SEMANTIC ANALYSIS OF *DATANG* IN INDONESIAN[1]

SOENJONO DARDJOWIDJOJO

1. INTRODUCTION

When Chomsky's *Syntactic Structures* was published, a grammar was considered to have a tripartite arrangement: the phrase structure, the transformational structure, and the morphophonemics (p. 46). Semantics at that time was placed outside the grammar and was considered harmful to linguistics. Two years earlier he said that "if it can be shown that meaning and related notions do play a central role in linguistic analysis, then its results and conclusions become subject to all of the doubts and obscurities that plague the study of meaning, and a serious blow is struck at the foundations of linguistic theory" (Chomsky, 1955, p. 141). As the time passed, however, generative grammarians began to feel that the elimination of meaning from linguistic analysis became more and more impossible. Katz and Fodor (1963) presented a detailed study of semantic theory which has a significant role in the development of the present generative grammar. This theory was later integrated into a more comprehensive work (Katz and Postal, 1964) where a grammar was then viewed as consisting of three components: syntactic, phonological, and semantic. It was later "standardised" with the appearance of Chomsky's *Aspects of the Theory of Syntax*. One characteristic that the above works share is that they hold syntax to be central and the other two components peripheral.

At the time when *Aspects* was published, George Lakoff finished his dissertation which later became known as *Irregularity in Syntax*. Although it was originally intended as a minor revision to *Aspects*, it soon became apparent that it dealt with fundamental issues that at the end led to the rejection of syntax and semantics as two separate entities. One logical conclusion from this indifferentiation is the merging

of deep structures with semantic representations. Lakoff's appraoch simplifies the base, as many of the problems are now handled transformationally.

Another revision to the standard theory, which again was originally minor at the beginning, was developed by Fillmore (1968). In his pursuit of a deeper deep structure, he introduced a concept known as case within the base component. In this model a sentence is viewed as consisting of a Modality (M) and a Proposition (P), the former dealing with sentence modalities such as negation, mood, and aspects, and the latter "a tenseless set of relationships involving verbs and nouns" (p. 23). Central to this "case grammar" are the roles of the cases which determine the selection of the verb within a sentence.

As this model gained a great number of followers, it also showed an inadequacy to handle certain problems (Huddleston, 1970). This prompted Fillmore to revise his theory which resulted in a model substantially different from his previous one (Fillmore, 1971). The new model did not have a modality and a proposition, but, instead, "a predicator in construction with one or more entities each of these related to the predicator in one of the semantic functions known as (deep structure) cases" (p. 4). Since a predicator is mostly, although not always, a verb, his recent model can, therefore, be viewed as consisting of a verb plus a set of nouns each with its own case marker.[2] The fact that he does not mention the verb-case relationship compels me to assume that it is still the array of cases which determines the choice of the verb.

Although it is clear from the foregoing analysis that the role of semantics in linguistic theory is being given more serious thought than before, the real breakthrough in the use of semantics as a theoretical foundation comes from a man who was reared in the structuralist tradition - Wallace Chafe. He believes that since the function of language is to relate meaning to sound, he assumes that "at the heart of an adequate theory of language must be an adequate theory of semantic structure" (Chafe, 1971, p. 11). He further assumes that "the total human conceptual universe is dichotomized initially into two major areas" (p. 96), that is, the area of the verb, which embraces states and events, and the area of the noun, which embraces things. Contrary to the practice followed by some grammarians, such as Fillmore, Chafe considers the verb as central, and the noun peripheral. This necessarily means that it is the verb which determines what noun or nouns may or must co-occur, and not the reverse.

The way this semanticist theory operates can be summarised as follows: At the bottom of the whole matter is a semantic structure in which configurations of meanings are to be found. Through post-semantic processes,

which are similar to transformations, the configurations are transformed into a series of post-semantic representations which eventually lead to a surface structure. In order to reach the phonetic structure, the surface structure has yet to be subjected to several processes. This includes the symbolisation processes which convert the still semantically oriented surface structure into its underlying phonological structure. After undergoing a series of phonological processes, the surface structure will then appear in its phonetic form. See Figure 1 (simplified).

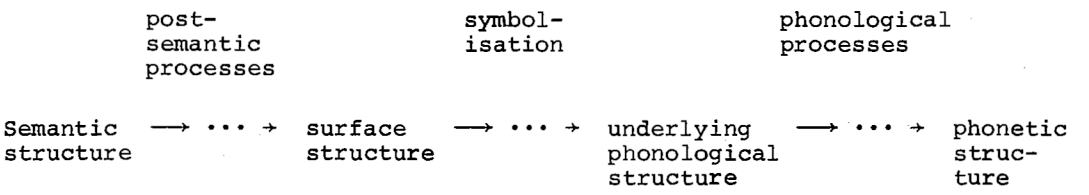


FIGURE 1

Each verb and noun under consideration is specified in terms of three semantic units: selectional, lexical, and inflectional. A selectional unit is intended to narrow down the areas of conceptual space. For a verb this includes state, process, action, and ambient. For a noun the selectional unit consists of count, potent, animate, human, unique, and feminine. After a noun or a verb has been selectionally specified, it reaches a point where no further specification is possible. For units of this kind the term lexical unit is used which appears ordinarily in the form of a root. The only specification a lexical unit may undergo is through derivation which includes among other things relative, inchoative, causative, for a verb, and countiser, anthropomorphiser, defeminiser for a noun.[3] The last semantic units are inflectional, which for a verb includes generic, perfective, progressive, past, obligational, etc. For a noun it may consist of units such as definite, generic, plural, unique, etc. In addition to these, Chafe postulates another inflectional unit which he calls "new". He assumes that when two persons are communicating, some of the information being communicated is new, and that there is at least one item which is old. The new information is being introduced to the hearer's mind for the first time, while the old information is shared, or assumed to be shared, by the speaker and the hearer.

