a) a generalized 'lexical rule' equating a verb,  $i_o$ , and its converse,  $Conv_{C,A}(i_o)$  – its applicability in the case of *buy* and *sell* being recorded in a 'lexicon' – and (b) a generalized 'syntactic rule' altering the valences 1 and 3 attached to nodes A and C when the verb is  $i_o$  (eg. *John* and *brother* in (15)) to valences 3 and 1 when the verb is the converse of  $i_o$  (eg. *John* and *brother* in (16)) and vice versa. (It is the wide application of such rules in a great variety of semantic relationships which makes Mel'čuk's model so important in the study of semantic structure.) Elsewhere, Mel'čuk (1972) shows that structures (15) and (16) may alternatively be regarded as equivalent by virtue of their derivation from a common deeper semantic representation – the parallel with Anderson's approach is thus clear (cf. section IX below).



From (15) and (16) sentences are realized via a process of linearization which requires the previous specification of one element or subtree of the structure as theme – the element which is to come first in the linearization. Independent of this selection of theme, there is an intermediary stage between structures (15) and (16) and their linear forms in which the valences are transformed into syntactic functions, viz. valence 1 becomes ‘subject-of’, valence 2 ‘object-of’, etc. Thus, in (15) *brother* may be chosen as theme whilst *John* (connected by valence 1) remains subject. The result is the linearization underlying sentence (12). In this way Mel’čuk separates choice of subject from choice of theme. However, there is an obvious shortcoming in Mel’čuk’s model as far as English is concerned in that it cannot easily account for passivization – there is no mechanism for realizing valence 2 as the ‘subject-of’ function (whether under the influence of thematization or not). But the crucial point being made here is that Mel’čuk’s model does show how thematization and subjectivization may be formally dissociated. And, furthermore, it is done in a way that correctly associates thematization with the semantic level and subjectivization with the lower level of syntactic ordering.

## VII.

The kind of thematization found in (13) and (14) is not common in English. It occurs apparently only when the subjectivization of the thematic element is impossible, eg. a locative noun phrase, as in:

(17) In the room sat an old man.

There is, however, one type of construction in which non-subject noun phrases are thematic and that is the one derived in transformational grammars by the Topicalisation transformation, e.g.

(18) (i) The book, John sold it to my brother  
 (ii) My brother, John sold the book to him.

And there is also a related construction differing from these by the absence of a pronominal ‘trace’:

- (19) (i) The book, John sold to my brother  
 (ii) To my brother, John sold the book

where the comma indicates a pause, which is not however usually indicated typographically.

Both construction types can be derived in transformational grammars by a simple Topicalisation rule of the following form (Bach 1971):

$$(20) \begin{array}{ccc} X, & NP, & Y \\ 1 & 2 & 3 = \\ 2-1 & \phi & 3 \end{array}$$

Such a rule would operate, for example, upon the superficial phrase-marker of (1) and produce the phrase-markers underlying the sentences (18i) and (19i) if *book* were the NP transposed, and (18ii) and (19ii) if *brother* were the NP in question. In (18i-ii) the transposed NP leaves a pronominal 'trace' but in (19i-ii) it does not. In every case, rule (20) must operate after the subjectivization of *John*. Topicalisation is clearly seen in transformational grammar was essentially a subsidiary operation. Sentences (18i) and (19i) are looked upon as little more than stylistic variants of (1), and the choice of *book* as theme is considered to be no more than 'secondary topicalisation' (Fillmore 1968: 57). This procedure clearly fails to capture the primary function of thematization, the organization of the structure of an utterance within a particular discourse context. Thematization must be regarded as the primary mechanism affecting word-order and not subsidiary to subjectivization.

Sentences such as (18i) and (18ii) should be considered in conjunction with sentences of similar construction in which the grammatical subject is a pronominalization of the thematic element.

- (21) (i) The book, it was sold by John to my brother  
 (ii) As for the book, it was sold by John to my brother  
 (22) (i) John, he sold the book to my brother  
 (ii) As for John, he sold the book to my brother.

We follow Halliday (1970: 357) in regarding these constructions and others such as *As far as ... is concerned* as simply more explicit ways of marking or emphasizing thematic status. The emphasis may often be made for the sake of contrast, and such constructions are often referred

to as 'contrastive' (Kuno 1972). However, in our view, contrast is more explicitly marked by particular stress, showing that the theme is in some way unpredictable (see section VIII below) and so we shall call the kind of thematization illustrated in (21–22) simply 'emphatic thematization'.

It is clear that the Topicalisation transformation (20) could be applied also in the cases of (21i) and (22i) and with certain obvious extensions involving the introduction of *as for* in the derivation of (21) and (22) as well. Furthermore, such extensions would in turn permit the derivation of

(23) *As for the book, John sold it to my brother*

and so forth. But there still remains the objection to the procedure involving (20), namely that it subordinates thematization to subjectivization. A possible solution, within the context of transformational grammar, can be found in Lakoff's suggested treatment of Topicalisation (1971: 260–3). His primary purpose is to show that Topicalisation is a kind of presupposition, and that it may be "captured by a two-place predication having the meaning of 'concerns' or 'is about'". The basis for his suggestion is the occurrence of such 'metalinguistic' sentences as

(24) *My news is about the book*

and the possibility of expanding the thematic noun phrases in (18i) and (18ii):

