Tagalog Semantics
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TAGALOG SEMANTICS

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1. Introduction

What are the ways in which languages may differ from each other semantically?

Consider a single Tagalog word, *bangkero* and its closest English equivalent, *boatman*. A lexicologist might note that the extension of *bangkero* is somewhat more restricted than that of its English counterpart, in that the boats in question must be of a particular size and shape. A grammarian might then observe that since *bangkero* is unmarked for number, it is more general than its purported English translation *boatman*, which is marked as singular. Most studies of cross-linguistic variation in semantics are concerned with patterns such as these, either lexical, or pertaining to grammatical categories such as number, gender, and tense-aspect.

However, languages may differ from each other semantically in ways more subtle yet more fundamental than these. In spite of the above differences between *bangkero* and *boatman*, most lexicologists would still agree that these two words are, up to a point, "notionally equivalent", sharing a common core meaning of person associated with a water vessel. Moreover, most semanticists would characterize the meanings of *bangkero* and *boatman* as objects, in contrast to the meanings of, say, *bumalik* and its counterpart *returned*, which would be characterized as activities. In fact, many semanticists would go one step further and conclude that the meanings of *bangkero* and *boatman* belong to the same logical type, for example that of properties, as opposed to those of *bumalik* and *returned*, belonging to a different logical type, for example that of predicates.

This paper explores the possibility that the latter conclusion may be unwarranted, suggesting that languages may vary also with respect to their logical types. More specifically, this paper presents some preliminary evidence in support of the following general claim:

(1) *Notional-Logical Diversity*
Notionally equivalent expressions may belong to different logical types in different languages.

For example, whereas English *boatman* and *returned* belong to distinct logical types, Tagalog *bangkero* and *bumalik* may belong to the same logical type.

The logical type of a particular expression is not readily accessible to introspection in the same way as various other meaning properties often are. Instead, it can only be established within the framework of an articulated theory of semantics. However, semantic theory is an integral part of a theory of grammar, one of whose major goals is to specify form-meaning correspondences. In particular, the postulation of logical types within semantic theory is often based on the working hypothesis that logical types correspond in one-to-one fashion with syntactic categories. Thus, in order to establish the logical types of a language, it is necessary, among other things, to determine its range of syntactic categories.

The bulk of this paper is accordingly concerned with syntactic matters. Section 2 sketches a formal theory of syntactic categories designed to account for patterns of cross-linguistic variation in syntactic category inventories. Section 3 presents an exploration of the inventory of syntactic categories of Tagalog, lending support to the following conclusion:

(2) *The Syntactic Category Inventory of Tagalog*
In Tagalog there is only one open syntactic category.

Section 4 provides some tentative semantic evidence in favour of the following further conclusion:

(3) *The Logical Type Inventory of Tagalog*
In Tagalog there is only one open logical type.

This in turn supports the existence of notional-logical diversity, in accordance with (1) above.

2. Syntactic Categories in Universal Grammar

The principles governing the putting together of words to form sentences differ in numerous fundamental ways from the principles determining the internal constitution of words, and from the principles specifying the ways in which sentences group together to form larger texts: it is this commonplace observation that underlies the autonomy of syntax vis à vis morphology on the one hand and discourse on the other. Moreover, the principles governing the form of sentences differ in many crucial aspects from the principles determining the structure of sentence meanings: it is this equally well-known fact that motivates the autonomy of syntax with respect to semantics[1].

The autonomy of syntax motivates definitions of syntactic categories making exclusive reference to syntactic properties. Such categories may be based on the following membership criteria:

(4) *Syntactic Category Membership Criteria*
- (a) For x to be a member of a syntactic category X, x must be a word or string of words.
- (b) For x and y to be members of the same syntactic category X, x and y must share an array of syntactic properties, such as distributional privileges, and participation in relations such as government, binding, and agreement.

Criterion (4a) asserts that syntactic trees stop at words: terminal nodes must contain exactly one word each. It thus rules out items such as the English past or present tense affixes as possible members of a syntactic category, since they are formally part of morphology, not syntax. (However, it leaves open the possibility that a word undergo cliticization to another word, or that it be phonologically null.) Criterion (4b) specifies that membership in syntactic categories is determined solely by shared syntactic behaviour. Morphological criteria are irrelevant; for example, if English has a set of words that may be inflected for tense, this constitutes a morphological word class, not a syntactic category. Similarly, semantic criteria play no role whatsoever; for example, if English has a class of words that denote activities, this constitutes a semantic, not a syntactic category[2].