The centrality of the verb within a sentence brings about the verb-noun relations of the following types: patient, agent, experiencer, beneficiary, instrument, complement, and location. Unless a verb is specified as ambient, which indicates that the state is an all-encompassing

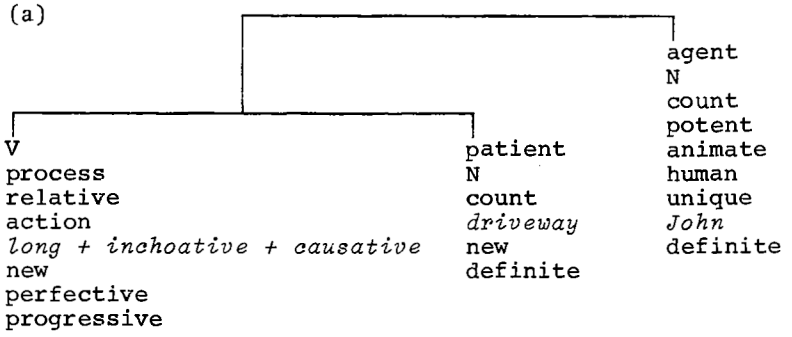
state with no reference to a particular thing within the environment, every sentence must have either a patient, an agent, or both. The occurrence of an instrument noun depends on the presence of an action-process verb. The other six are determined by the presence of a certain set of selectional units within the verb.

Applying these semantic units to the sentence

(1) *John has been lengthening the driveway.*

Chafe comes up with the following semantic structure (p. 240):

(a)



where the italicised elements are lexical units and those above and below them represent the selectional and inflectional units respectively.

In order to bring (a) to surface structure, a series of post-semantic processes must be applied. This involves subject and object formations, agreement, literalisation, linearisation, and deletions of various kind. After phonological processes have been utilised, (a) appears in the phonetic form of (1).

2. CENTRALITY OF THE VERB

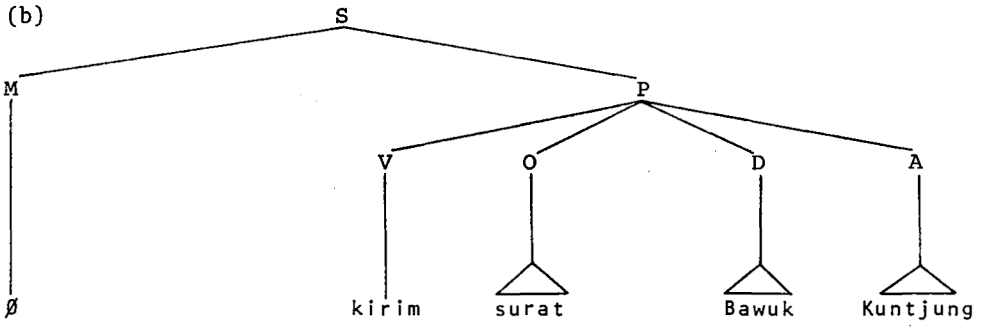
This paper is an attempt to apply Chafe's theory of language. There are two main reasons why this particular theory is adopted. First, as a native speaker of Indonesian, I feel that using case array the way Fillmore does to determine what verb can or must occur in a sentence is counter-intuitive.[4] If a sentence such as

(2) *Dia memarahi patung itu
he angry statue the

is to have a meaning at all, the possible interpretation would be to consider patung itu as animate, and not to assign a unique meaning to the verb memarahi. In this way, (2) means something like *'He is angry with the statue.'* This particularly becomes more obvious if we consider the whole verb set, because what determine the meaning of a sentence in

Indonesian are, in most cases, the verb affixes such as the -i of **memarahi** above. Secondly, even if these affixes can be introduced transformationally as Fillmore has suggested (1968, p. 30, footnote 39), there is still a problem in Indonesian in cases where the case frame has /___ O + D + A/, since the choice of any one of the three to become the surface subject has not given us a sufficient indication as to what particular affix must be chosen for the verb. Given the concept of *'a man by the name of Kuntjung, sending a letter to a girl named Bawuk'* we cannot produce a well-formed sentence unless we also know, in addition to the A becoming the subject, what exactly comes after the verb - Bawuk or the letter - because this very choice determines the affixes that occur with the verb root. If this sentence is diagrammed as in (b)[5],

(b)



this means that in order to form a sentence with the meaning intended, we must select not only A as the subject but also either D or O for the object that comes immediately after the verb. If A and O are chosen, we have

(3) **Kuntjung mengirimkan surat kepada Bawuk.**
send letter to Bawuk

If, on the other hand, A and D are chosen, we have

(4) **Kuntjung mengirimi Bawuk surat.**
send letter

The corollary of this constraint makes (5) and (6) unacceptable:

(5) ***Kuntjung mengirimi surat kepada Bawuk.**

(6) ***Kuntjung mengirimkan Bawuk surat.**

We see, therefore, that the well-formedness of the sentences resulting from (b) is determined not by one, but by two cases. It is thus clear that using the noun to determine the verb brings about many problems for Indonesian.