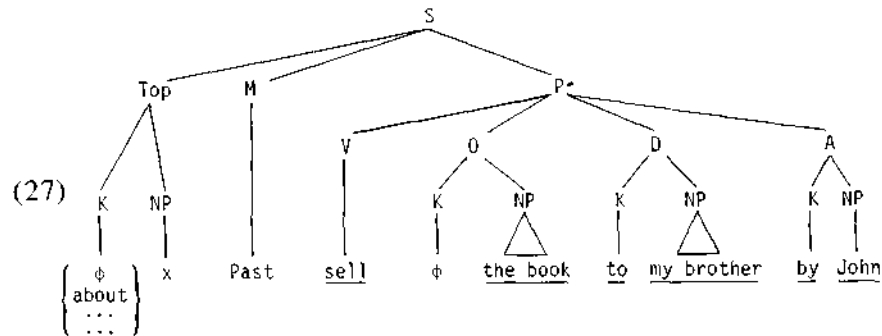
(25) *About the book, John sold it to my brother*

(26) *Concerning my brother, John sold the book to him.*

We have shown the fallacy of regarding theme as necessarily 'given' – and presupposition implies 'givenness' in these instances<sup>3</sup> – and we may also doubt any assertion that the theme must always express what the sentence 'is about'. Stripped of these considerations and treating

<sup>3</sup> Elsewhere, of course, the notion of 'presupposition' in transformational grammars embraces many other aspects of linguistic pragmatics, e.g. logical entailments, 'happiness' conditions, speakers' and hearers' factual knowledge and beliefs, and so forth. A discussion of these aspects is outside the scope of this paper.

'Topic' (i.e. theme) as a neutral category, we may nevertheless still follow Lakoff in expanding the definition of a semantic representation SR to include Top as well as a set of presuppositions PR (1971: 234), and we may produce, for example, as an expansion of (4) the following phrase-marker<sup>4</sup>



Sentences (1)–(3), (18)–(19), (21)–(23), (25)–(26) can be derived from (27) in the following ways:

In the normal (i.e. 'untopicalised') sentences (1)–(3) the NP dominated by Top specifies that its matching NP in P is to be brought to the left of M, i.e. is to be subjectivized. The V is then passivized (if it is not the Agentive NP that has been subjectivized) and the redundant NP is deleted. This procedure now gives us a 'motivation' for the operation of Fillmore's subjectivization rules (section II above) and one which correctly subordinates subjectivization to thematization.

In the 'topicalised' sentences (21)–(22), the NP dominated by Top again brings forward its matching NP to be subjectivized. However, this time it is not deleted but pronominalized. In (21ii) and (22ii) K is 'lexicalised' as *As for* and in (21i) and (22i) it is null.

For the derivations of (18), (23), (25)–(26) we suggest the following procedure. The NP in P matching the 'Top' NP is pronominalized and at

<sup>4</sup> Such a marker is unlikely to be accepted by Fillmore since he rejects the 'generative semantics' approach and regards markers like (4) as 'deep syntactic' rather than 'semantic'. On the other hand, phrase-markers containing case categories do not seem to occur in Lakoff's work. We take the liberty of assuming that with McCawley (1970) he accepts that semantic representations must account for cases along the lines indicated by Fillmore. In any case, we feel that (27) is a legitimate candidate for a semantic representation in a transformational grammar (and Chomsky (1972: 121) would seem to agree).

the same time another NP in P is subjectivized, i.e. brought to the left of M (with or without passivization of V). Normally the NP subjectivized is the 'agent', otherwise it is the 'instrument' and then the 'objec' etc. In other words, Fillmore's rule of preference seems to be observed – the reason being apparently that speakers avoid too many 'marked' elements in sentences. The presence of a 'topicalized' (or rather, 'emphatically emphasized') NP is in itself nonnormal. To have a non-agentive subject when an agent NP is still available would make the sentence doubly 'marked'. Sentences such as

- (28) The book, my brother was sold it by John  
 (29) My brother, the book was sold to him by John

are distinctly unusual, and perhaps for many speakers quite unacceptable.

A similar procedure can apply for the 'topicalised' sentences in (19) except, of course, that the NP in P matching the 'Top' NP is not pronominalized.<sup>5</sup>

This proposal would seem to satisfy our requirements, for themes which are 'given' – and with simple extensions would appear to account for the German and Russian (13) and (14) also. However, while it is true that subjectivization is now correctly subordinated to thematization, it is at the cost of introducing a largely redundant subtree, the 'Top' NP duplicating one of the NPs in P, and presumably the well-known complications of NP identification by indices (graphically illustrated by Dik (1968) for reflexives). In addition, there remains the general objection, mentioned in section V above, that phrase structure models do not provide adequate representations of case relations; and furthermore, there is the obvious objection that a category such as Top which refers to the pragmatic aspect of the sentence (its relationship within the discourse or situational context) is out of place in what is supposed to be a semantic representation (as little in place as syntactic categories such as V, NP, etc. (Hutchins 1971b: 214)).

<sup>5</sup> The procedure is, of course, complicated by the need to account for the transfer of the preposition *to* in (19ii) from its NP in P to the 'Top' NP. By comparison the straight Topicalisation transformation rule (20) is far simpler. But while it does satisfy 'descriptive adequacy' in that the observed sentences can be generated, it does not, as we have argued, satisfy 'explanatory adequacy' in that the placing of a particular NP in a thematic position is completely unmotivated.

## VIII.

Thematization of elements conveying 'new' information has so far been mentioned only in passing. As we have already remarked, it is normal for sentences in English and apparently most other languages for 'given' elements to precede 'new'. Firbas (1964, 1966) accounts for this in his concept of 'communicative dynamism'. Every element of a sentence bears a different degree of communicative dynamism according to the contribution it makes towards forwarding the communicative function of the whole discourse. Normally the levels of communicative dynamism rise as sentences progress, starting with elements largely (or wholly) known and predictable by the hearer and ending with elements unknown and unpredictable from previous discourse. It is a simplification to talk in terms only of 'given' and 'new', in particular to account for the intonation patterns of sentences. But for our purposes, in explaining the interaction of thematization, subjectivization and case structure with 'communicative dynamism', the simplification does not introduce too great a distortion.

