

## P A R T    I V

### EXPERIMENTAL SYNTAX APPLIED TO THE RELATION BETWEEN SENTENCE AND SENTENCE CLUSTER IN INDONESIAN

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#### 1.0 Introduction

This paper<sup>1</sup> has three aims: 1. To study the relation between sentence and sentence cluster in Indonesian; 2. To demonstrate a new experimental procedure; and 3. To make a tentative start toward an emic tree structure of role relation types.

Previous work has been largely inductive, classifying sentences abstracted from texts. Here a new concept of experimental syntax is applied to accomplish the first two aims. The procedure has been to first find a relationship between propositions which is explicitly labeled (for example, by conjunctions) on one level. In this paper the sentence level in Indonesian is used. Then this level (sentence) has been expanded to a different level of structure, the sentence cluster level, composed of two or more sentences. For simplicity's sake sentence level examples in this paper have been limited to compound Indonesian sentences of two and only two dependent or independent clauses without embedding or other complex structures. Sentence cluster level examples have been limited to clusters of two sentences only.

Propositional role relationships<sup>2</sup> are preserved in the experimental expansions. For this reason role relationships are marked throughout the paper, both in the section headings and in the tagmemic formulas. The judgment of our second co-author (Ph.D. Georgetown, Linguistics) as a native speaker, verifies the paraphrase expansion for sameness of cognitive meaning. Yet allowance is made for differences of focus, attention, or emphasis.

The propositional role relationships assume greater importance for the third aim of the paper. The procedure here has been to test examples of each of the role relation types by eight or so arrangement elements (balance, reversibility) or role elements (sequence, condition, logical relationship, support of second proposition by the first, etc.). Specifically we were seeking elements, the presence or absence of which would divide the propositional role relationships evenly. Major systemic contrasts would then be revealed; the contrasts could be charted by means of a tree structure of role relation types; and relationships would be more easily comprehended in a structured, yet simpler, presentation. A completely satisfactory

solution has not been discovered during the seven weeks of the workshop. But insights which may stimulate further study are set forth in Section 6.0 by the third co-author.

This is a preliminary study. As such, it does not attempt a comprehensive analysis of Indonesian clause and sentence structure. Neither does it attempt to illustrate all the possible ways role relations can be expressed on the sentence and sentence cluster levels of Indonesian.

Because coordinators and conjunctions primarily signal the relationships between propositions in Indonesian, these connectives are in focus in the following sections and are printed with capital letters in the Indonesian examples. Other margin tagmemes may be present in a clause or sentence, but these are not included in our skeletal formulas, in order that the features in focus may stand out.

## 2.0 Abbreviations

Abbreviations used in this paper will be found on the Abbreviations page at the front of this volume.

## 3.0 Detailed analysis of typical examples

In this section we analyze several examples in Indonesian. The role relationship of propositions is stated explicitly and tagmemic formulas<sup>3</sup> are given for each sentence or sentence cluster. Permutability rules and other notes are added to point out the features of similarity or difference between the two levels.

### 3.1 Sequential Role Relationships<sup>4</sup>

#### 3.1.1 Event-Simultaneous Event

##### 3.1.1.1 Sentence level

WAKTU Amir bekerja di kebun, Siti bekerja di rumah.

TIME AMIR WORK AT GARDEN, SITI WORK AT HOUSE

'While Amir worked in the garden, Siti worked at home.'

#### FORMULA SET 1A

Simultaneous Event--Event Sentence Stem =

+	Sent St Marg		Simultaneous Event Cl St	+	Sent St Nucl		Event Cl Rt
	Simultaneous Event				Event		

Simultaneous Event Clause Stem =

+	Cl St Marg <sub>a</sub>		Marker of Simultaneity	+	Cl St Nucl		Simult Event Cl Rt
	Simultaneity				Simultaneous Event		

Permutability rule: The tagmemes of the Simultaneous Event--Event stem are permutable with one condition (see note 1).

Notes:

1. The Clause Stem Margin of Simultaneity<sub>a</sub> may be filled by sementara 'while' or by waktu or ketika which mean 'time, when.' If tagmemes of the Simultaneous Event--Event Sentence Stem are permuted so that Sentence Stem Margin follows Sentence Stem Nucleus, sementara becomes sementara itu 'during that time.'

## 3.1.1.2 Sentence Cluster Level

Amir bekerja di kebun. WAKTU ITU Siti bekerja di rumah.

AMIR WORK AT GARDEN TIME THAT SITI WORK AT HOUSE

'Amir worked in the garden. At the same time Siti worked at home.'

## FORMULA SET 1B

Event--Simultaneous Event Sentence Cluster Stem =

+	<u>Sent Clr St Nucl</u>		<u>Event Sent Rt</u>	+	<u>Sent Clr St Marg</u>		<u>Simult Event Sent St</u>
	<u>Event</u>				<u>Simultaneous Event</u>		

Simultaneous Event Sentence Stem =

+	<u>Sent St Marg<sub>b</sub></u>		<u>Phrase of Simultaneity</u>	+	<u>Sent St Nucl</u>		<u>Simult Event Sent Rt</u>
	<u>Simultaneity</u>				<u>Simultaneous Event</u>		

Permutability rule: The tagmemes of Event--Simultaneous Event Sentence Cluster Stem are not permutable. This contrasts with the possibility of permutation on the sentence level.

Notes:

2. The Sentence Stem Margin of Simultaneity<sub>b</sub> is filled by a phrase sementara itu 'during that time', waktu itu, or ketika itu 'at that time.'

## 3.1.2 Event--Successive Event

## 3.1.2.1 Sentence Level

Amir akan pergi ke pasar DAN SESUDAH ITU Siti akan pulang.

AMIR WILL GO TO MARKET AND AFTER THAT SITI WILL GO HOME

'Amir will go to the market and then Siti will go home.'

## FORMULA SET 2A

Event--Successive Event Sentence Stem =

+	<u>Sent St Nucl</u>		<u>Event Cl Rt</u>	+	<u>Sent St Marg</u>		<u>Successive Event Cl St</u>
	<u>Event</u>				<u>Successive Event</u>		

Successive Event Clause Stem =

+	<u>Cl St Marg<sub>c</sub></u>		<u>Marker of Coordination</u>	+	<u>Cl St Marg<sub>d</sub></u>		<u>Marker of Succession</u>	+	<u>Cl St Nucl</u>		<u>Succ Event</u>
	<u>Coordination</u>				<u>Succession</u>				<u>Succ Event</u>		

Permutability Rule: Tagmemes of the Event--Successive Event Sentence Stem are not permutable.

Notes:

4. The obligatory Clause Stem Margin of Succession<sub>d</sub> is filled by lalu, lantas 'then', kemudian 'afterward', sesudah itu, or setelah itu 'after that.'

5. The optional Clause Stem Margin of Coordination<sub>c</sub> only co-occurs with sesudah itu or setelah itu 'after that.' Tagmeme<sub>c</sub> is filled by dan 'and.'

## 3.1.2.2 Sentence Cluster Level

Amir akan pergi ke pasar. SESUDAH ITU Siti akan pulang.

AMIR WILL GO TO MARKET AFTER THAT SITI WILL GO HOME

'Amir will go to the market. Then Siti will go home.'

## FORMULA SET 2B

Event--Successive Event Sentence Cluster Stem =

+	<u>Sent Clr St Nucl</u>		<u>Event Sent Rt</u>	+	<u>Sent Clr St Marg</u>		<u>Success Event Sent St</u>
	<u>Event</u>				<u>Successive Event</u>		

Successive Event Sentence Stem =

$$+ \frac{\text{Sent St Marg}_e}{\text{Succession}} \mid \frac{\text{Phrase of Succession}}{\text{Succession}} + \frac{\text{Sent St Nucl}}{\text{Successive Event}} \mid \frac{\text{Successive Event Sent Rt}}{\text{Successive Event}}$$

Permutability rule: Event--Successive Event Sentence Cluster Stem tagmemes are not permutable.

