

## CHAPTER I

## THE PHRASE STRUCTURE



Although the transformation theory is not altogether unfamiliar in Thailand, it may be useful to present some basic notions concerning it. The theory has been clearly explained by Professor Emmon Bach.<sup>1</sup> He says that the theory has taken its inspiration from modern logicians and mathematicians. Logicians have been concerned with studying various language systems from an abstract point of view. Modern linguists have tried to describe language as an abstract and formalized system. The basic assumption is the notion of objects being put together in a formal way. It is a set of objects constructed out of another set of elements by stringing them together in a chain. The objects including the case of a single element are called strings, which in this case will be represented by "s."

s + s + s + s + s + . . .

A language permits only a part of all possible sequences. An example from three different languages, English

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<sup>1</sup>Emmon Bach, An Introduction to Transformation Grammar (Preliminary Version, The University of Texas), 1963.

French, and Thai, will be presented to show an example of the "permitted sequences" of each language:

English:	Two	black	cats
French:	deux (2	chats cats	noirs black)
Thai:	๒แมว (cat	ดำ black	สอง ตัว 2 classifier)

The permitted strings are called the sentences of the language.

S      ----->    s + s + s + s + s

"S" represents a sentence or a set of permitted strings in a language. A language is then defined as "a subset (subclass) within the set of all possible strings of the elements in question."<sup>1</sup>

It is possible to generate sentences from a few phrase structure rules or transformational rules. The term 'phrase structure' will be confined to the general restrictions in building up a structure. Phrase structure rules must be simple rewriting rules, expansion rules, and non-permutative rules.

The initial string of a generative grammar is usually represented by the form # s #.

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<sup>1</sup>Ibid.

# represents a sentence boundary. Every sentence is bounded by one sentence boundary at the beginning and another at the end. The following notation will represent an indefinite number of sentences.

# s ## s ## s # ----> utterance

Starting from the initial sentence symbol, a sentence can be expanded into two parts by three phrase structure (PS) rules.

PS 1      S ----> NP + VP<sup>1</sup>

NP shall represent any nominal which will be expanded in PS 2.

VP shall represent any verb phrase which will be further developed in PS 7, 8, and 9.

Phrase structure rules of French NP and VP will be presented along with lexical rules in order to provide strings for transformation in Chapter III.

PS 2      NP ---->  $\begin{bmatrix} N_{\text{pro}} \\ N_{\text{n}} \end{bmatrix}$

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<sup>1</sup>The arrow should be read "rewrite as."

PS 3	$N_n$	----->	(Det) + (Mod) <sup>1</sup> + N
PS 4	Mod	----->	$\left[ \begin{array}{l} \text{PNM} \\ \text{PoNM} \end{array} \right]$
PS 5	PNM	----->	(nu) + (Adv <sub>d</sub> ) + (Adj <sub>q</sub> )

A French noun phrase is composed of premodifiers, a head and post modifiers. Premodifiers are determiners and optionally a limited number of qualificative adjectives.<sup>2</sup>

$N_{pro}$	----->	il, celui-ci, celle-là, je, elles, etc.
Det	----->	le, une, ces, les, la, un, etc.
nu	----->	un, deux, trois, quatre, cinq, etc.
Adv <sub>d</sub>	----->	très, bien
Adj <sub>q</sub>	----->	petit, jeune, grand, etc.
N	----->	garçon, table, soleil, famille, Pierre, etc.

Prep <sub>Man</sub> + NP	:	les hommes <u>avec</u> <u>leurs petits tabliers</u>
Prep <sub>Temp</sub> + NP	:	Hidoux <u>depuis un</u> <u>mois</u>

<sup>1</sup>The parentheses are used to enclose optional elements.

<sup>2</sup>Some qualificative adjectives precede N, some follow, and some can precede or follow N, but the description of these is not relevant to this thesis.