A nonnormal distribution of communicative dynamism is always marked by a distinctive intonation pattern or by a distinctive construction.<sup>6</sup> In the case of 'new' elements which are thematized while the non-thematic parts are 'given' we find that the theme bears particular stress. For example in an answer to *Who sold the book?* instead of the 'new' information occurring in the non-thematic part

(30) The book was sold by John

it may be placed in the thematic part and assigned a distinctive stress pattern

(31) *John* sold the book

<sup>6</sup> The notion of 'focus' as described by Chomsky (1971) appears to give an adequate account of how listeners identify what is 'new' in a sentence from, in particular, the intonation pattern of the surface structure. What it does not say anything about is how speakers decide on the distribution of 'given' and 'new' in sentences within the context of the discourse and how this distribution is reflected in the intonation. It is this 'generative' or performative aspect of sentence formation that is the topic of the present paper, and the question of how hearers interpret surface forms is not discussed.

It should be noted that the phrase expressing 'new' information is not necessarily unknown to the hearer. It may have been mentioned previously in the discourse or it may be something (some person, object, event) well known to both speaker and hearer or obvious to both from the situational context of the utterance. For the element to be 'new' the essential point is that its occurrence in the present sentence must be unpredictable (Kuno 1972).

This explains why we find similar intonation patterns to that in (31) when it is quite clear from the context that the sentence element stressed is already known to the hearer and does not in itself convey 'new' information. For example, it is well known that any part of a sentence may receive contrastive stress:

- (32) *John* sold the book to my brother
- (33) John *sold* the book to my brother
- (34) John sold the *book* to my brother
- (35) John sold the book to my *brother*.

In each sentence the speaker is asserting that out of a set of possible alternatives known to both speaker and hearer only the one stated renders the proposition (statement) correct. It is this particular alternative that is stressed.

The contrastive element may be said to be 'new' only in the sense that its exact relationship to other elements was previously unknown to the hearer. In (35), for example, the 'new' information is that the beneficiary of the action was *my brother* and not some other person mentioned earlier in the discourse. What is 'new' is that the Benefactive relationship between *brother* and *sold* that is now being asserted, not the noun phrase *my brother* itself.

Instead of (32) in which the thematic element, *John*, is stressed we find frequently that the theme is placed in a distinctive lexical frame:

- (36) It was John who/that sold the book to my brother

and similarly for other thematized elements:

- (37) It was the book which/that John sold to my brother
- (38) It was my brother who/that was sold the book by John.

This construction is strongly related to sentences with *it is (was)* introducing a restrictive relative clause. In answer to *What did Mary read?* one may well have

(39) It was the book (which/that) John sold to my brother

in which the whole of the relative clause restates information already known to both speaker and reader. What is 'new' in (39) is the role of *the book ...* as the Objective of Mary's reading, i.e. again it is the relationship that is unknown and not the thing itself.

It seems that in both the contrastive sentences (36)–(38) and in 'restrictive relative clause' constructions of the type in (39), we have a nonnormal distribution of given and new. In both constructions the thematic part (*it was X who/that*) contains the 'new' information and the non-thematic part (the *which/that* clause itself) contains nothing but given information. Indeed, as we have seen, we may go further and claim that in both constructions the 'new' information is located in the case relation of the theme and not in the thematic element (*John, book, etc.*) itself.

The parallel between contrastive thematization, (36)–(38), and restrictive relative clauses like (39) seems to be strong. Even so, the two construction types remain distinct. Related to (37), for example, but not to (39), is the pseudocleft construction:

(40) What John sold to my brother was the book

in which the normal sequence of given and new has been restored.<sup>7</sup> It would also appear that in contrastive thematization constructions it is not possible to delete the relative pronoun as easily as it is in restrictive relative clauses. Regarding the *it is ...* construction, Jespersen (1927: 90) remarks that its "absolutely restrictive character ... explains the natural preference for *that* or contact-clause", i.e. deleted pronoun. The relative pronoun is readily deleted in constructions like (39) but not so readily in the contrastive thematization constructions – and in (36) and

<sup>7</sup> It is possible that pseudocleft constructions should be regarded as lexical frames for highlighting non-thematic contrastive elements. Thus, (40) would bear the same relationship to (34), as (37) does to:

The *book* was sold by John to my brother.



(38) much less easily than in (37). Perhaps the stress upon the contrastive theme may account for this – there is obviously little or no stress upon the head noun in constructions like (39). On the other hand, it would seem that contrastive thematization constructions like (36)–(38) share with restrictive relative clauses the preference for *that* over *who/which*.

Whether it is always possible for ‘new’ thematic elements to be placed in the same lexical frames (36)–(38) as contrastive themes is a little questionable. If it is an element already mentioned, although in this instance highly unpredictable, then the use of the lexical frame appears to be quite acceptable. An obvious alternative to (30) and (31) in answer to *Who sold the book?* is:

(41) It was John<sup>8</sup>.

This may be readily expanded to

(42) It was John who/that sold the book

presumably because here we have very similar conditions to those in contrastive thematization. However, if the element is entirely unknown, then an expansion of, e.g.

(43) It was an antiquarian bookseller

is apparently much less probable:

(44) It was an antiquarian bookseller who/that sold the book.