2.1. *THE PROBLEMS*

The problems under investigation are only a sample from a general phenomenon which involves a subtle distinction of meanings on one hand, and their phonological representations on the other. The verbs chosen are datang with all its derived forms. Consider now the sentences

(7) Penari itu akan datang.
dancer the will come
'The dancer will come.'

(8) Gombloh akan mendatangkan penari.
will come dancer
'Gombloh will bring in a dancer.'

(9) Gombloh akan mendatangi penari.
will come dancer
'Gombloh will approach (physically) a dancer.'

(10) Gombloh kedatangan penari.
come dancer
'Gombloh got visited by a dancer.'[6]

While (7) does not pose a serious semantic problem, (8) through (10) require a careful attention in the following way: in (8) the subject[7] acts as an instigator which then results in the coming of the object; the object, therefore, is actually the actor of the coming; the method of instigating the action by the subject is not relevant; if he chooses to send a ticket, for instance, rather than picking her/him up, he virtually remains at his place. In (9) the subject is the actor that performs the act of coming, while the object becomes the locus toward which the coming of the subject is directed. He is, therefore, stationary. The method of approaching is also insignificant. In (10) the subject undergoes the coming of the object. The nature of coming itself is, from the point of view of the subject, unexpected and adversative. This is why, perhaps, the future aspect akan does not occur.[8]

The semantic differences among (7-10) are indicated by the presence or absence of the prefixes men- and ke-, and the suffixes -kan and -i in the verb root datang.

2.2. *THE ANALYSIS*

What I am trying to do here is to present the semantic analysis of these verbs and how they are brought up into the surface structure. I will, therefore, concern myself only with the semantic structure and the post-semantic processes, leaving out the symbolisation and phonological processes that convert the surface structure into its phonetic

form.

Since in this paper the verb is considered central, I will begin with the verb **datang**. As **datang** expresses an activity rather than a state of being, and also the fact that (7) answers to questions such as *'what will* **N** *do?'* rather than *'what will happen to* **N***?'*, it seems appropriate to consider this verb as an action verb. Given this initial element, the first rule in the generation of (7) is

S-1: V ⟶ action

where S refers to semantic rules, the broken shaft to "optional", and the double head to "is further specified as". The structure resulting from S-1 is (c):

(c) V
action

Since no further selectional specification is possible, a lexical unit is now reached in the form of a root through S-2 with the structure given in (d):

S-2: action ⟶ datang

(d) V
action
datang

The unbroken shaft indicates that the rule is obligatory.

At this point we can see that of the two elements, noun and verb, in (7), the information that the speaker and the hearer share is the concept of the agent, whereas the activity itself is new from the hearer's point of view. The inflectional unit "new" can, therefore, be attached only to the verb as in S-3, giving us the structure (e):

S-3: V ⟶ V
root *root*
new

(e) V
action
datang
new

Finally, the inflectional unit which indicates aspectual future must be indicated. Using S-4 below,

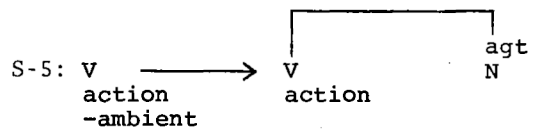
S-4: V ⟶ future
action

we have the complete structure of the verb in (7):

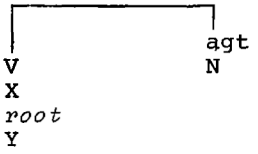
(f) V
action
datang
new
future

The semantic units found in (f) call forth the presence of a certain noun. Since the verb is a non-ambient action, it must be accompanied by an agent, introduced by rule S-5, which results in the structure (g). The single arrow head means "becomes".

S-5:



(g)



X and Y indicate the selectional and inflectional units respectively.

Looking at the agent itself, we see that it has units of its own, the first of which is "count".

S-6: N ⟶ count

Additional selectional units are added by the rules -

S-7: agt N ⟶ agt N potent

S-8: [count potent] ⟶ animate

S-9: animate ⟶ human

The lexical unit is introduced by rule S-10:

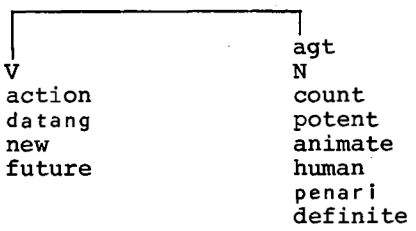
S-10: human ⟶ penari

The only inflectional unit required is the unit definite.

S-11: N ⟶ definite

Incorporating the last six rules and the verb structure of (f), we have the following semantic structure for (7):

(h)



As mentioned in 2.1., the verb **mendatangkan** in sentence (8) requires two nouns. While all the units of the verb given in (f) are applicable, two more important units must be added. Since **mendatangkan** expresses not only what someone, the agent, does, but also involves a change in condition of someone or something else, the patient, it must therefore be specified not only as action but also as process. A revision to rule S-1 can be presented as S-1a:

S-1a: V, −state ⟶⟶ (process, action)

where ( ) indicates an inclusive disjunction.