Notes:

6. The Sentence Stem Margin of Succession<sub>e</sub> is filled by sesudah itu, or setelah itu 'after that', which also can fill the Clause Stem Margin of Succession<sub>d</sub> tagmeme on the sentence level. In contrast, the markers lalu and lantas 'then', and kemudian 'afterward' on the sentence level cannot fill tagmeme<sub>e</sub> on the sentence cluster level. This helps justify the two levels.

7. With the exception of the added but optional Clause Stem Margin of Coordination<sub>c</sub> on the sentence level, the formulas for the Event--Successive Event on the sentence and sentence cluster levels are parallel; that is, if 'sentence stem' is replaced by 'sentence cluster stem' and 'clause' by 'sentence', they are the same.

### 3.1.3 Condition--Consequence

#### 3.1.3.1 Sentence Level

KALAU kau meloncat dari atap itu, kau pasti akan jatuh.

IF YOU JUMP FROM ROOF THAT, YOU CERTAINLY WILL FALL

'If you jump from the roof you will fall.'

FORMULA SET 3A

Condition--Consequence Sentence Stem =

$$+ \frac{\text{Sent St Marg}}{\text{Condition}} \mid \frac{\text{Condition Cl St}}{\text{Condition}} + \frac{\text{Sent St Nucl}}{\text{Consequence}} \mid \frac{\text{Consequence Cl Rt}}{\text{Consequence}}$$

Conditional Clause Stem =

$$+ \frac{\text{Cl St Marg}_f}{\text{Conditionality}} \mid \frac{\text{Marker of Condition}}{\text{Condition}} + \frac{\text{Cl St Nucl}}{\text{Condition}} \mid \frac{\text{Condition Cl Rt}}{\text{Condition}}$$

Permutability Rule: Tagmemes of the Condition--Consequence Sentence Stem are permutable.

Notes:

8. Filler of Clause Stem Margin of Conditionality<sub>f</sub> is kalau 'if', andaikata or seandainya 'supposing that.'

#### 3.1.3.2 Sentence Cluster Level

Kau meloncat dari atap itu. AKIBAT -NYA kau jatuh.

YOU JUMP FROM ROOF THAT CONSEQUENCE-THE YOU FALL

'You jump from the roof. As a consequence you'll fall.'

FORMULA SET 3B

Condition--Consequence Sentence Cluster Stem =

$$+ \frac{\text{Sent Clr St Nucl}}{\text{Condition}} \mid \frac{\text{Condition Sent Rt}}{\text{Condition}} + \frac{\text{Sent Clr St Marg}}{\text{Consequence}} \mid \frac{\text{Consequence Sent St}}{\text{Consequence}}$$

Consequence Sentence Stem =

$$+ \frac{\text{Sent St Marg}_g}{\text{Consequence}} \mid \frac{\text{Marker of Consequence}}{\text{Consequence}} + \frac{\text{Sent St Nucl}}{\text{Consequence}} \mid \frac{\text{Consequence Sent Rt}}{\text{Consequence}}$$

Permutability rule: Tagmemes in the Condition--Consequence Sentence Cluster Stem are not permutable.

Notes:

9. The Sentence Stem Margin of Consequence<sub>g</sub> is filled by akibatnya 'as a consequence.'

10. The two levels have different permutation rules.

11. Condition is marked obligatorily on the sentence level (tagmeme<sub>f</sub>) but is unmarked on the sentence cluster level; Consequence is marked optionally on the sentence cluster level (tagmeme<sub>g</sub>) but is unmarked on the sentence level.

12. If Consequence is not marked on the sentence cluster level, the role relationship is conveyed by the order of the propositions, as there is then no explicit marker.

### 3.1.4 Reason--Result

#### 3.1.4.1 Sentence Level

KARENA kamu marah, MAKA dia tidak datang.

BECAUSE YOU ANGRY SO HE NOT COME

'Because you were angry he didn't come.'

FORMULA SET 4A

Reason--Result Sentence Stem =

Sent St Nucl	Reason Cl St	Sent St Marg	Result Cl St
Reason		Result	

Reason Clause Stem =

+/- Cl St Marg <sub>h</sub>	Marker of Reason	Cl St Nucl	Reason Cl Rt
Result		Result	

Result Clause Stem =

+/- Cl St Marg <sub>i</sub>	Marker of Result	Cl St Nucl	Result Cl Rt
Result		Result	

Permutability rule: Tagmemes in the Reason--Result Sentence Stem are permutable if the optional Clause Stem Margin of Result<sub>i</sub> is not present.

Reading Rule: Either the Clause Stem Margin of Reason<sub>h</sub> or the Clause Stem Margin of Result<sub>i</sub> is obligatory.

Notes:

13. The filler of the Clause Stem Margin of Reason<sub>h</sub> is sebab, karena, or lantaran 'because.'

14. The filler of the Clause Stem Margin of Result<sub>i</sub> is maka 'consequently, so', if it co-occurs with Margin<sub>h</sub> and maka itu, makanya 'on account of that', oleh karena itu 'because of that', or kesimpulannya 'as a conclusion', if Margin<sub>i</sub> occurs alone.

#### 3.1.4.2 Sentence Cluster Level

Kamu marah. ITU -LAH SEBAB -NYA dia tidak datang.

YOU ANGRY THAT -EMPHASIS REASON -THE HE NOT COME

'You were angry. That's the reason he didn't come.'

## FORMULA SET 4B

Reason--Result Sentence Cluster Stem =

$$+ \frac{\text{Sent Clr St Nucl} \mid \text{Reason Sent Rt}}{\text{Reason}} + \frac{\text{Sent Clr St Marg} \mid \text{Result Sent St}}{\text{Result}}$$

Result Sentence Stem =

$$+ \frac{\text{Sent St Marg}_j \mid \text{Marker of Result}}{\text{Result}} + \frac{\text{Sent St Nucl} \mid \text{Result Sent Rt}}{\text{Result}}$$

Permutability Rule: Tagmemes in the Reason--Result Sentence Cluster Stem are not permutable.

Notes:

15. For the most part the Sentence Stem Margin of Result<sub>j</sub> is filled by a phrase akibatnya 'as a consequence', oleh karena itu, sebab itu 'because of that', itulah sebabnya 'that's the reason', or maka dari itu 'therefore.' The one exception is the word maka 'therefore', which normally occurs on the sentence level. Its use on the sentence cluster level<sup>5</sup> is distinguished from use on the sentence level by preceding phonological final pause<sup>6</sup> on the sentence cluster level.

16. On the sentence level, stem margins of Reason<sub>n</sub> and Result<sub>i</sub> are individually optional, but at least one of the two (shown in the formula by +/\_ versus +/+) must occur. On the sentence cluster level the reason--result relation is manifested by one obligatory margin of result<sub>j</sub>.

## 3.2 Non-Sequential Role Relationships

## 3.2.1 Proposition--Additional Proposition

## 3.2.1.1 Sentence Level

DI-SAMPING kaya                      akan bahan                      makanan, pulau Jawa JUGA kaya                      akan  
AT-SIDE      TO BE RICH IN      MATERIAL FOOD                      ISLAND JAVA ALSO TO BE RICH IN  
bahan                      tambang.  
MATERIAL MINE

'Besides being rich in food resources, Java is also rich in mineral resources.'