Nevertheless we shall assume that the *it was ...* frame is normally as readily acceptable in ‘new thematization’ as it is in contrastive thematization. Hence, the difference between the two types lies solely in what it is that is ‘new’: with ‘new thematization’ it is the thematic element itself that is new or unpredictable, with contrastive thematization it is the relationship of the theme to the rest of the statement.

To summarise, it would seem that any model claiming to account

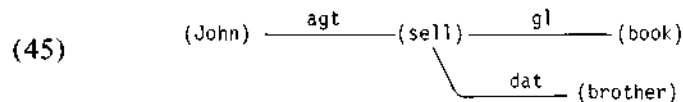
<sup>8</sup> Or, of course, even more briefly: *John*. This is probably an elliptic form of either (31) or (41).

adequately for thematization must distinguish four basic types:<sup>9</sup> normal or 'unmarked' thematization, in which a 'given' element is selected as theme (and consequently, in English, as subject); emphatic thematization, in which the 'given' element selected as theme is placed in a distinctive construction; thematization of 'new' elements; and contrastive thematization, in which the 'new' relationship of a 'given' element is stressed.

## IX.

We shall now bring together the various observations of the preceding sections regarding case systems, subjectivization, thematization and communicative dynamism in the form of an outline sketch of a formal grammar, based on earlier work on the relationship between semantic structures and their realizations (Hutchins 1971a).

As a base semantic representation we propose a 'semantic formula' comprising sememes representing the senses of lexemes and sememic links representing the semantic relations between them, i.e. case relations



Formally, such representations as (45) are closest to those of Chafe (5) and to those of Mel'čuk, except in the latter case that where (15) has valences (45) has specific case relations. There is also an affinity with Anderson's dependency tree representations, where (45) would be equivalent to one of the 'ergativized' forms of (11), i.e. as a more 'superficial' semantic realisation of (11). We may, in fact, regard something like (11) as a 'deeper' semantic representation of (45), at least as far as the case relations are concerned. Thus, the link 'agt' may be regarded as the result of the ergativization of the 'abl' node under the influence of *sell* (or rather the sememe representing it). Similarly the link 'dat' may be regarded as a realization of Anderson's 'loc' in the same context. The

<sup>9</sup> Probably it should also distinguish numerous subtypes since, as we have seen, the given-new dichotomy is a gross simplification. A more subtle analysis of communicative dynamism would probably identify further factors influencing thematization.



cally by definitions incorporated in the lexicon, e.g. *buy* is the converse of *sell*, etc. In view of the numerous difficulties over primitive linguistic elements, both practical and theoretical, such an approach is not without its attractions.

As for the 'creation' of semantic representations such as (45) or (46) or of their underlying 'deep' structures or semon networks, we may either consider them to be the result of generative rules operating upon an initial symbol, i.e. on the lines suggested by Anderson and Chafe, or, alternatively, we may suggest that they are the result of the amalgamation of sememes (or semons) into sememic formulae (or networks) governed by rules of 'semantic compatibility' (Hutchins 1971b: 228; Mel'čuk 1972: 8–9). That is to say, they are the result of internal structuring and restructuring of the intra-linguistic 'counterparts' of the objects, concepts, properties, etc. of the 'cognitive experience' the speaker wishes to communicate. Such restructuring processes would be influenced by the speaker's 'orientation' and 'attitude' towards the event and by his knowledge of the vocabulary and grammar of the language.<sup>11</sup>

## X.

Any or none of the sememes in such formulae as (45) may have associated with it the feature 'new'. We cannot follow Chafe (1970: 216–23) in proposing rules for the assignment of the feature, at least none that can be formulated in terms of semantic structures for individual sentences. In our view, relative degrees of communicative dynamism can only be 'allocated' in the context of the preceding discourse – which must surely follow naturally from the status of 'given' as a point of contact for the hearer to relate the present utterance to what has preceded, and from the status of 'new' as whatever furthers the communicative purpose of the utterance as a whole.

It is true to say that in general the 'given' elements of a semantic representation correspond to those elements related anaphorically to

<sup>11</sup> A somewhat similar view is expressed by Lockwood (1972: 165) when he refers to the sememic stratum as representing the "first degree of accommodation" of the speaker's "natural way of thinking about things" to the forms, patterns and 'tactics' of the language in which he is expressing himself.

elements or substructures of semantic representations (sememic formulae) which have been expressed earlier in the discourse text. By contrast, 'new' elements do not normally stand in such anaphoric relationships. However, there is no rigid correspondence between anaphoricity and predictability. As we have seen (section VIII), an anaphoric element may be just as unpredictable in a particular sentence as any other element not previously mentioned in the discourse, i.e. 'new' elements can be anaphoric. We would be wrong, therefore, to assign the feature 'new' automatically to any sememe not related anaphorically to previous sememic formulae.

The first stage of realization consists of the thematization of one node and the linearization of the remaining links and nodes of the formula (for details of the process, see Hutchins 1971a). If all the sememes of a formula are 'given' or if all of them are 'new' (as would quite normally be the case with initial sentences of discourses<sup>1 2</sup>) then the natural inclination is to have the realization which is least marked, i.e. most 'neutral'. Consequently, the theme is selected on the basis of the preferences formulated by Fillmore and Chafe, i.e. firstly the agentive NP, then the instrumental NP, etc. (section II above). Hence the linearization underlying (1) is:

$$(47) \text{ decl} \rightarrow (\text{John}) \xrightarrow{\text{agt}} (\text{sell}) \xrightarrow{\text{gl}} (\text{book}) \text{b}(\text{sell}) \xrightarrow{\text{dat}} (\text{brother}) .$$

If the sememic formula contains both 'given' and 'new' sememes, then the theme may be, as we have seen, either 'given' or 'new'.<sup>1 3</sup> If a 'given' sememe has been selected then the rest of the links and nodes follow in the linearization so that all the 'given' sememes precede all the 'new' sememes (i.e. the latter come last in the linearization). In deciding in which order the 'given' sememes should be linearized a 'sequencing rule'

<sup>1 2</sup> Also, as Kuno (1972) points out, sentences in answer to such 'global' questions as *What happened?* are in effect initial sentences of a discourse. Such sentences are characterized by Kuno as instances of 'neutral description', indicating their unmarkedness respecting thematization and subjectivization.