The second rule that we must add is a consequence coming out from S-1a, that is, in the event that both process and action are selected, the root must be derivationally specified as causative. This rule must be introduced after a lexical unit has been inserted, that is, after S-2.

S-2a:

V	⟶	V
process		process
action		action
root		*root + causative*

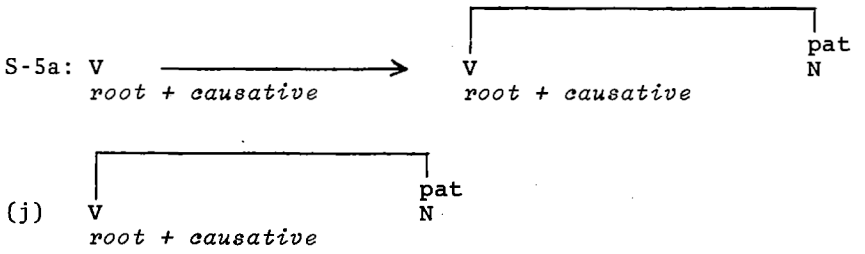
After modifying S-4 to become S-4a, needed to account for the fact that not only action, but also action-process verbs can be specified as future,

S-4a: V, process, action ⟶⟶ future

and applying S-1a, S-2, S-2a, S-3, and S-4a, we have the following structure for **mendatangkan**:

(i) V
process
action
datang + *causative*
new
future

Turning now to the relation between the verb and its nouns, we see that while it is true that the noun preceding the verb, which I will call the first noun, is the one that instigates the action which then brings about the coming of the noun following the verb, the second noun, the latter is itself the actual performer of the coming. Our rules must account for this fact. My suggestion is as follows. The causative verb in (i) must be rewritten as (j) through rule S-5a (only relevant elements are given):

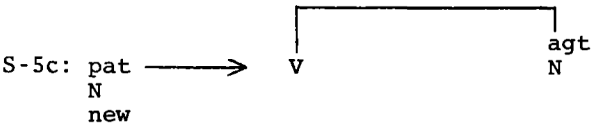


The patient must be further specified to indicate that it is he who does the coming. Before we can do this, however, we must specify pat as new due to the presence of an agent. Rule S-5b introduces new, resulting in (k). The slant line is to be read "in the environment of".

S-5b: pat ⟶ pat / agt
N N
new

(k) pat / agt
N
new

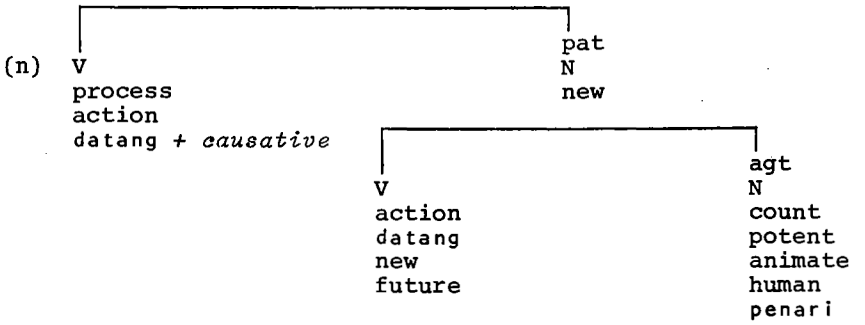
Now to indicate that pat in (k) is an actor, we need rule S-5c.



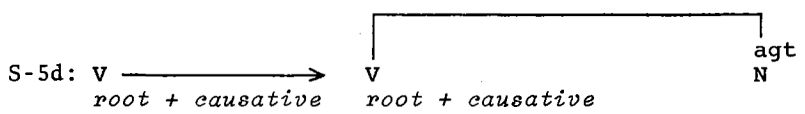
The resulting structure is (m):

The structure of the verb in (m) is the same as that of (f). Except for the absence of "definite", the structure of the agent in (m) is the same as that given in (h).

Putting together S-5a through S-5c, we have the following structure:



The agent that instigates the action is introduced by rule S-5d.

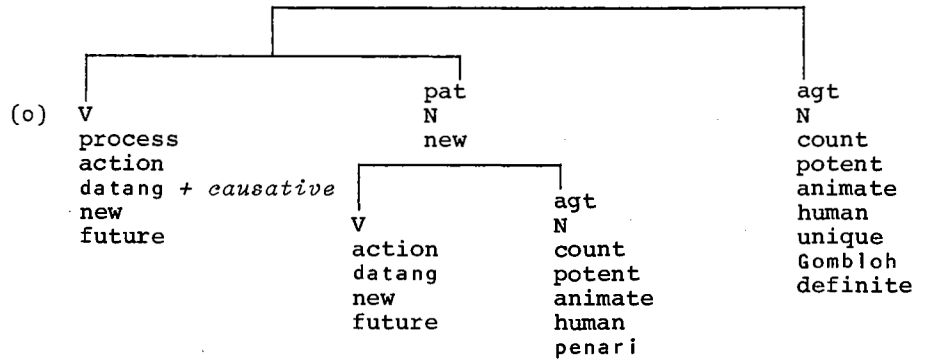


The agent differs from that in (h) only in that the former has a selectional unit "unique" which must be introduced before S-10, called S-9a. This is then followed by lexicalisation rule S-9b.