## FORMULA SET 5A

Proposition--Additional Proposition Sentence Stem =

$$+ \frac{\text{Sent St Marg} \mid \text{Proposition Cl St}}{\text{Proposition}} + \frac{\text{Sent St Nucl} \mid \text{Additional Prop Cl St}}{\text{Additional Prop}}$$

Proposition Clause Stem =

$$+ \frac{\text{Clause St Marg}_k \mid \text{Marker of Addition}}{\text{Addition}} + \frac{\text{Cl St Nucl} \mid \text{Proposition Cl Rt}}{\text{Proposition}}$$

Additional Proposition Clause Stem =

$$+ \frac{\text{Cl St Marg}_m \mid \text{Marker of Addition}}{\text{Addition}} + \frac{\text{Cl St Nucl} \mid \text{Additional Prop Cl Rt}}{\text{Additional Prop}}$$

Permutability Rule: Tagmemes of the Proposition--Additional Proposition Sentence Stem are not permutable.

Notes:

17. The Clause Stem Margin of Addition<sub>k</sub> of the Proposition Clause Stem is filled by disamping 'besides', or kecuali 'in addition.' It is obligatory.

18. The Clause Stem Margin of Addition<sub>m</sub> of the Additional Proposition Clause Stem is filled by juga 'also'. It is optional.

### 3.2.1.2 Sentence Cluster Level

Pulau Jawa kaya akan bahan makanan. DI-SAMPING ITU pulau Jawa  
ISLAND JAVA TO BE RICH IN MATERIAL FOOD AT-SIDE THAT ISLAND JAVA  
kaya akan bahan tambang.  
TO BE RICH IN MATERIAL MINE

'Java is rich in food resources. In addition, Java is rich in mineral resources.'

#### FORMULA SET 5B

Proposition--Additional Proposition Sentence Cluster Stem =

Sent Clr St Nucl	Proposition Sent Rt	Sent Clr St Marg	Addit Prop Sent Rt
+ Proposition		+ Addit Prop	

Additional Proposition Sentence Stem =

Sent St Marg <sub>n</sub>	Marker of Addition	Sent St Nucleus	Addit Prop Sent Rt
+ Addition		+ Additional Prop	

Permutability Rule: If the optional Sentence Stem Margin of Addition<sub>n</sub> is absent, the tagmemes of the Proposition--Additional Proposition Sentence Cluster Stem are permutable. Otherwise they are not.

Notes:

19. The Sentence Stem Margin of Addition<sub>n</sub> is filled by phrases disamping itu 'besides that', or kecuali itu 'in addition to that', or by the word juga 'also'. For the latter filler the Margin<sub>n</sub> changes position in the Sentence Stem.

20. Addition is marked obligatorily on the sentence level (Margin<sub>k</sub>) but optionally on the sentence cluster level (Margin<sub>n</sub>). There is limited overlap of margin fillers on both levels as juga 'also' can fill both the Clause Stem Margin of Addition<sub>m</sub> and the Sentence Stem Margin of Addition<sub>n</sub>.

### 3.2.2 Proposition--Antonymous Proposition

#### 3.2.2.1 Sentence Level

Amir kuat TETAPI Siti lemah.  
AMIR STRONG BUT SITI WEAK

'Amir is strong but Siti is weak.'

#### FORMULA SET 6A

Proposition--Antonymous Proposition Sentence Stem =

Sent St Nucl	Prop Cl Rt	Sent St Link <sub>o</sub>	Marker of Contrast	Sent St Nucl	Antonymous Prop Cl Rt
+ Proposition		+ Coordination		+ Antonymous Proposition	

Permutability Rule: The two Proposition--Antonymous Proposition Sentence Stem Nucleus tagmemes are permutable.

Notes:

21. The Sentence Stem Link of Coordination<sub>o</sub> is filled by tetapi 'but', sebaliknya 'on the contrary', or dan 'and'. In the case of the latter, the role relationship is then not explicitly marked by a coordinating word.

22. The role relationship of contrast is marked on the word level as well as on the sentence level in this example because kuat and lemah are antonyms.

## 3.2.2.2 Sentence Cluster Level

Amir kuat.    Siti lemah.

AMIR STRONG    SITI WEAK

'Amir is strong. Siti is weak.'

## FORMULA SET 6B

Proposition--Antonymous Proposition Sentence Cluster Stem =

Sent Clr St Nucl	Proposition Sent Rt	Sent Clr St Nucl	Antonymous Prop Sent Rt
+	+	+	+
Proposition		Antonymous Prop	

Permutability Rule: Proposition--Antonymous Proposition Sentence Cluster Stem tagmemes are permutable.

Notes:

23. While the role relationship of antonym contrast may be marked by a tagmeme on the sentence level, it is not explicitly marked on the sentence cluster level with such a tagmeme. On the latter level the role of antonym contrast is marked on the word level. This illustrates an important axiom of our study: in order for paraphrase across levels (or across languages) to be possible, role relations must be preserved and the relation marked at some level.

## 4.0 Selected Examples with Diagnostic Notes Only

The tagmemic formulas and notes of the previous section demonstrated the different ways in which roles are marked on sentence and sentence cluster levels of Indonesian. Because there is a certain redundancy in the general pattern of these tagmemic formulas, in this section we will eliminate the formulas and include only special diagnostic notes for selected examples. These examples again demonstrate the contrasting way roles are marked on the two levels.

## 4.1 Sequential Role Relationships

## 4.1.1 Event--Simultaneous Event

Amir berdiri di depan pintu DAN<sub>p</sub> mengetuk-nya.

AMIR STAND AT FRONT DOOR AND KNOCK -IT

'Amir stands at the door and knocks.'

Amir berdiri di depan pintu. Dia mengetuk pintu itu.

AMIR STAND AT FRONT DOOR HE KNOCK DOOR THAT

'Amir stands at the door. He knocks.'

Notes:

24. In this example the role of Event--Simultaneous Event is marked on the sentence level by the general coordinative link<sub>p</sub>, dan 'and', and it is unmarked on the sentence cluster level. On both levels, however, the role relationship is conveyed by the lexicon for it is normal to suppose that one stands before a door when knocking.

## 4.1.2 Event--Successive Event

Siti memasak makanan DAN SESUDAH ITU<sub>q</sub> Amir makan.

SITI COOK FOOD AND AFTER THAT AMIR EAT

'Siti cooked and then Amir ate.'



Siti memasak makanan<sub>r</sub>. Amir makan masakan-nya<sub>s</sub>.

SITI COOK FOOD AMIR EAT COOKING-THE

'Siti cooked food. Amir ate it.'

Notes:

25. The role of succession can be marked explicitly by the phrase sesudah itu<sub>q</sub> 'after that' on the sentence level as well as on the sentence cluster level (see 3.1.2.2, Note 6). Here an alternate way of showing succession is by "chaining". The predication<sub>r</sub> of the first proposition is explicitly referred to in the predication<sub>s</sub> of the second proposition by a type of chiasm: she cooked that which was to be eaten and he ate that which was cooked.

26. The lexicon again contributes to the idea of succession, i. e. cooking--eating, but chaining makes the successive role explicit.

#### 4.1.3 Contrafactual Condition--Contrafactual Consequence

KALAU SAJA dia menduduki kursi itu, pasti -lah kursi itu SUDAH<sub>t</sub> patah.

IF ONLY HE SIT ON CHAIR THAT CERTAINLY-EMPHASIS CHAIR THAT ALREADY BREAK

'If he had sat on the chair it would have broken.'

Dia SEHARUSNYA duduk di kursi itu. Kursi itu SEHARUSNYA SUDAH<sub>u</sub> patah.

HE SHOULD HAVE SIT AT CHAIR THAT CHAIR THAT SHOULD HAVE ALREADY BREAK

'Suppose he sat on the chair. The chair would be broken now.'

Notes:

27. Contrafactual condition--Contrafactual consequence differs from Condition--Consequence (3.1.3) not only by different emic role relationships, but also by the obligatory marker<sub>t,u</sub> sudah 'already' which occurs in the sentence stem nucleus of consequence on both the sentence and sentence cluster levels.