<sup>1 3</sup> It is not only true that 'given' elements are more likely to be selected as themes than 'new' elements, but also that some 'given' elements of a particular representation are more likely to be thematized than other 'given' elements. We might express these varying degrees of 'thematic potentiality' in terms of weights assigned to the sememes according to some estimate of their appropriateness as transitional elements within discourse. In this way we might be approaching some kind of formalization of Firbas' notion of degrees of communicative dynamism (section VIII).

is followed – one like that proposed by Anderson (12) – which directs the linearization along a ‘gl’ link before an ‘abl’ link, an ‘abl’ link before a ‘dat’ link, and a ‘dat’ link before an ‘agt’ link. When it is a question of selecting the route through a number of ‘new’ sememes the same sequencing rule is applied. Thus, assuming that in (45) the sememes ‘(John)’ and ‘(brother)’ are both ‘new’ – indicated here by underlining – the resulting linearization is:

$$(48) \text{ decl} \rightarrow (\text{book}) \xrightarrow{\text{lg}} (\text{sell}) \xrightarrow{\text{dat}} (\underline{\text{brother}}) \text{b}(\text{sell}) \xrightarrow{\text{tga}} (\underline{\text{John}})$$

i.e. the ‘dat’ link to ‘(brother)’ is traced before the ‘agt’ link to ‘(John)’. Similarly, if in (45) the two ‘new’ sememes are ‘(John)’ and ‘(book)’ the resulting linearization is:

$$(49) \text{ decl} \rightarrow (\text{brother}) \xrightarrow{\text{tad}} (\text{sell}) \xrightarrow{\text{gl}} (\underline{\text{book}}) \text{b}(\text{sell}) \xrightarrow{\text{tga}} (\underline{\text{John}}).$$

In contrast to (48) if non-thematic ‘(John)’ were ‘given’ (instead of ‘new’) then it must precede the ‘new’ sememe ‘(brother)’, as in:

$$(50) \text{ decl} \rightarrow (\text{book}) \xrightarrow{\text{lg}} (\text{sell}) \xrightarrow{\text{tga}} (\text{John}) \text{b}(\text{sell}) \xrightarrow{\text{dat}} (\underline{\text{brother}}).$$

If a ‘new’ sememe is selected as theme then it is frequently the case that all the other sememes are ‘given’ (section VIII). Selection among them proceeds on the same basis as above, tracing the links in the sequence ‘gl’, ‘abl’, ‘dat’, ‘agt’:

$$(51) \text{ decl} \rightarrow (\underline{\text{John}}) \xrightarrow{\text{agt}} (\text{sell}) \xrightarrow{\text{gl}} (\text{book}) \text{b}(\text{sell}) \xrightarrow{\text{dat}} (\text{brother})$$

$$(52) \text{ decl} \rightarrow (\underline{\text{book}}) \xrightarrow{\text{lg}} (\text{sell}) \xrightarrow{\text{dat}} (\text{brother}) \text{b}(\text{sell}) \xrightarrow{\text{tga}} (\text{John}).$$

If the sememe selected as theme, while not being itself ‘new’, is connected by a ‘new’ sememic link to the pivotal (or ‘verbal’) sememe, then we have an instance of contrastive thematization (section VIII). The surface realisations of ‘contrastively thematized’ sememic formulae coincide with those of formulae which have ‘new’ themes, suggesting a convergence in their linearized forms. There is a simple procedure which would account for this: the transfer of the marking for ‘newness’ (i.e. the underlining) from the sememic link to whichever of its

adjacent nodes has been selected as theme.<sup>14</sup> For example, if in (45) the 'gl' link is 'new' and the sememe at one end of the link, '(book)', is selected as theme, then the underlining of 'gl' is transferred to '(book)':

$$(53) \quad \begin{array}{c} \text{(sell)} \text{---} \text{(book)} \\ \quad \text{gl} \quad \uparrow \\ \quad \quad \text{theme} \end{array}$$

becomes: decl → (book)  $\xrightarrow{fg}$  (sell) → ... etc .

As with new thematization, the other sememes are 'given' and the normal 'neutral' sequencing is followed in the rest of the linearization, as in (52).

In the case of 'emphatic thematization' the linearization process is slightly more complex. Firstly it appears that no 'new' sememe may be made an emphatic theme – perhaps because the bearing of 'new' information is in itself sufficiently emphatic. Secondly, the thematic noun (or noun phrase) is often repeated anaphorically in the non-thematic part; and the latter is able to assume the status of an independent sentence (as we have seen, section VII above). Consequently, emphatic linearization frequently involves two extra processes: the introduction of an anaphoric sememe '(pro)' linked to the theme and the positioning of this sememe in the non-thematic part. In the placing of such anaphoric sememes there are two possible choices. The first is illustrated by sentences like (21i) and (21ii), where the pronoun *it* referring to thematic *book* is the grammatical subject of the following clause, and the second by sentences like (18i) and (23), where *it* appears in a neutral or 'unmarked' position as the direct object, thereby allowing the agentive noun, *John*, to be subject.