S-9a: human ⟶ unique

S-9b: [unique, -feminine] ⟶ Gombloh

The result of applying S-6 through S-9b, combined with (n) produces the complete structure of (8).



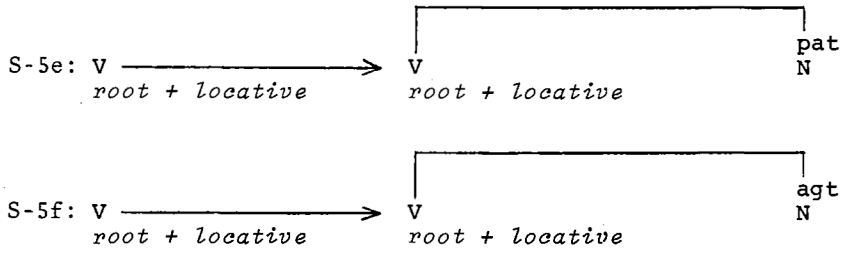
If we now compare (8) and (9), we see that the difference in meaning must be attributed to the verb structures, since other elements are constant. As it turns out, while **mendatangkan** has a causative derivational unit, **mendatangi** is locative, indicating the locus toward whom the action is directed. The difference between the rule to cover this fact and that given in S-2a lies only in the manifestation of the derivational unit. We can, therefore, propose to add to S-2a the locative unit, which then changes S-2a to -

S-2a: V ⟶ V
process / action / *root* ⟶ process / action / *root* + {*causative* / *locative*}

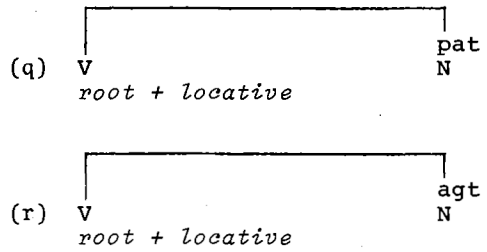
where the parentheses state an exclusive disjunction. If locative is chosen, the structure looks like (p):

(p) V
process
action
datang + *locative*
new
future

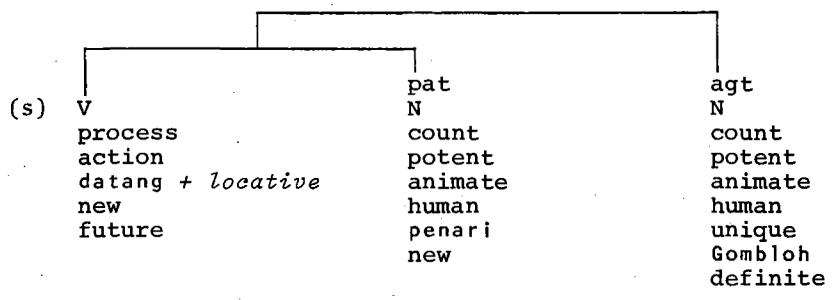
The semantic structure of the agent in (9) is the same as that of the right-most agent in (o). The structure of the patient is much less complicated than that in (o), since this patient does not have a double function. Two more additional rules are required that would generate the patient and the agent. Although these rules are parallel to S-5a and S-5d, they are different in that they produce nouns which are functionally different from the previous ones. We will number them S-5e for the patient, and S-5f for the agent.



The structures produced by these rules are -



If to the patient (q) we now apply rules S-6 through S-9, S-10, and S-5b, and to the agent of (r) rules S-6 through S-9a, plus S-11, we have a complete structure of (9):



Let us now look at sentence (10). As is the case with **mendatangkan** of (8), **kedatangan** in (10) also has a double function, although in a different manner. In relation to its first noun, the verb is a state verb. The noun is in a state of being, rather than a process or action.

In relation to its second noun, however, it does indicate an action, since this noun performs the action of coming. Since a state verb permits only a patient, and an action verb only an agent, the first and the second nouns in (10) must be considered patient and agent respectively. The situation where a patient occurs before and an agent after the verb is known as passive. I would call this kind of passive in (10) adversative. Contrary to what Chafe would do, I would consider adversative as derivational, rather than inflectional. Before a rule that would cover this fact can be introduced, S-5g, we need another rule that would generate an action-state verb. I will order this rule after S-1a, and call it S-1b.

S-1b: V ⟶ [action, state]

Rule S-5g below states that the root of an action-state verb must be specified as adversative:

S-5g:

V	V
action	action
state	state
root	*root + adversative*

The unit action in the verb requires an agent. Rule S-5h would generate structure (t):

S-5h:

V	V
X	X
root + adversative	*root + adversative*
Y	Y
	agt
	N

(t)

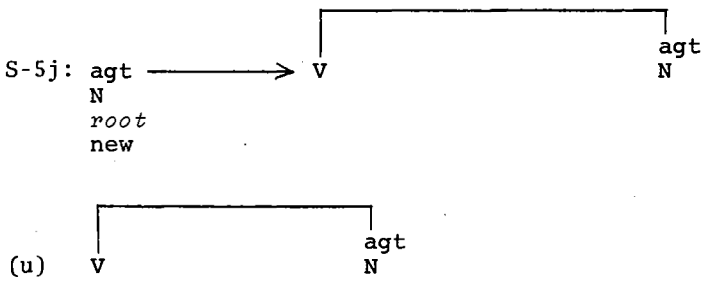
V	
X	
root + adversative	
Y	
	agt
	N

Since the concept of the agent in (t) bears an old information only to the speaker, but not to the hearer, it must be specified as new:

S-5i:

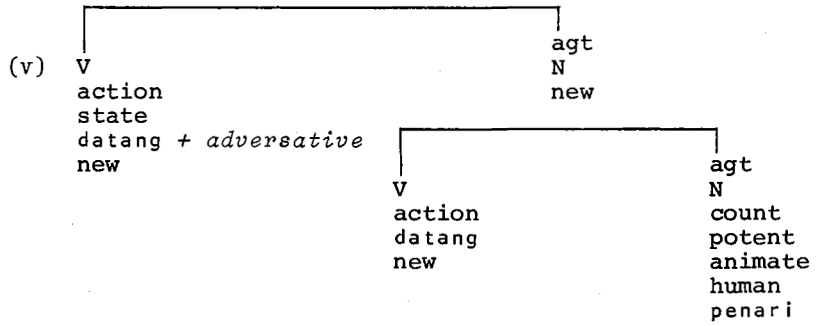
agt	agt	/ V
N	N	*root + adversative*
root	*root*	
	new	

To indicate that **agt** in (t) is an agent only with respect to the root **datang**, we need rule S-5j.

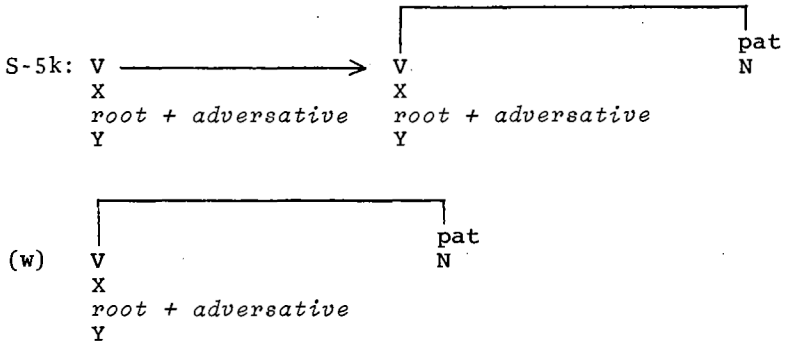


Except for the absence of "definite" in the above **agt**, and the unit future in the verb, the structure of (u) is the same as that of (h).

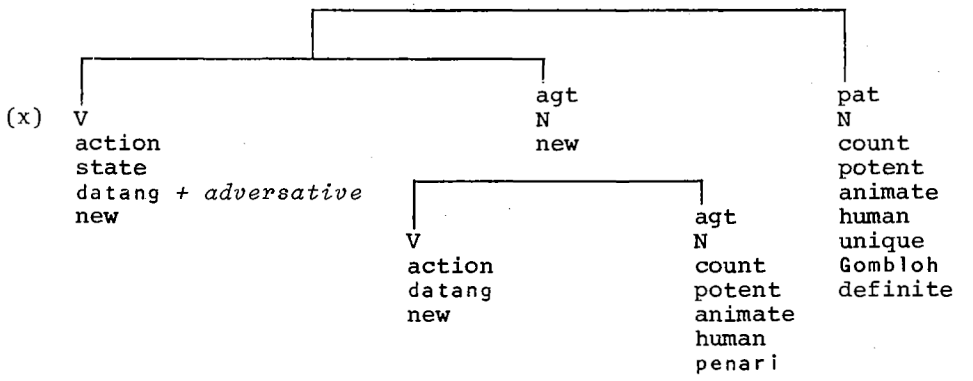
Putting together S-1b, S-2, S-3, and S-5g for the adversative verb, S-5h and S-5i for the agent marked "new", and then reproducing structure (h) minus the "definite" and "future", we have the following structure:



The adversative verb also requires a patient. This is introduced by rule S-5k, resulting in structure (w).



The semantic units of **pat** in (w) include those specified for the right-most **agt** of (o). Adding this patient with its semantic units to (v) produces the structure of (10):



What we see from (x) is that in the event that the verb bears an adversative unit, the patient is not specified as new and becomes the subject on the surface structure. The agent, on the other hand, must be specified as new and becomes the surface object. There has been a long standing argument among Indonesian scholars whether sentences such as (10) are passive or not. The structure in (x) seems to justify our affirmative position.

If we now compare the semantic structures of (h), (o), (s), and (x), we see several interesting phenomena. First, while the verb in (h) is an action verb, those in (o) and (s) are process-action, and that in (x) is action-state. The last three are related to the first in that they all share one and the same root. The difference among them lies only in the derivational units that each takes. Second, the different semantic units in each verb call forth a different set of nouns which may accompany them. These nouns have different semantic functions. Third, while the structures of (h) and (s) are simple, those of (o) and (x) are complex in that they involve "sub-branching". And fourth, the only nodes that bear no unit "new" are the right-most nodes.

With the semantic structures of (7) through (10) now complete, we can proceed to the post-semantic processes which eventually lead to the surface structures. For the purpose of illustration, I will take only sentence (8) with its structure given in (o).

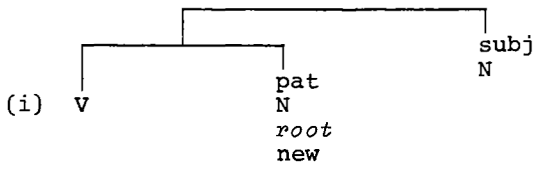
The first step is to form the subject and object. Two criteria are used, namely, the semantic interrelation between the agent and the patient, and the distribution of "new" to the nouns.