Syntactic categories are thus sets of words and word strings sharing syntactic properties. Like other categories, in grammar and elsewhere in cognition, they comprise prototypical members, exhibiting a large number of shared properties, and less typical members, displaying a smaller number of shared properties. Moreover, different syntactic categories may exhibit different degrees of productivity. Open syntactic categories, usually based on "content words", may contain an infinite set

of members, whereas closed syntactic categories, often based on "function words", typically contain a small number of members.

Universal Grammar provides a set of syntactic categories from which particular languages may choose. Syntactic categories are of the form X^n, where X is some symbol, and n is a non-negative integer. (When n=0, the superscript may sometimes be omitted.) The set of syntactic categories in Universal Grammar is defined in terms of a single initial or primitive syntactic category S^0, and two category-formation operators, a unary operator *kernel* and a binary operator *slash*, which apply to syntactic categories to form new syntactic categories:

(5) *Syntactic Category Formation (Paradigmatic)*
- (a) *Initial Syntactic Category:* S^0
- (b) *Category Formation Operators:*
  - (i) *Kernel:* For any category X^n, X^{n+1} is a category, "the kernel category of X^n".
  - (ii) *Slash:* For any two categories X and Y, X/Y is a category, "X slash Y".

For example, from the initial category S^0, application of kernel will form the category S^1, while application of slash will yield the category S^0/S^0. These two categories may then form the basis for further applications of these operators. For example, application of kernel to S^1 will form the category S^2, while application of kernel to S^0/S^0 will yield the category $(S^0/S^0)^1$; similarly, applications of slash to S^0, S^1 and S^0/S^0 will produce categories such as S^0/S^1, S^1/S^0, $S^0/(S^0/S^0)$, and so forth. As is evident, the number of syntactic categories is infinite[3].

The names of syntactic categories encode their syntactic behaviour, in accordance with the following two rules:

(6) *Syntactic Category Combination (Syntagmatic)*
- (a) *Slash Combination:* $X \rightarrow \{Y, X/Y, X/Y \ldots\}$
- (b) *Identity Combination:* $X \rightarrow \{X, X \ldots\}$

Rule (6a), Slash Combination, states that an X may consist of one Y plus one or more X/Ys: for example, an S^0 may consist of one S^1 plus one or more S^0/S^1s, alternatively it may consist of one S^0 plus one or more S^0/S^0s. Rule (6b), Identity Combination, specifies that an X may consist of two or more Xs: for example, an S^0 may consist of several S^0s.

The Syntactic Category Combination Rules are associated with specific values of headedness. If $X = \{Y, X/Y, X/Y \ldots\}$, in accordance with Slash Combination, then Y is the head of X. (A corollary of this is that whenever Y is the kernel category of X and the daughter of X, then Y is the head of X.) However, if $X = \{X, X \ldots\}$, in accordance with Identity Combination, then either (a) one of the daughter Xs is head, or (b) the construction is headless.

For any syntactic category X, the parents of X are the categories from which X is formed by a single application of a category-formation operator. Two cases may be distinguished. First, if X is the kernel category of Y, for some Y, then Y is the single parent of X. For example, S^0 is the single parent of S^1. Secondly, if X is of form Y/Z, for some Y and Z, then Y and Z are the two parents of X. For example, S^0 and S^1 are the two parents of S^0/S^1. Generalizing from here, for any category X, the ancestors of X are the categories from which X is formed by one or

more applications of category-formation operators. For example, the ancestors of $(S^0/S^0)^1$ are S^0/S^0, its only parent, and S^0. Note, specifically, that the initial category S^0 is the ancestor of every syntactic category.

The above framework sets the stage for the formulation of constraints on permissible syntactic category inventories in Universal Grammar:

(7) *Constraints on Syntactic Category Inventories*

(a) *The Ancestral Constraint*
If X is a syntactic category in a language L, then all X's ancestors are syntactic categories in L. Moreover, if X is an open syntactic category in L, then all X's ancestors are open syntactic categories in L.

(b) *The Construction Constraint*
If X and Y are syntactic categories in a language L, then L must have constructions formed from X and Y.

(c) *The Kernel Category Constraint*
If X/Y is an open category in a language L, then Y is the kernel category of X.