The first choice may be demonstrated by a linearization of (45) with '(book)' as emphatic theme – the emphasis being marked by \_\_\_\_\_.

$$(54) \quad \text{decl} \rightarrow \text{(book)} \xrightarrow{fg} \text{(sell)} \xrightarrow{gl} \text{(pro)} \text{b(sell)} \xrightarrow{tga} \text{(John)} \text{b(sell)} \xrightarrow{dat} \text{(brother)} .$$

<sup>14</sup> It would seem plausible that something like this must occur in all cases of contrastive stress. In most instances what is 'new' is the semantic relationship being asserted and not the element itself (section VIII), but in the surface realization it is this element which bears stress as if it were 'new'.

The anaphoric sememe '(pro)' is linked to its 'head', '(book)', and placed immediately after '(sell)'<sup>15</sup> – allowing for subsequent realization as grammatical subject (section XI below). The remaining sememes are linearized according to the normal sequencing rule described above, i.e. 'gl', 'abl', 'dat', 'agt' (subject, of course, to the general principle that all 'given' elements precede all 'new' elements).

The second alternative in the linearization of (45) with '(book)' as emphatic theme is:

$$(55) \quad \text{decl} \rightarrow \overbrace{(\text{book}) \xrightarrow{\text{lg}} (\text{sell}) \xrightarrow{\text{tga}} (\text{John})}^{\text{ana}} \text{b(sell)} \xrightarrow{\text{gl}} (\text{pro}) \text{b(sell)} \xrightarrow{\text{dat}} (\text{brother})$$

where the anaphoric '(pro)' is traced after the agentive sememe '(John)'. The principle followed here is that found in 'neutral' thematization (or subjectivization), namely that the first preference is for an agentive NP, then an instrumental, etc. Following this selection, the other elements are linearized in the normal 'unmarked' sequence, viz. 'gl', 'abl', 'dat', etc. (again subject to the presence of 'new' elements which may disturb the pattern).

In the sequencing of non-thematic elements we seem to have two partially conflicting principles at work. In the first, an anaphoric pronoun standing for an 'emphatic theme' is itself regarded as thematic (by association?) and is consequently placed in first position in the non-thematic part of the linearization, as in (54). In the second, the anaphoric pronoun is regarded as no more than a 'filler' in the non-thematic clause and so it is placed in its normal 'neutral' position.

One step further is for the anaphoric pronoun to be deleted altogether, as in 'emphatic thematization' involving no pronominalization, i.e. (19i) and (19ii). As expected, the sequence of non-thematic elements is that found in 'neutral' thematization and the result is a linearization underlying (19i) differing from (55) only by the absence of '(pro)' and its anaphoric link:

$$(56) \quad \text{decl} \rightarrow \overline{(\text{book})} \xrightarrow{\text{lg}} (\text{sell}) \xrightarrow{\text{tga}} (\text{John}) \text{b(sell)} \xrightarrow{\text{dat}} (\text{brother}) .$$

<sup>15</sup> A consequence of the anaphoric repetition of the thematic noun phrase is that the sememic link between it and the verbal 'pivot' node, i.e. 'gl' in the case of '(book)', has to be traced twice.



## XI.

The second stage of realization involves the conversion of linearizations into strings of lexemes and their associated syntactic categories N, V, Adj, etc. The realization of linearizations such as (47)–(53) when the thematic element is to be subjectivized has been described in detail in Hutchins (1971a). In essence, the procedure is as follows. The sequence of sememes in a linearization is treated as a sequence of rule-names. Each rule is of the form:

$$(57) \alpha : A \rightarrow B$$

where 'α' is a sememe (of a linearization), 'A' is a complex symbol (a lexeme and/or a syntactic category) generated by the preceding rule, and 'B' is either a complex symbol different from 'A' or a sequence of complex symbols which may include 'A'. The whole process is 'triggered' by the introduction of an initial symbol S.

For example, (58) gives the chief rules involved in the realization of (2) from linearization (48). The rule-names on the left of the colons correspond to the sequence of sememic links in the linearization.

$$(58) \begin{array}{ll} \text{(i)} & \text{decl} : S \quad \rightarrow \text{NPs} \\ \text{(ii)} & \text{lg} : \text{NP}(\cdot) \rightarrow \text{NP}(\cdot) + \text{V}(\text{be}) + \text{Vpp} \\ \text{(iii)} & \text{dat} : \text{Vpp}(x) \rightarrow \text{Vpp}(x) + \text{Pr}(\text{to}) + \text{NP} \\ \text{(iv)} & \text{tga} : \text{Vpp}(x) \rightarrow \text{Vpp}(x) + \text{Pr}(\text{by}) + \text{NP} . \end{array}$$

The first symbol in (48), 'decl', operates upon S to generate the syntactic category NP (rule 58i). This category is modified to NP(N – by operations involving symbol bracketing excluded here for the sake of simplicity – and then the next symbol, the sememe '(book)', is attached to the category N. Now, the next rule involving the sememic link 'lg' is applied (58ii). To the sequence so far produced, namely NP(N(book)), it adds V(be) and Vpp, referring to the copula and past participle respectively. To 'Vpp' may now be attached the next sememe '(sell)'. Next follows rule (58iii) by which the sememic link 'dat' adds the prepositional sequence, *to* + NP. In this way the whole lexemic

string underlying (2) can be generated:

- (59) NP(N(book)) + V(be) + Vpp(sell) + Pr(to) + NP(N(brother))  
+ Pr(by) + NP(N(John)).