#### 4.1.4 Concession--Contraexpectation

Amir sudah makan obat, TETAPI TOH<sub>v</sub> dia makin sakit JUGA<sub>w</sub>.

AMIR ALREADY EAT MEDICINE BUT NEVERTHELESS HE MORE SICK ALSO

'Amir took medicine but he grew sicker.'

Amir sudah makan obat. Dia TOH<sub>v</sub> makin sakit JUGA<sub>w</sub>.

AMIR ALREADY EAT MEDICINE HE NEVERTHELESS MORE SICK ALSO

'Amir took medicine. However, he grew sicker.'

Notes:

28. The role of concession--contra-expectation is emically different from condition--consequence (3.1.3) and reason--result (3.1.4).

29. Contra-expectation is marked on both sentence and sentence cluster levels by an optional toh<sub>v</sub> 'nevertheless', and an optional juga<sub>w</sub> 'also'.

#### 4.1.5 Reason--Expected Result

Amir datang, KESIMPULAN-NYA semua selamat.

AMIR COME CONCLUSION-THE ALL WELL

'Amir came so all went well.'

Amir datang. JADI<sub>x</sub> semua selamat.

AMIR COME SO ALL WELL

'Amir came. As expected, all went well.'

## Notes:

30. The Sentence Stem Margin of Result, jadi<sub>x</sub> 'so', here explicitly marks the role relationship, for lexically it includes the idea of expectation.

## 4.1.6 Purpose--Result

Amir meloncat dari atap AGAR SUPAYA<sub>y</sub> dia jatuh.

AMIR JUMP FROM ROOF IN ORDER SO THAT HE FALL

'Amir jumped from the roof in order to fall.'

Amir INGIN<sub>z</sub> jatuh. Dia meloncat dari atap.

AMIR WANT FALL HE JUMP FROM ROOF

'Amir wanted to fall. He jumped from the roof.'

## Notes:

31. The purpose is marked in the Clause Stem Margin by the phrase agar supaya<sub>y</sub> 'in order to'. On the sentence cluster level the purpose is made explicit, not in a margin filled by a marker, but in the purpose sentence root itself. Purpose is explicitly expressed on this level by the verb ingin<sub>z</sub> 'want'.

## 4.1.7 Grounds--Conclusion

Amir pucat, KARENA ITU pasti dia sakit.

AMIR PALE BECAUSE THAT CERTAIN HE SICK

'Amir is pale and therefore must be sick.'

Amir pucat. Dia pasti sakit.

AMIR PALE HE CERTAIN SICK

'Amir is pale. Surely he's sick.'

## Notes:

32. The role relationship is not explicitly marked on the sentence cluster level. But by adding yet another sentence to the cluster (see following example) we see that this role relationship is maintained. This is our condition for paraphrase.

Biasanya Amir nampak selalu sehat. Dia pucat. Dia pasti sakit.

USUALLY AMIR APPEAR ALWAYS HEALTHY HE PALE HE CERTAIN SICK

'Amir always appears healthy. He is pale. Surely he's sick.'

## 4.2 Non-Sequential Role Relationships

## 4.2.1 Proposition--Contrasting Proposition

Amir pergi ke kota TETAPI Siti tidak pergi ke kota.

AMIR GO TO CITY BUT SITI NOT GO TO CITY

'Amir went to the city but Siti didn't go to the city.'

Amir pergi ke kota. Siti tidak pergi ke kota.

AMIR GO TO CITY SITI NOT GO TO CITY

'Amir went to the city. Siti did not go to the city.'

Permutability Rule: The tagmemes on both levels are permutable, as with the Proposition--Antonymous Proposition (3.2.2). The permutations, however, are not equally acceptable, whereas propositions containing antonyms have permutations which are equally acceptable.

## 4.2.2 Generic--Specific

Amir memasak-nya DENGAN<sub>aa</sub> menggoreng-nya dengan minyak.

AMIR COOK -IT BY FRY -IT WITH OIL

'Amir cooked it by frying it in oil.'

Amir memasak-nya. Amir<sub>bb</sub> menggoreng-nya dengan minyak.

AMIR COOK -IT AMIR FRY -IT WITH OIL

'Amir cooked it. Amir fried it in oil.'

Notes:

33. The Generic--Specific relationship can be marked on the sentence level by the Clause Stem Margin filled by dengan<sub>aa</sub> 'by'. On the sentence cluster level, the subject is repeated<sub>bb</sub>, a type of chaining, but role relationship is not specifically marked.

## 4.2.3 Proposition--Comparison

Amir membuat meja SEPERTI<sub>cc</sub> meja saya.

AMIR MAKE TABLE LIKE TABLE I

'Amir made a table like mine.'

Amir membuat meja<sub>dd</sub>. Meja itu<sub>dd</sub> SEPERTI<sub>cc</sub> meja saya.

AMIR MAKE TABLE TABLE THAT LIKE TABLE I

'Amir made a table. The table is like mine.'

Notes:

34. The comparative relationship is marked on both levels by seperti<sub>cc</sub> 'as, like'. On the sentence cluster level the event or item compared is explicitly referred to<sub>dd</sub> in the second sentence.

## 5.0 Definitions of Role Relationships and Further Unanalyzed Examples

In this section each of the role relationships, as used in this paper, is defined. In addition, we present further examples without notes or comment for comparison of sentence and sentence cluster levels. For role relationships already presented in previous sections, a definition is given as well as perhaps further examples. Other role relationships are presented here for the first time with definitions and examples.

It is not within the scope of this paper to establish emic norms for relationships between propositions in Indonesian. Thus, further analysis may prove that some of the roles presented here are actually etic variants of a single emic role relationship and some role relations may require further emic subdivision or emic rearrangement into different classes (See section 6.0).

## 5.1 Sequential Role Relationships: The Second Proposition Follows from the First

5.1.1 Event--Simultaneous Event<sup>7</sup>: x Overlaps in Time with y, Partially or Fully

Amir menoleh WAKTU dia berjalan.

AMIR LOOK AROUND TIME HE WALK

'Amir looked back while he was walking.'

Amir menoleh. WAKTU ITU dia berjalan.

AMIR LOOK AROUND TIME THAT HE WALK

'Amir looked back. At that time, he was walking.'

WAKTU Amir keluar dari rumah, taksi-nya datang.

TIME AMIR GO OUT FROM HOUSE TAXI -THE COME

'While Amir was leaving the house, the taxi came.'

Amir sedang keluar dari rumah. WAKTU ITU taksi-nya datang.

AMIR IN PROCESS GO OUT FROM HOUSE TIME THAT TAXI -THE COME

'Amir was leaving the house. Just then the taxi came.'

5.1.2 Event--Circumstance: y is Simultaneous with x and Tells "What Else"

Amir berjalan SAMBIL bersenandung.

AMIR WALK WHILE HUM

'Amir hummed as he walked.'

SEMENTARA Amir berjalan dia bersenandung.

WHILE AMIR WALK HE HUM

'While Amir walked he hummed.'

Amir berjalan. SEMANTARA ITU dia bersenandung.

AMIR WALK WHILE THAT HE HUM

'Amir walked. At the same time he hummed.'

5.1.3 Event--Sequence Event: y Follows x in Time in the Referential World

MULA-MULA tanaman itu tumbuh LALU berbunga.

FIRST PLANT THAT GROW THEN BEAR FLOWERS

'First the plant grows and then the flowers appear.'

Tanaman itu tumbuh. SESUDAH ITU tanaman itu berbunga.

PLANT THAT GROW AFTER THAT PLANT THAT BEAR FLOWERS

'The plant grows. Then flowers appear.'

SESUDAH barang-barang di- muat BARU penumpang naik.