For example, in accordance with the first clause of the Ancestral Constraint in (7a), $\{S^0\}$, $\{S^0,S^1\}$, and $\{S^0,S^1,S^0/S^1\}$ are possible syntactic category inventories, while $\{S^1,S^0/S^1\}$ is not, since S^0, ancestor to both S^1 and S^0/S^1, is lacking. Furthermore, taking $\{S^0,S^1,S^0/S^1\}$ as the inventory of syntactic categories, the second clause of the Ancestral Constraint allows for the possibility that S^0 and S^1 be open but S^0/S^1 closed, while ruling out the possibility that S^0 and S^1 be closed but S^0/S^1 open. In fact, the Ancestral Constraint entails that the initial category S^0 is a member of every permissible syntactic category inventory. The Construction Constraint in (7b) rules out inventories such as, for example, $\{S^0,S^1\}$, since the rules of Syntactic Category Combination stated in (6) would not permit a single construction to contain both S^0 and S^1 without a further syntactic category, such as S^0/S^1. Finally, the Kernel Category Constraint in (7c) specifies, for example, that among such categories as S^0/S^1, S^1/S^0, and $S^0/(S^0/S^0)$, only S^0/S^1 may be open. Together, the above three constraints effect a substantial restriction of the possible syntactic category inventories in Universal Grammar.

The syntactic categories proposed herein are motivated exclusively by syntactic behaviour, and hence do not correspond to familiar syntactic categories such as noun, verb, adjective, preposition, sentence, and so forth, justified by a combination of morphological, syntactic, and semantic criteria[4]. Moreover, since syntactic behaviour is often less transparent than either morphological or semantic properties, the determination of syntactic category membership can only be achieved through careful grammatical analysis. It is to this task that we now turn.

3. Syntactic Categories in Tagalog

Virtually all words and word strings in Tagalog belong to the single open syntactic category S^0. In addition, however, a small class of words belong to the closed syntactic category S^0/S^0. That is to say, Tagalog has only one open syntactic category, and only one additional closed syntactic category[5].

In accordance with criterion (4b) above, this means that almost all words and word strings exhibit similar syntactic behaviour, with regard to distributional privileges and participation in relations such as government, binding, and agreement. Indeed, this seems to be the case[6].

In particular, since practically all words and word strings belong to the same syntactic category, *anything can go anywhere*. From an Anglocentric perspective, at least, this is, perhaps, the most salient feature of Tagalog syntax.

Some evidence supporting the claim that anything can go anywhere is presented in (8) - (10) below, illustrating three of the most basic construction types in Tagalog. Examples (8) - (10) provide templates into which words or phrases may be inserted. Under each template, examples are given of words traditionally assumed to belong to different syntactic categories; these are marked as "E-nouns", "E-verbs" and "E-adjectives" respectively, where the prefix "E-" stands for "English". That is to say, these are words whose equivalents in English are nouns, verbs and adjectives respectively, and are commonly assumed to be so also in Tagalog. However, as evidenced in (8) - (10), E-nouns, E-verbs and E-adjectives can occur anywhere in the templates: the resulting constructions, listed below each template, are all grammatical[7].

Example (8) illustrates the "predicate-argument" construction, characterized by a template of the form *P ang B*, where *P* and *B* are arbitrary S^0s, and *ang* is a grammatical marker associated with *B*[8]:

(8) _____ ang _____

pulubi	bangkero	*E-nouns*
beggar	boatman	
pinatay	bumalik	*E-verbs*
PT:PFV-kill	AT:PFV-return	
mapayat	mabait	*E-adjectives*
STAT-thin	STAT-kind	

(a)	Pulubi ang bangkero	"The boatman is a beggar"
(b)	Pulubi ang bumalik	"The one who returned is a beggar"
(c)	Pulubi ang mabait	"The kind one is a beggar"
(d)	Pinatay ang bangkero	"The boatman was killed"
(e)	Pinatay ang bumalik	"The one who returned was killed"
(f)	Pinatay ang mabait	"The kind one was killed"
(g)	Mapayat ang bangkero	"The boatman is thin"
(h)	Mapayat ang bumalik	"The one who returned is thin"
(i)	Mapayat ang mabait	"The kind one is thin "

As evidenced by constructions (8a-i), E-nouns, E-verbs and E-adjectives may occur in either position in the template; all nine combinations are grammatical. Moreover, there seems to be no evidence to suggest that some of the combinations are more complex, unusual, or highly marked than others[9].