Similarly, the realization of linearizations involving different choices of theme is made possible by the addition of further rules, such as:

- (60) (i) agt : NP(..) → NP(..) + V  
(ii) tad : NP(..) → NP(..) + V(be) + Vpp

where the first operates in the realization of active sentences, such as (1) from linearization (47), and the second in the realization of passive sentences with a beneficiary noun as subject, such as (3) from (49).

Obviously the rules in (58) and (60) are equally applicable when the theme is 'new' (or 'contrastive'). It is only necessary to ensure that the underlining of the sememe in a linearization, e.g. (52) and (53), is retained in the lexemic string as information to be used at lower realizational levels, i.e. morphological and phonological, in the determination of the appropriate intonation patterns.

For the realization of sentences such as (36)–(38) containing the distinctive lexical frame *it was ... that*, we have to introduce an alternative to (58i):

- (61) decl: S → Pron(it) + V(be) + NP<sub>w</sub>.

This rule would be applicable only when the sememe to be attached to the complex symbol containing 'NP<sub>w</sub>' is marked as 'new', i.e. only if the thematic sememe is underlined. To ensure this, we may distinguish the syntactic category thus: NP<sub>w</sub><sup>u</sup>. The following rule, introducing the relative clause, would then be operative only if the sememe is in fact 'new'. For example:

- (62) lg: NP<sub>w</sub><sup>u</sup>(N(x)) → NP(..) + Wh(s) + V(be) + Vpp.

This rule is otherwise identical to a rule introducing restrictive relative clauses (cf. section VIII and Hutchins 1971a: 66ff), where 'Wh(s)' is realized at a lower level as either *who* or *which* (according to the feature '(s)' taken from the antecedent NP), as *that* or as null. The extension of

the rules to cover 'emphatic thematization' is a little more complex. Firstly, we obviously need more alternatives to (58i), this time operating only when the sememe following 'decl' is marked as emphatic. E.g. for the realization of linearizations (54) and (55) one rule needed is:

(63) decl: S → Prep (as for) + NPs

giving the initial lexical frame for sentences such as (21ii, 22ii, 23). Similar rules can be formulated for the other lexical frames. Secondly, we need rules (also operative only when the theme is emphatic) which indicate the stress pattern to be realized at a lower level and at the same time allow the realization of the remainder of the linearization as if an independent sentence.

(64) lg: NP ( $\bar{x}$ ) → NP ( $\acute{x}$ ) + Comma + Vrel

(65) tga: NP ( $\bar{x}$ ) → NP ( $\acute{x}$ ) + Comma + Vrel.

These rules operate as follows. Firstly, they change the marking of the emphatic theme to that appropriate for a lexeme which is to bear special stress (similar but not identical to that found when the theme is 'new'); secondly, they introduce a pause – indicated graphically by 'Comma' – and, thirdly, they introduce the symbol 'Vrel'. It is upon this symbol that the next sememic link operates, applying rules needed for the derivation of subordinate clauses of many kinds (Hutchins 1971a)

(66) gl: Vrel (y) → NP + V (be) + Vpp (y)

(67) tga: Vrel (y) → NP + V (y).

Such rules bring forward the following sememe into grammatical subject position and modify the verb for grammatical concordance. In the context of emphatic thematization they make a non-thematic element the grammatical subject. Rule (67), for example, has the effect in the realizations of (18i) and (23) from linearization (55) of bringing forward *John* into the position of grammatical subject of *sell*. Rule (66) operates similarly in the realizations of (21i) and (21ii) from (54) by making the anaphoric pronoun *it* the grammatical subject.

Finally, to account for (19i) and (19ii) involving emphatic thematization without pronominalization we do not need to introduce new rules

but merely specify particular conditions. Lexical frames such as *As for ...* are not acceptable, so we must allow the operation of (63) only when the theme is emphatic and only when it is connected anaphorically to a sememe later in the linearization. Such a condition would exclude its application in the realization of (56). To account for the occurrence of the preposition in the thematic NP of, e.g., (19ii) requires merely the operation of one of the rules needed for the realization of prepositional phrases in thematic position, as in sentences like (17).<sup>16</sup>

## XII.

The model sketched above distinguishes precisely between the various factors involved in thematization and subjectivization and describes their interaction in the realization of semantic representations. Realization is described as a two-stage process, one stage operating at the 'semantic' level and the other at the 'syntactic' level. In the first stage (section X) the 'textual' features of communicative dynamism and selection of thematic element determine how a semantic structure is to be integrated within a particular discourse and situational context. At the same time the semantic representation is 'adapted' (through the process of linearization) to the formal constraints of the language in which it is to be expressed, in particular linearity and 'conventional' sequences of cases. In the second stage (section XI) more specific constraints of a particular language, in grammar and in lexicon, are introduced in order to determine precisely how the linearized form is to be transformed into a sentence. One aspect of this 'syntactic' operation is concerned with the selection of grammatical subject. Subjectivization is an operation determined primarily by the configuration of case relations in a linearization. Hence, it is essentially an operation that is subsidiary to linearization and consequently subsidiary also to thematization. In this way the model distinguishes thematization and subjectivization both by their functions – theme has a textual function and subject a grammatical one – and by their plane of application – theme operates at the 'semantic' level and subject at the 'sentence' level. Furthermore, the

<sup>16</sup> The treatment suggested in Hutchins (1971a: 121ff) involves the thematization of the 'relational' sememe underlying the preposition rather than the sememe underlying the NP. Whether this approach is appropriate in the case of sentences like (19ii) is questionable – in particular since we have here an instance of 'emphatic' thematization.

model recognizes that case relations and communicative dynamism have only indirect roles in the selection of the grammatical subject, i.e. through their influence in the linearization process. This is in contrast to the other models described above which do not always distinguish clearly between theme and subject and which often attribute a more direct influence in subjectivization to case relations and communicative dynamism.