The following rules will cover the subject formation for (8) as well as for the other three sentences.

T-1a: agt ⟶ subj
N
root
-new

T-1b: pat ⟶ subj / V
adversative

The T indicates that it is a post-semantic process. Applying T-1a to (o), we have the following:

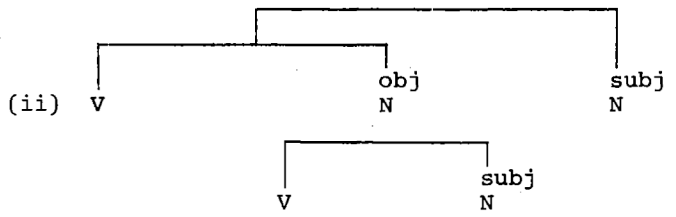


The object is formed by the following rules:

T-2a: agt ⟶ obj
N
root
new

T-2b: pat ⟶ obj
N
root
new

Applying T-2b to (i), we come up with the following structure:

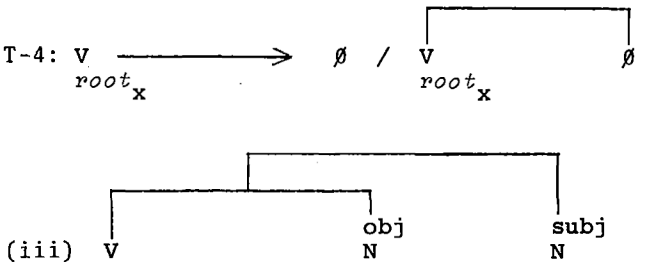


Since the subject of the "embedded" sentence is the object of the main sentence, the former must be raised to coalesce with the object. This is required also because of the fact that the embedded verb and the main verb share the same lexical unit.

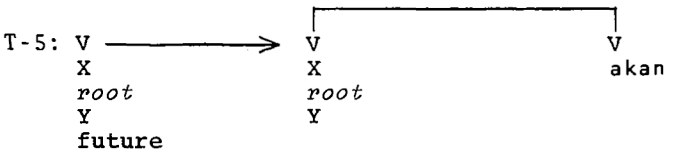
T-3: subj ⟶ obj / V ——— subj
$root_x$

The subscript X indicates a certain co-reference. This process leaves

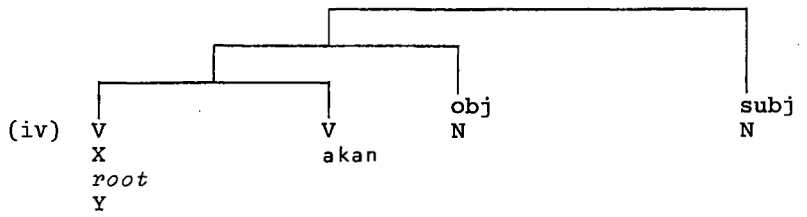
the verb without a noun, which can therefore be pruned. The result is (iii):



A set of processes called literalisation then follows. These are used to literalise the units under each noun and verb. Since in our case this is only applicable to the verb with its aspectual future, we need only the following rule:



The resulting structure is (iv).

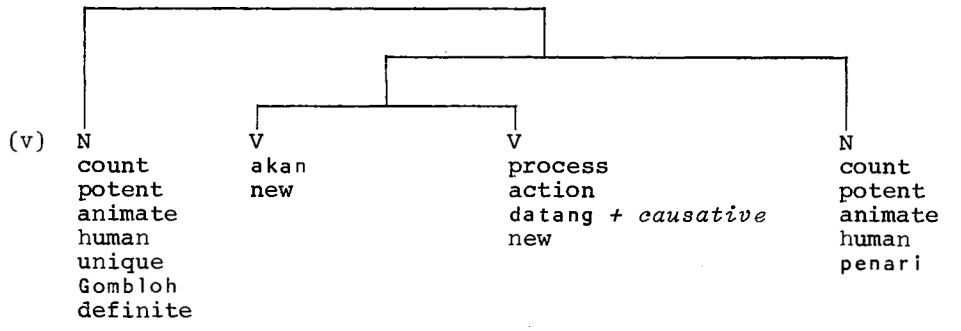


We need now to linearise these elements. There are two kinds: primary linearisation, which involves the ordering of the nouns and the verbs with relation to each other, and secondary linearisation, which deals with the ordering of the elements within each noun and verb. Starting from the left-most element with rule

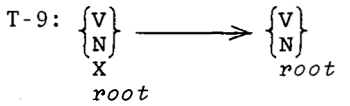
proceeding to state that an object noun follows its verb,

and finally stating that a subject precedes its verb,

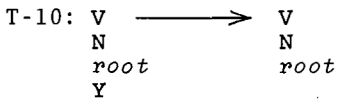
we arrive at the diagram below with all its semantic units added:



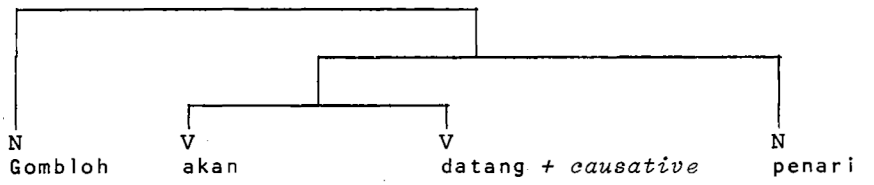
As mentioned earlier the necessity of listing the selectional units is motivated by the fact that it is through this process that we can arrive at a lexical unit. Therefore, once the lexical unit has been obtained, these selectional units become redundant. Through a process of deletion they can then be erased:



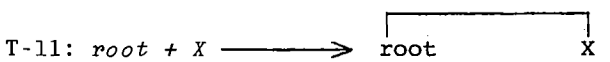
The inflectional units must also be deleted on the same ground.