	Prep <sub>Loc</sub> + NP	: Un petit restaurant <u>dans un port</u>
		[
	Loc	: Un jeune homme <u>at-</u> <u>tablé non loin</u>
	Temp	: Un tableau <u>présenté</u> <u>il y a un mois</u>
PS 6 PoNM---->	V-en+	[
	Prep+NP	: Un bassin <u>encombré</u> <u>de navires</u>
	Prep+NP	: la porte <u>ouverte</u> <u>sur un bassin</u>
	]	
	VB <sub>ant</sub> + NP	: Mme. Cordier <u>désig-</u> <u>nant Thérèse</u>
	Adj <sub>q</sub> + (X)	: Hidoux <u>ivre à demi</u>

Prep<sub>Man</sub> -----> par, selon, sans, avec, etc.

Prep<sub>Temp</sub> -----> après, depuis, vers, à, etc.

Prep<sub>Loc</sub> -----> chez, en, parmi, près, sous, etc.

PS 7 VP -----> (Pvb) VERB

PS 8 VERB -----> VRB + NP

PS 9 VRB -----> AUX + VB

PS 10 AUX -----> AUX<sub>1</sub> (AUX<sub>2</sub>)

PS 11 AUX<sub>1</sub> -----> Temps

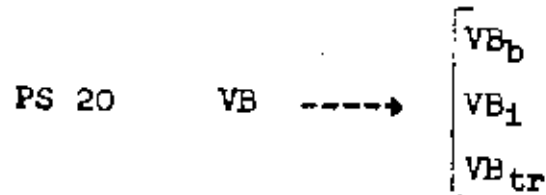
PS 12 AUX<sub>2</sub> -----> (Avoir-en) (Etre-en) (VB-er)

PS 13	VB	----->	<table> <tr><td>Etre</td></tr> <tr><td>Avoir</td></tr> <tr><td>Vb</td></tr> <tr><td>V</td></tr> </table>	Etre	Avoir	Vb	V
Etre							
Avoir							
Vb							
V							
PS 14	D	----->	<table> <tr><td>Vb</td></tr> <tr><td>Etre</td></tr> <tr><td>Avoir</td></tr> </table>	Vb	Etre	Avoir	
Vb							
Etre							
Avoir							
	Vb	----->	devoir, pouvoir, savoir, vouloir				
	V	----->	donner, manger, etc.				
PS 15	Af	----->	Tmps, -en, -er				
PS 16	Tmps	----->	person, number, tense, mood affixes				
PS 17	-en	----->	past participle suffixes				
PS 18	-er	----->	infinitive suffix				
PS 19	-ant	----->	present participle suffixes				
	Pvb	----->	ne --- pas, ne --- rien, toujours, etc.				

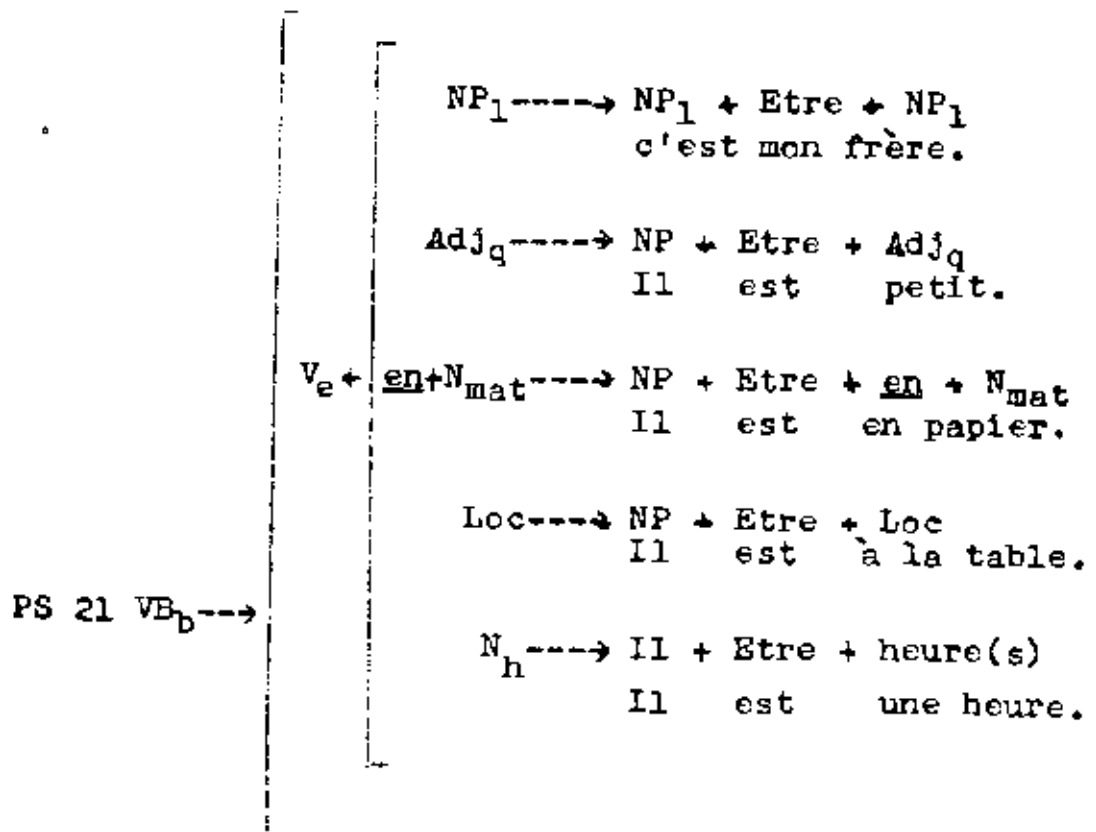
For the purpose of this study it will not be necessary to develop the VP structure further. The nature of the Preverbs (toujours, etc.) will not be described in detail, but it should be pointed out that the two-morpheme preverbs,