AFTER CARGO PASSIVE-LOAD ONLY THEN PASSENGER ASCEND

'After the cargo is loaded the passengers board.'

Barang-barang di- muat LEBIH DULU. Penumpang naik KEMUDIAN.

CARGO PASSIVE-LOAD MORE FIRST PASSENGER ASCEND LATER

'Cargo is loaded first. Then passengers board.'

5.1.4 Time--Event: y Takes Place at the Time of x

Hari itu hujan lebat DAN Amir pulang.

DAY THAT RAIN THICK AND AMIR GO HOME

'The day it poured Amir went home.'

Hari itu hujan lebat. Amir pulang.

DAY THAT RAIN THICK AMIR GO HOME

'That day it poured. Amir went home.'

5.1.5 Condition--Consequence: y Will Follow Provided x is Realized (3.1.3)

5.1.6 Warning--Consequence: y Will Follow if x is not Heeded

SEYOGYANYA                kita tidak memakai air    terlalu banyak, KALAU TIDAK, kita  
 IT IS SELF-EVIDENT WE    NOT    USE    WATER TOO    MUCH    IF    NOT    WE  
tidak akan punya sedikit-pun    untuk minum nanti.  
 NOT    WILL HAVE    LITTLE -EVEN FOR    DRINK LATER

'We'd better not use too much water or we won't have any later.'

Kita jangan    memakai air    terlalu banyak.    SEBAB    kita nanti tidak punya  
 WE    SHOULD NOT USE    WATER TOO    MUCH    BECAUSE WE    LATER NOT    HAVE  
air sedikit-pun    untuk minum.  
 WATER LITTLE -EVEN FOR    DRINK

'We shouldn't use too much water. Later we won't have any.'

5.1.7 Condition--Contingency: y May Follow if x is Realized  
Saudara harus membayar BARU    saudara dapat menempati kamar ini.  
 BROTHER MUST PAY    ONLY THEN BROTHER CAN    OCCUPY    ROOM THIS

'You have to pay before you can occupy the room.'

Saudara harus membayar DULU.    Saudara dapat menempati kamar ini.  
 BROTHER MUST PAY    FIRST BROTHER CAN    OCCUPY    ROOM THIS

'You must pay first. Then you can occupy the room.'

5.1.8 Concession--Contra-Expectation: y is an Actual, but Unexpected Result  
 of x (4.1.4)

5.1.9 Expectancy--Reversal: the Expected Outcome of x is Reversed in y  
MESKIPUN saya telah merencanakan AKHIR-NYA saya tidak dapat pergi.  
 ALTHOUGH I    ALREADY TO PLAN    END -THE I    NOT    CAN GO

'Although I intended to go I didn't.'

Saya telah merencanakan akan pergi.    Saya tidak JADI pergi.  
 I    ALREADY TO PLAN    WILL GO    I    NOT    WORK OUT GO

'I had planned to go. It didn't work out for me to go.'

SEHARUSNYA saya sudah pergi TETAPI tidak.  
 SHOULD    I    ALREADY GO    BUT    NOT

'I should have gone but didn't.'

Saya INGIN pergi.    Saya tidak JADI pergi.  
 I    WANT GO    I    NOT    WORK OUT GO

'I wanted to go. It didn't work out for me to go.'

SEHARUSNYA saya sudah dapat bekerja TETAPI saya tidak bekerja.  
 SHOULD    I    ALREADY CAN    WORK    BUT    I    NOT    WORK

'I could have worked but I didn't work.'

Saya dapat bekerja.    Saya tidak bekerja.  
 I    CAN    WORK    I    NOT    WORK

'I could have worked. I didn't work.'

5.1.10 Mistaken Idea--Actuality: the Idea in x is not Confirmed by Reality, y  
Saya kita dia bodoh TETAPI TERNYATA dia tidak bodoh.  
 I    THINK HE    STUPID BUT    ACTUALLY HE    NOT    STUPID

'I thought he was stupid but he isn't stupid.'

TADINYA saya kira dia bodoh. TERNYATA dia tidak bodoh.  
 AT FIRST I THINK HE STUPID ACTUALLY HE NOT STUPID  
 'I thought he was stupid at first. Actually he's not stupid.'

5.1.11 Premise--Conflicting Premise: Given the Premise x, y Does Not Logically Follow

MESKIPUN kaki-nya panjang TOH lari-nya tidak cepat.  
 ALTHOUGH LEG -HE LONG NEVERTHELESS RUN -HE NOT FAST  
 'Even though he has long legs he doesn't run very fast.'  
Kaki-nya panjang. Lari-nya tidak cepat.  
 LEG -HE LONG RUN -HE NOT FAST  
 'His legs are long. He doesn't run fast.'

5.1.12 Reason--Result: x Precedes y in Time and Adds 'Why' It Came About (3.1.4)

5.1.13 Reason--Expected Result: y is the Expected Consequence of x

Dia tergelincir dari atap OLEH KARENA ITU dia jatuh.  
 HE SLIP FROM ROOF OF BECAUSE THAT HE FALL  
 'He slipped off the roof so he fell.'  
Dia tergelincir dari atap. OLEH KARENA ITU dia jatuh.  
 HE SLIP FROM ROOF OF BECAUSE THAT HE FALL  
 'He slipped from the roof. Because of that he fell.'  
Lantai-nya kotor, MAKA Siti menyapu-nya.  
 FLOOR -THE DIRTY SO SITI SWEEP -IT  
 'The floor was dirty so Siti swept it.'  
Lantai-nya kotor. Siti menyapu lantai itu.  
 FLOOR -THE DIRTY SITI SWEEP FLOOR THAT  
 'The floor was dirty. Siti swept the floor.'

5.1.14 Purpose--Result: x Precedes y in Time and Gives Intention

Keesokan hari-nya mereka berkumpul UNTUK pergi berpiknik.  
 FOLLOWING DAY -THE THEY GATHER TO GO PICNIC  
 'Tomorrow they will get together to go on a picnic.'  
Keesokan hari-nya mereka akan pergi berpiknik. KARENA ITU mereka berkumpul.  
 FOLLOWING DAY -THE THEY WILL GO PICNIC BECAUSE THAT THEY GATHER  
 'Tomorrow they will go on a picnic. Therefore they'll get together.'

5.1.15 Purpose--Means: x is Intended to be Achieved by y

UNTUK membunuh harimau itu, dia menusuk-nya.  
 IN ORDER TO KILL TIGER THAT HE STAB -IT  
 'In order to kill the tiger he stabbed it.'  
Ia AKAN membunuh harimau itu. Di- tusuk-nya harimau itu.  
 HE TO KILL TIGER THAT PASSIVE-STAB -HE TIGER THAT  
 'He wanted to kill the tiger. He stabbed it.'

5.1.16 Means--Result: y is Achieved by Means of x

DENGAN memanjat sisi-nya ia mencapai puncak-nya.

BY CLIMB SIDE-THE HE REACH SUMMIT-THE

'By scaling the side he reached the summit.'

Dia memanjat sisi-nya. Ia mencapai puncak-nya.

HE CLIMB SIDE-THE HE REACH SUMMIT-THE

'He scaled the side. He reached the summit.'

5.1.17 Circumstance--Consequence: y Results Because of Situation x

MELIHAT BAHWA Amir sakit, kita jangan berisik.

SEE THAT AMIR SICK WE SHOULD NOT NOISE

'In view of the fact that Amir is sick we must not make noise.'

KITA TAHU Amir sakit. Kita jangan berisik.

WE KNOW AMIR SICK WE SHOULD NOT NOISE

'We know that Amir is sick. We shouldn't make noise.'

KARENA tempat-nya tidak terlalu jauh, biar saya mengangkat barang ini sendiri.

BECAUSE PLACE -THE NOT TOO FAR LET I LIFT GOODS THIS MYSELF

'As the place is not too far away, let me carry the goods myself.'