The application of T-9 and T-10 leaves us with the following structure:



At this point, secondary linearisation can be applied. The only one we have is that which involves the linearisation of the derivational unit causative. Using X as a derivational unit, we have



which, in our case, gives us

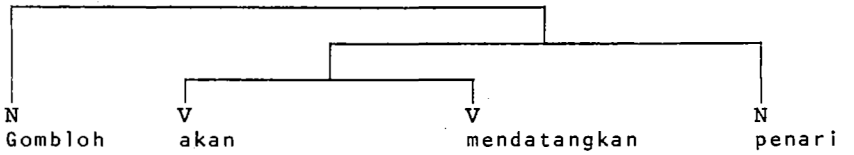
(vi) datang — causative

Specifying the causative further, which in Indonesian is indicated by the prefix **meN-** and the suffix **-kan** for an active sentence, we have

T-12: datang — causative ⟶ mendatangkan

After specifying these last two rules, we finally have the following surface structure:

(vii)



Before concluding, I must mention that the verb **mendatang** has been purposely left out from our discussion. The reason, quite frankly, is that I am not sure what the structure of this verb is like. It seems that **mendatang**, which means something like *'to perform a coming'*, is the only example in the language where the prefix **meN-** can be added to a root which itself is an action verb. This is quite unusual for Indonesian, because what usually happens is that, if the **meN-** is to be added to a root, which itself is a full verb, this root is always a state root. The addition of the prefix changes it into, in most cases, a process. Secondly, the noun that occurs with **mendatang** is restricted to a very few words, the most common of which is the noun **ombak** *'wave'* as in **Ombak mendatang** *'The wave comes.'* Even here, the usage is restricted to poetic or other literary works. Thirdly, while in any process or action verb, the activity is usually motivated by a volition of some sort, this phenomenon seems lacking in the verb **mendatang**. To put it rather loosely, the noun, be it a patient or an agent, seems to lack the unit "potent" the way this term is ordinarily used. The sentence **Ombak mendatang**, therefore, means, more accurately, something like *'By the course of nature, the wave then slowly comes (to the shore).'* Finally, the other common usage of **mendatang** is in connection with temporal nouns, such as year, month, week, etc. In this usage, however, the relation between the verb and its noun is not of the "subject-predicate" but of the "modified-modifier" type. Thus **bulan mendatang** means *'the coming month'*.

3. CONCLUSION

From the foregoing analysis we can see that there are two problems

involved: meaning and form. From the meaning point of view, we have discovered that the problem lies in the units which make up the semantic structures of the verbs and the nouns, and their functional relations with each other. From the point of view of form, the problem involves a correct choice of affixes as determined by the semantic structures.[9]

The theoretical implication of the present analysis is that from the semantic point of view the concepts of coming, bringing in, and approaching are not only interrelated, but of such a nature that one is derivable from the other. It, therefore, may throw light upon the question whether the English verbs *bring* is the causative form of *come* (Binnick, 1971), *kill* the causative form of *die* (Lakoff, 1970), etc.

The pedagogical implication is that students learning Indonesian must be "made to see" the interrelatedness of the concepts and the derivability of the concepts *and* their phonological forms. Otherwise, an embarrassing situation could very easily arise, where a student, wanting to say that he will put someone to bed, comes up with the sentence

(11) **Saja may meniduri gadis itu.**
I want sleep girl the

where the verb **meniduri** is locatively derived from the root **tidur** *'sleep'*, which, therefore, gives the meaning *'I want to sleep on the girl = I want to make love to the girl.'*

NOTES

1. The verbs under consideration are **datang** and its derived forms **mendatangkan, mendatangi, kedatangan,** and later **mendatang.** Although these are the only verbs analysed, it seems that many of the rules given are applicable to other verbs of similar nature.

2. In his 1971 model, Fillmore does not include the diagram to replace his old one.

3. Only the units which are of some relevance are given here. For further units, see Chafe's *Meaning and the Structure of Language.*

4. I have indicated this view in my earlier paper. See Dardjowidjojo, "The Men-, meN-kan, and meN-i Verbs in Indonesian" in *Philippine Journal of Linguistics*, 1971.

5. The use of this 1968 diagram is due to the fact that Fillmore does not have a diagram for his new model.

6. As it stands, a meaning cannot be really assigned to sentence (10) as it lacks temporal markers or any other time indicators. The translation given assumes a previous context.

7. The terms subject and object are surface structure terms.

8. I must point out that under a very remote circumstance, I would not be very surprised to find an adversative verb having aspectual markers such as **akan** given here.

9. This problem arises only in those who are learning the language as a foreign language.

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