### XIII.

We have been concerned in this paper primarily with thematization at the level of sentence structure, with showing how 'pragmatic' features of discourse structure determine the syntactic orientation of semantic representations and with establishing the various factors determining choice of grammatical subject. But it is evident that something like 'thematization' occurs at other levels. We have already noted the close relationship between contrastive thematization and some constructions involving restrictive relative clauses (section VIII) and we have also noted that certain rules involved in realizing emphatically thematized linearizations are applied more widely in the realization of many subordinate clause constructions (section XI). Perhaps we will throw some light on these parallels if we examine whether a relative pronoun may not be regarded as a kind of 'subtheme', since it is after all the element placed first in the clause and it does largely determine the general shape of the rest of the clause. In particular, like a theme, it provides the link with what has gone before – immediately before in most instances, but not necessarily so:

- (68) The man came into the room (who(m)/that) I had seen at the gate  
 (69) A man came into the room, who started to shout at the top of his voice.

In the case of non-restrictive relative clauses the quasi-thematic-status of the relative pronoun would seem very plausible. Sentences like (69) and:

- (70) John sold the book to my brother, who read it immediately

may be regarded as conjunctions of potentially independent expressions in which the element mentioned first (thematized) in the second clause is related anaphorically to one of the elements in the first clause:

(71) John sold the book to my brother (and) he read it immediately

where *he* refers to *my brother*. The 'thematic' status of the anaphoric pronoun in (71) may be said to be incorporated within the relative pronoun in (70). Both are (by definition?) 'given' elements, and in both clauses they are followed by 'non-thematic' elements which may convey 'new' information. In fact, it is the occurrence of 'new' elements in a relative clause that makes it 'non-restrictive'.

A restrictive relative clause constitutes typically a repetition in some way of a specification previously established (within or outside the present discourse) with respect to the noun or noun phrase at the 'head' of the clause. Typically, it is an essential modification of the 'head' noun which cannot be deleted without reducing specificity. Consequently, a restrictive relative clause can only convey 'given' information and the 'head' noun itself is generally 'given', or if 'new', only in the sense that 'new' relationships are being asserted (hence the parallel with contrastive elements; section VIII). The relative pronoun is 'thematic' in so far as it determines how the modification is to be orientated with respect to the element being modified. On the other hand, it is quite unlike a true theme in that it cannot be freely selected.

In relative clauses, the 'subthematic' element (i.e. the relative pronoun) is typically 'given' and the rest of the clause may be either all 'given' (as in restrictive clauses) or 'new' in part (as in non-restrictive clauses). Like the 'non-thematic' part of sentences in which the theme is 'given', we may say that in broad terms a relative clause of either type constitutes a 'comment' upon an element, a modification or specification of the information already known about it. In this sense we may talk of relative pronouns as being 'subthematic', paralleling at the clause level the function of themes at the sentence level.

#### XIV.

It is in similar rather tentative terms that we may identify further parallels with thematization in the realizational processes operating at

other levels. Greenberg (1963) observed that in most languages there are general tendencies "to put modified before modifier" and "for comment to follow topic" which are manifest not only in the almost universal rules that subjects precede verbs and that relative clauses follow the nouns they qualify but also in the dominance of prepositions as opposed to postpositions and of the orders noun-adjective and noun-genitive noun over the opposing orders adjective-noun and genitive noun-noun. All these tendencies would seem to be closely related to the principles of communicative dynamism (section VIII above) and in more general terms to the consequences of linearization. Perhaps we may regard all these features as various facets of one general process, the 'orientation' of complex semantic structures and relationships both in the light of the context of the situation and discourse, and in accordance with the requirements of linear form and the grammatical and lexical apparatus available in the language.

We may perhaps see another facet in the process of 'ergativization' referred to in section IX above. Speakers appear to choose the semantic structure of what they have to say according to their 'attitude' to the events. In the case of the *buying-selling* transaction used as illustration in this paper, a speaker may choose to regard either *John* or *brother* as the **instigating participant** and select the verb form in accordance. There is, as we have seen, a general tendency to thematize (and subjectivize) agentive nouns. It is not unreasonable to suppose that speakers have in mind a particular element (i.e. noun phrase) as theme before they have decided fully upon the complete semantic relational structure of the sentence. In other words, thematization perhaps determines (psychologically?) ergativization. In effect this accords with Mel'čuk's approach (1972). He suggests that even at the level of deep semantic structure, i.e. the 'semon network' underlying both (15) and (16), a portion of the graph is marked as theme, and that this marking influences the speaker in choosing between semantic representations such as (15) and (16) or, in the model described here, between (45) and (46). Hence, if *brother* is to be theme, a speaker is more likely to select the semantic representation in (46) where *brother* is ergativized, than that in (45) where it is not. At a lower level, of course, this is reflected in a preference for the active sentence derived from (46), in which the subject and theme *brother* is agentive:

(72) My brother bought the book from John

rather than the passive sentence derived from (45) in which the subject (and theme) is not agentive:

(73) My brother was sold the book by John.

This approach would seem to suggest that ergativization is in some way subordinate to thematization. We should not conclude that the relationship is anything like that between subjectivization and thematization. We must learn far more about the ways in which semantic representations are 'orientated' towards the particular requirements of specific discourse structure, i.e. by the attitudes of speakers to the way in which they express themselves within particular linguistic contexts. We are beginning to see how pragmatic factors influence the selection of suitable syntactic structures but our knowledge of semantic structures is too weak to speculate deeply about the influence of pragmatic factors on the form of semantic representations.

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