Tempat-nya tidak terlalu jauh. Biar saya mengangkat barang ini sendiri.

PLACE -THE NOT TOO FAR LET I LIFT GOODS THIS MYSELF

'The place is not too far. Let me carry the goods myself.'

5.1.18 Proportion--Proportion: y Varies in Degree or Quality Either in Direct or Inverse Proportion to x

MAKIN cepat engkau pulang, MAKIN cepat kau dapat makan.

THE MORE FAST YOU GO HOME THE MORE FAST YOU CAN EAT

'The quicker you get home, the quicker you can eat.'

Engkau pulang LEBIH cepat. Engkau dapat makan LEBIH cepat.

YOU GO HOME MORE FAST YOU CAN EAT MORE FAST

'You go home more quickly. You can eat sooner.'

5.2 Non-Sequential Role Relationships: The Second Relationship Does Not Follow From the First

5.2.1 Proposition--Additional Proposition: x is Similar to y in All But One Point

Amir tinggal di rumah DAN Siti tinggal di rumah.

AMIR STAY AT HOUSE AND SITI STAY AT HOUSE

'Amir stayed at home and Siti also stayed at home.'

Amir tinggal di rumah. Siti JUGA tinggal di rumah.

AMIR STAY AT HOUSE SITI ALSO STAY AT HOUSE

'Amir stayed at home. Siti also stayed at home.'

Makanan ada, DAN air -PUN JUGA ada.

FOOD IS AND WATER-ALSO ALSO IS

'There is food and there is also water.'

Makanan ada. Air JUGA ada.

FOOD IS WATER ALSO IS

'There is food. There is also water.'

5.2.2 Proposition--Different Proposition: x is Different from y in Two Points  
(Not a Positive--Negative Opposition) and Similar in One Point

Amir berjalan ke pasar TETAPI Siti berjalan ke kantor pos.

AMIR WALK TO MARKET BUT SITI WALK TO OFFICE POST

'Amir walked to the market but Siti walked to the Post Office.'

Amir berjalan ke pasar. Siti berjalan ke kantor pos.

AMIR WALK TO MARKET SITI WALKED TO OFFICE POST

'Amir walked to the market. Siti walked to the Post Office.'

5.2.3 Proposition--Antonymous Proposition: Proposition x Contains an Antonym  
of Proposition y (3.2.2)

5.2.4 Proposition--Contrasting Proposition: x Differs from y in at Least Two  
Points, One Of Which is a Positive--Negative Opposition, and is Similar  
in at Least One Point

Amir pandai TETAPI Siti tidak pandai.

AMIR CLEVER BUT SITI NOT CLEVER

'Amir is clever but Siti is not clever.'

Amir pandai. Siti tidak pandai.

AMIR CLEVER SITI NOT CLEVER

'Amir is clever. Siti is not clever.'

Amir mempunyai anjing, TETAPI Siti tidak mempunyai anjing.

AMIR HAVE DOG BUT SITI NOT HAVE DOG

'Amir has a dog but Siti does not have a dog.'

Amir mempunyai anjing. Siti tidak mempunyai anjing.

AMIR HAVE DOG SITI NOT HAVE DOG

'Amir has a dog. Siti does not have a dog.'

5.2.5 Proposition--Alternative Proposition: y is an Alternative to x

Amir sedang pergi ke pasar ATAU ke kantor pos.

AMIR IN PROCESS GO TO MARKET OR TO OFFICE POST

'Amir is going to the market or to the Post Office.'

Amir sedang pergi ke pasar. ATAU, Amir sedang pergi ke kantor pos.

AMIR IN PROCESS GO TO MARKET OR AMIR IN PROCESS GO TO OFFICE POST

'Amir is going to the market. Or, Amir is going to the Post Office.'

5.2.6 Proposition--Equivalent Proposition: y Conveys the Same Meaning as x

Saya mengatakan kebenaran DAN saya tidak berdusta.

I SPEAK TRUTH AND I NOT LIE

'I speak the truth and I do not lie.'

Saya mengatakan kebenaran. Saya tidak berdusta.

I SPEAK TRUTH I NOT LIE

'I speak the truth. I do not lie.'

5.2.7 Generic--Specific: y is a Specific Elaboration of x

Mereka memiliki segalanya; mereka punya makanan, pakaian, dan rumah.

THEY POSSESS EVERYTHING THEY HAVE FOOD CLOTHING AND HOUSE

'They have everything; they have food, clothing, and a house.'



Mereka memiliki segalanya.    Mereka punya makanan.    Mereka punya pakaian.

THEY POSSESS EVERYTHING    THEY HAVE FOOD    THEY HAVE CLOTHING

Mereka punya rumah.

THEY HAVE HOUSE

'They have everything. They have food. They have clothing. They have a house.'

5.2.8 Proposition--Amplification: y Adds Information to x

Macan itu menyerang, DAN dia langsung masuk ke perangkap.

TIGER THAT ATTACK    AND HE STRAIGHTWAY ENTER TO TRAP

'The tiger charged and ran headlong into the trap.'

Macan itu menyerang. Macan itu langsung masuk ke perangkap.

TIGER THAT ATTACK    TIGER THAT STRAIGHTWAY ENTER TO TRAP

'The tiger charged. The tiger ran headlong into the trap.'

Dia menyanyi DENGAN membawakan dua lagu.

HE SING    BY    BRING    TWO SONG

'He sang, presenting two numbers.'

Dia menyanyi. Dia menyanyikan dua lagu.

HE SING    HE SING    TWO SONG

'He sang. He sang two numbers.'

5.2.9 Proposition--Comparison: y is Related Positively to x by Some Point of Similarity but is Different from x

Amir makan SEPERTI babi makan.

AMIR EAT    LIKE    PIG EAT

'Amir eats like a pig eats.'

Amir makan. Makan-nya SEPERTI babi makan.

AMIR EAT    EAT -HE LIKE    PIG EAT

'Amir eats. His eating is like that of a pig.'

## 6.0 A Preliminary Tree Structure of Certain Generalized Role Contrasts in Indonesian

In the introduction to Section 5, we suggested that up to this point in the paper we had not attempted a re-analysis of the crude initial data of the propositional relationships. What we were showing was that clause complexes within a sentence may be expanded to sentence clusters, with a retention of role relationships. Without this, we felt, linguistic theory would eventually collapse, since it would deny the possibility of paraphrase, of summary, or of expansion of materials.

But our handling of the data, though presented in preliminary outline form, was not reworked in a way which would attempt to get major systemic contrasts with minimal role types. If the latter could be accomplished, however, a student using the material could later grasp much more rapidly the total mechanism available. It is worth some effort to try the next stage in the analysis even in a preliminary form, with the hope that it will stimulate further study in the future.

Earlier we attempted a division which took as its starting point the contrast between balanced versus unbalanced relations within the sentence or sentence

cluster (that is, between the presence or absence of dependent clauses), and permutability (reversability) versus nonpermutability of the constituents of the sequence. Both of these elements show up in our description above--either in the formulas or in the notes. But they did not give us a charting which (combined with elements such as time, and positive versus negative support of the second proposition by the first) led to a result which we could seem to grasp as a simple system.

Now (see Table I) therefore, we drop the use of arrangement elements of balance or reversibility, and use only three role elements. Specifically, we choose the presence of a logical component of ground (i. e. of source, purpose, intent, result, conclusion, possibility, or the like) of one of the tagmemes in contrast to the absence of such a component. Then we choose a role relation for the other tagmemes in terms of time of an event pair--with one following the other-- or the absence of such a sequence. Secondly, since it refers to no further tagmeme, we decide whether or not the second of the roles is specifically in contrast with the first. Together these three criteria lead to eight columns. The first two emphasize logical relations between events which are in sequence. Three and four indicate logical relations between the propositions, but with propositions which do not comprise a sequence in time. The next set of four eliminates the logical element, but again is subdivided into pairs of contrastive versus noncontrastive elements. Pair five and six are descriptive of a pure sequence of events without the logical component. Numbers seven and eight are pure description of items or events which are not related either in time sequence or in logical dependence.