such as ne --- pas, ne --- rien, etc. are divided; the first element is placed before  $AUX_1$  and the second after VB.

French VB may be developed as follows:



VB<sub>D</sub> signifies the verbs être, faire, and copulative verbs which occur with noun or adjective complements. VB<sub>I</sub> denotes intransitive verbs which will be described in PS 23. VB<sub>tr</sub> represents transitive verbs which will be developed in PS 22.



$V_f + \text{Adj}_t^1$	$\rightarrow$	Il + Faire + Temps Il fait froid.
$V_{cop1}$	$\rightarrow$	NP + $V_{cop1}$ + Adj <sub>q</sub> Son père semble vieux.
$V_{cop2}$	$\rightarrow$	NP <sub>1</sub> + $V_{cop2}$ + NP <sub>2</sub> Il est devenu un très bon médecin.

$N_{mat}$   $\rightarrow$  bois, cuir, pierre, fer, nylon, etc.

$N_h$   $\rightarrow$  heure(s)

$\text{Adj}_t$   $\rightarrow$  chaud, sombre, clair, etc.

	$V_t$	$\rightarrow$	NP <sub>1</sub> + $V_t$ + NP <sub>2</sub> Maman prépare le repas.
	$V_{ta}$	$\rightarrow$	NP + Avoir + N <sub>3</sub> Il a peur.
PS 22 VB <sub>tr</sub>	$V_{ty}^2$	$\rightarrow$	Il y Avoir + NP Il y a un oiseau dans la cage.
	$V_{tc}$	$\rightarrow$	NP + $V_{tc}$ + C <sup>3</sup> Il veut voyager.
	$V_{tp}$	$\rightarrow$	NP + $V_{tp}$ + Prep + N Elle dépend de vous.

<sup>1</sup> $V_e + N_h$  and  $V_f + \text{Adj}_t$  occur only with "il" as the impersonal pronoun subject.

<sup>2</sup> $V_{ty}$  occurs only with "il" as its impersonal pronoun subject.

<sup>3</sup>C  $\rightarrow$  V + (complements).



$N_S$  ----> sommeil, soif, mal, faim, peur, etc.

PS 23  $VB_i$  ----->  $NP_1 + V_i + Prep-NP_2$   
 Je vais à l'école.

The phrase structure rules are usually arranged in such a way that they may be applied one after the other without the necessity to return to an earlier rule. A single rule may be applied several times. The PS rules presented in this chapter provide the means of generating morpheme strings which occur in the transformations described in the following chapters.