The English reader may find it easier to follow the analysis if he notices (in the text, not in the Table) that the Indonesian single sentences from which the cluster paraphrases are made, often have the logic component translated by the English 'although' (compare the literal 'already'), 'so', 'because', or 'must'; a sequence component is often translated by 'then'; the contrast component is often translated by 'but', whereas the combination of nonlogical, nonsequential, noncontrastive relations is often translated by 'in addition', 'and', 'also', or 'while'. See Table I for the tree structure itself, with illustrations given under the respective numbered columns; the illustrations in the table include all the sentence-cluster samples from the article; occasionally if one wishes to know why a particular semantic interpretation has been chosen he must check back to the text in order to see the single sentence (marked for relationship) of which the sentence cluster is a paraphrase. Each illustration has preceding it the number of the section in earlier parts of the paper from which it is taken, as well as the role label which it was given there. The fact of etic reworking can be detected by comparing the relatively extensive set of role labels given in the illustrating columns with the relatively small set of labels given in tree structure above it.

We will treat either ground or point of reference as a role for one of the two tagmemes of the sentence or sentence cluster, and either temporal sequence, consequence, or descriptive concomitant as a role for the second of the tagmemes; contrast would be handled as a role optionally added to the second tagmeme. We suggested the search for and--if found--the addition as indicated for Column 5,

under pressure of the tree pattern of a sentence cluster such as 'He started for the top. He reached the middle only.' This sentence cluster does in fact occur, and in Indonesian is

Dia mulai naik ke atas. Dia hanya sampai di tengah-tengah.

HE START ASCEND TO TOP HE ONLY UNTIL AT MIDDLE

'He started for the top. He reached the middle only.'

The comparable single sentence is

Dia mulai naik ke atas tetapi hanya sampai di tengah-tengah.

HE START ASCEND TO TOP BUT ONLY UNTIL AT MIDDLE

'He started for the top but only reached the middle.'

The columns, however, appear to have further subdivisions: for example, Column 2 with its first tagmeme set further subdivided via condition, reason, purpose, or contrafactualness; Column 7 with its first tagmeme set subdivided via simple proposition versus mistaken proposition, and second tagmeme via antonymous proposition, alternative proposition (beyond contrast as such); Column 8 with its second tagmeme subdivided via addition, simultaneity, specificness, comparison, equivalence, and amplification. But it is not yet clear how these differences should be handled. Conceivably they might be treated as (a) referentially different, without grammatical tagmemic consequences, or (b) as requiring further emic grammatical role differentiation, or (c) as representing factors of cohesion within the grammatical tagmeme, but emically contrasting one tagmeme from another within a class of tagmemes sharing the same role, or (d) as some mixture of these which is not clear to us. Tentatively, we suggest treatment (c) as a useful starting point, so that Formula Set 6B for 'Amir is strong. but Siti is weak,' would appear as:

Contrastive Nonsequential Description =

+ <u>Sent Clr St Nucleus</u>   <u>Prop Sent Rt</u>	+ <u>Sent Clr St Nucleus</u>   <u>Prop Sent Rt</u>
+ <u>Point of Reference</u>	<u>Descr Concom Contrast</u>   <u>Antonymous</u>

The remaining tentative formulas based on this hypothesis may be comparably constructed from the tables.

Yet at this time we are showing the reader only the direction of the next stage of emic research, rather than final conclusions. We have not given a complete emic analysis of those roles. Several factors are involved:

1. The conditions of the experiments, as we set it up, required us to choose a two-clause sentence, which was transformed (in general at least) into a two-clause sentence cluster. As a result, we do not have a clear set of data which show obligatoriness or optionality of tagmemes in a natural paragraph. But in the emics of English clause roles (Pike and Pike, 1974), the number of (obligatory or optional) tagmemes (e. g. the number of participants for transitive versus intransitive) was a crucial factor in the analysis.

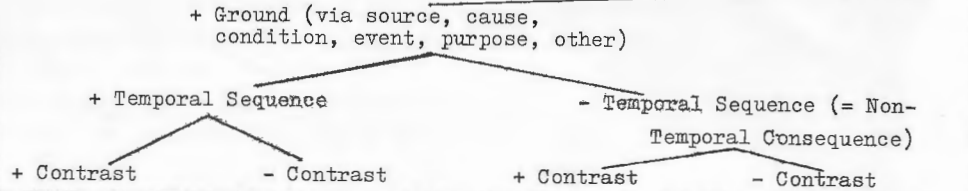
2. Cohesion in relation to role is not clearly understood, as we indicated above.

3. The relation of nucleus of clause to margin of clause was crucial in the role treatment of its tagmemes, but in our sentence-to-sentence-cluster experiment we have not worked into the role analysis the explicit relation of nucleus to

ROLE AND COHESION RELATIONS BETWEEN TAGMEMES IN SENTENCE

Primary Roles:  
(one per tagmeme)

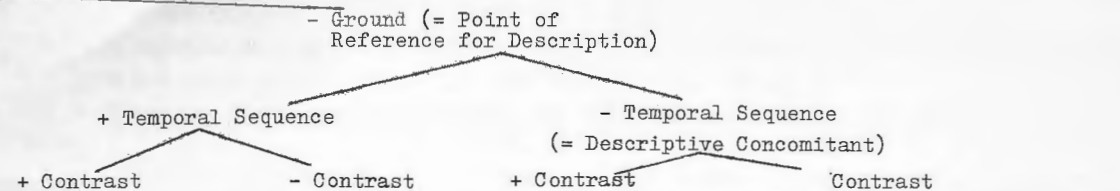
Secondary Role:  
(optionally  
added to tagmeme)



- |                                     |  |  |   |
|-------------------------------------|--|--|---|
| 1. Contrastive Sequential Inference | 2. Noncontrastive Sequential Inference from Ground | 3. Contrastive Nonsequential Inference from Ground | 4. Noncontrastive Nonsequential Inference from Ground |
|-------------------------------------|--|--|---|

- |   |   |   |   |
|---|---|---|---|
| 4.1.4. (Concession--Counter Expectation) 'Amir took medicine. However, he grew sicker.'           | VI. 3.1.3.2. (Condition--Consequence) 'You jump from that roof. As a consequence you'll fall.'                            | 5.1.9. (Expectancy--Reversal) 'I had planned to go. It didn't work out for me to go.'       | 5.1.17 (Circumstance--Consequence) 'The place is not too far. Let me carry the goods myself.' |
| 5.1.6. (Warning--Consequence) 'We shouldn't use too much water. Because later we won't have any.' | 4.1.3. (Contradictory Condition--Contradictory Consequence) 'Suppose he sat on the chair. The chair would be broken now.' | 5.1.9. (Expectancy--Reversal) 'I wanted to go. It didn't work out for me to go.'            | VIII. 3.1.4.2 (Reason--Result) 'You were angry. That's the reason he didn't come.'            |
| 4.1.5. (Reason--Expected Result) 'Amir came. As expected, all went well.'                         | 4.1.3. (Contradictory Condition--Contradictory Consequence) 'Suppose he sat on the chair. The chair would be broken now.' | 5.1.9. (Expectancy--Reversal) 'I could have worked. I didn't work.'                         | 4.1.6. (Purpose--Result) 'Amir wanted to fall. He jumped from the roof.'                      |
| 5.1.7. (Condition--Contingency) 'You must pay first. Then you can occupy room.'                   | 4.1.5. (Reason--Expected Result) 'Amir came. As expected, all went well.'   | 5.1.11. (Premises--Conflicting Premises) 'His legs are long. His running is not fast.'      | 4.1.7. (Grounds--Conclusion) 'Amir is pale. Surely he's sick.'                                |
| 5.1.13. (Reason--Expected Result) 'He slipped from the roof. Because of that, he fell.'           | 5.1.7. (Condition--Contingency) 'You must pay first. Then you can occupy room.'   | 5.1.17. (Circumstance--Consequence) 'We knew that Amir is sick. So we couldn't make noise.' | 5.1.13. (Reason--Expected Result) 'The floor was dirty. Siti swept the floor.'                |
| 5.1.14. (Purpose--Result) 'Tomorrow they will go on a picnic. Therefore they'll get together.'    | 5.1.13. (Reason--Expected Result) 'He slipped from the roof. Because of that, he fell.'                                   |   | 5.1.15. (Means--Purpose) 'He wanted to kill the tiger. He stabbed it.'                        |
| 5.1.18. (Proportion--Proposition) 'You go home quickly. You can eat sooner.'                      | 5.1.14. (Purpose--Result) 'Tomorrow they will go on a picnic. Therefore they'll get together.'                            |   |   |

CLUSTERS AS PARAPHRASES OF TWO-CLAUSE SENTENCES



- |                                       |  |  |   |
|---------------------------------------|--|--|---|
| 5. Contrastive Sequential Description | 6. Noncontrastive Sequential Description | 7. Contrastive Nonsequential Description | 8. Noncontrastive Nonsequential Description |
|---------------------------------------|--|--|---|

- |   |  |   |   |
|---|--|---|---|
| '[He started for the top. He reached the middle only.]' | IV. 3.1.2.2. (Event--Successive Event) 'Amir will go to the market. Then Siti will go home.' | XII. 3.2.2.2. (Proposition--Antonymous proposition) 'Amir is strong. Siti is weak.'                             | II. 3.1.1.2. (Event--Simultaneous Event) 'Amir worked in the garden at the same time Siti worked at home.'                          |
|   | 4.1.2. (Event--Successive Event) 'Siti cooked food. Amir ate it.'                            | 4.2.1. (Proposition--Contrasting Proposition) 'Amir went to town. Siti did not go to town.'                     | X. 3.2.1.2. (Proposition--Additional Proposition) 'Java is rich in food resources. In addition, Java is rich in mineral resources.' |
|   | 5.1.3. (Event--Sequence Event) 'The plant grows. Then it bears flowers.'                     | 5.1.10. (Mistaken Idea--Actuality) 'I thought he was stupid at first. Actually he's not stupid.'                | 4.1.1. (Event--Simultaneous Event) 'Amir stands at the door. He knocks.'  |
|   | 5.1.3. (Event--Sequence Event) 'Cargo is loaded first. Then passengers ascend.'              | 5.2.2. (Proposition--Different Proposition) 'Amir walked to the market. Siti walked to the Post Office.'        | 4.2.2. (Generic--Specific) 'Amir cooked it. Amir fried it in oil.'  |
|   | 5.1.16. (Means--Result) 'He scaled the side. He reached the summit.'                         | 5.2.4. (Proposition--Contrasting Proposition) 'Amir is clever. Siti is not clever.'                             | 4.2.3. (Proposition--Comparison) 'Amir made a table. The table is like mine.'   |
|   |  | 5.2.4. (Proposition--Contrasting Proposition) 'Amir has a dog. Siti does not have a dog.'                       | 5.1.1. (Event--Simultaneous Event) 'Amir looked around. At the time he was walking.'  |
|   |  | 5.2.5. (Proposition--Alternative Proposition) 'Amir is going to the market. Or he is going to the Post Office.' | 5.1.1. (Event--Simultaneous Event) 'Amir was leaving the house. Just then the taxi came.'   |
|   |  |   | 5.1.2. (Event--Circumstance) 'Amir walked. At the same time he hummed.'   |
|   |  |   | 5.1.4. (Time--Event) 'That day it poured. Amir went home.'  |
|   |  |   | 5.2.1. (Proposition--Additional Proposition) 'Amir stayed at home. Siti also stayed at home.'                                       |
|   |  |   | 5.2.1. (Proposition--Additional Proposition) 'There is food. There is also water.'  |
|   |  |   | 5.2.6. (Proposition--Equivalent Proposition) 'I speak the truth. I do not lie.'   |
|   |  |   | 5.2.7. (Generic--Specific) 'They have everything. They have food. They have clothing. They have a house.'                           |
|   |  |   | 5.2.8. (Proposition--Amplification) 'The tiger charged. The tiger ran headlong into the trap.'                                      |
|   |  |   | 5.2.8. (Proposition--Amplification) 'He sang. He sang two numbers.'   |
|   |  |   | 5.2.9. (Proposition--Comparison) 'Amir eats. His eating is like that of a pig.'   |

margin of natural paragraphs. We note, however, that two nuclei occur in Sentence Stem Formula Set 6A and Sentence Cluster Stem Formula Set 6B. Margin precedes nucleus in Sentence Stem Formula Sets 1A, 3A, and 5A, but follows it in 2A and 4A; margin follows nucleus in all the formulas for sentence clusters where any margin occurs, i. e. in Formula Sets 1B, 2B, 3B, 4B, and 5B.

4. Other (perhaps at the moment unknown) factors may comprise reasons which prevent this analysis from being as yet complete. Permutability of order of tagmemes might be one; the presence or absence of markers of the relationship, on first or second tagmeme, or as a link between them, might be another. Needed assignment of some factors (e. g. state versus event) to the referential hierarchy instead of the grammatical one might be another.

Yet in spite of these difficulties we are encouraged. Our basic goal for the article has been reached; we have demonstrated role invariants across two levels of the grammatical hierarchy. In addition, beyond that goal, first steps have been taken to point in the direction of the emic analysis of the system of these roles.

#### NOTES

<sup>1</sup> The paper builds on the preliminary work of Kenneth L. Pike (1974a, 1974b). During the Irian Jaya Workshop Pike provided further stimulus, encouragement, and technical suggestions for its execution. Suharno provided the examples and expansions in Indonesian. Sterner is responsible for the analysis, notes, and expository sections, with the exception of Section 6, which Pike wrote.

<sup>2</sup> The role relationships used in this paper are based on the work of Ballard, Conrad, and Longacre (1971), Longacre (1972), Trail (1973), and Beekman and Callow (1974).

<sup>3</sup> The tagmemic formulas given are to facilitate comparison between the sentence and sentence cluster levels. They are not intended to be emic norm patterns which describe comprehensively all the ways various role relationships can be expressed in Indonesian. For an explanation of the current tagmemic model represented by these formulas see Pike and Pike, "Flying Planes", in this volume, and also Pike and Pike, "Grammatical Analysis." Also see E. Pike, "Coordination and its Implications for Roots and Stems of Sentence and Clause" for definitions and English examples of "stem", "root", "margin", and "nucleus" as used in these formulas.

<sup>4</sup> In Section 5.0 each of the role relationships between propositions used throughout this paper is defined and in addition unanalyzed examples are given.

<sup>5</sup> The usage of word coordinators on the sentence cluster level is referred to in the student's reference grammar:

"Maka also occurs initially in a sentence to indicate both that the clause it introduces is an independent clause and also that it follows from, but is not dependent on, the previous sentence." (MacDonald and Darjowidjojo, 1967, p. 176.)

"A similar function can also be fulfilled by certain other items, particularly

by the coordinators." (Ibid, p. 177.)

<sup>6</sup> In Indonesian, phonological final pause is characterized by a complete relaxation of the vocal apparatus.

<sup>7</sup> In all definitions of propositions the first proposition is designated x and the second, y.