Example (9) illustrates the "modifier" construction, involving a template of the form *P -ng/na B*, where *P* and *B* are arbitrary S^0s, and *-ng/na* is the ligature[10]:

(9) _____ -ng/na _____

pulubi	bangkero	*E-nouns*
beggar	boatman	
pinatay	bumalik	*E-verbs*
PT:PFV-kill	AT:PFV-return	
mapayat	mabait	*E-adjectives*
STAT-thin	STAT-kind	

(a)	pulubing bangkero	"a beggar who's a boatman" "a boatman who's a beggar"
(b)	pulubing bumalik	"a beggar who returned" "one who returned who's a beggar"
(c)	pulubing mabait	"a kind beggar" "a kind one who's a beggar"
(d)	pinatay na bangkero	"one who was killed who's a boatman" "a boatman who was killed"
(e)	pinatay na bumalik	"one who was killed who returned" "one who returned who was killed"
(f)	pinatay na mabait	"one who was killed who's kind" "a kind one who was killed"
(g)	mapayat na bangkero	"a thin one who's a boatman" "a thin boatman"
(h)	mapayat na bumalik	"a thin one who returned" "one who returned who's thin"
(i)	mapayat na mabait	"a kind thin one" "a thin kind one"

Again, as evidenced by constructions (9a-i), E-nouns, E-verbs and E-adjectives may occur in either position in the template; all nine combinations are grammatical. In fact, each of the constructions is ambiguous, and can be interpreted either as head-followed-by-modifer (as in the first translation), or as modifier-followed-by-head (as in the second translation)[11].

Example (10) illustrates constructions containing the marker *ng*, associated with a template of the form *P ng B*, where *P* and *B* are arbitrary S^0s:

(10) _____ ng _____

pulubi	bangkero	*E-nouns*
beggar	boatman	
pinatay	bumalik	*E-verbs*
PT:PFV-kill	AT:PFV-return	
mapayat	mabait	*E-adjectives*
STAT-thin	STAT-kind	

(a)	pulubi ng bangkero	"a boatman's beggar"
(b)	pulubi ng bumalik	"one who returned's beggar"
(c)	pulubi ng mabait	"a kind one's beggar"
(d)	pinatay ng bangkero	"killed by a boatman"
(e)	pinatay ng bumalik	"killed by one who returned"
(f)	pinatay ng mabait	"killed by a kind one"
(g)	mapayat ng bangkero	"a boatman's thin one"
(h)	mapayat ng bumalik	"one who returned's thin one"
(i)	mapayat ng mabait	"a kind one's thin one"

In traditional terminology, *ng* is characterized, alternatively, as either a "case marker", mediating between verb and noun, or a "genitive marker", connecting two nouns. However, such a dual characterization is an artifact of an unwarranted distinction between verbal and nominal categories. Thus, as evidenced by constructions (10a-i), E-nouns, E-verbs and E-adjectives may occur in either position in the *ng* template; all nine combinations are grammatical.

Examples (8) - (10) show that E-nouns, E-verbs and E-adjectives may occur in any position in three basic constructions in Tagalog. Similar facts hold also for E-determiners, E-quantifiers, E-prepositional-phrases, E-verb-phrases, E-sentences, and so forth. Moreover, a similar freedom obtains with respect to a variety of other basic and more complex constructions. Thus, *anything can go anywhere*; this in turn supports the claim that virtually all words and word strings in Tagalog belong to a single open syntactic category S^0.

The existence of a single open syntactic category S^0 in Tagalog underlies a variety of syntactic properties that are unusual from a cross-linguistic, typological perspective. The first such property is free constituent order. Although scrambling of the Warlpiri variety is not possible -- Tagalog provides ample evidence for the existence of hierarchic binary-branching constituent structure -- the relative order of sister constituents is quite unconstrained. Consider the following examples, providing further instantiations of the "modifier" construction in template (9) above:

(11) (a) itong bangkero *E-noun and E-demonstrative*
TOP:this-LIG boatman
(b) bangkerong ito
boatman-LIG TOP:this
"this boatman"

(12) (a) mapayat na bangkero (= (9g)) *E-noun and E-adjective*
STAT-thin LIG boatman
(b) bangkerong mapayat
boatman-LIG STAT-thin
"thin boatman"

(13) (a) nasa bahay na bangkero *E-noun and E-prepositional-phrase*
in house LIG boatman
(b) bangkerong nasa bahay
boatman-LIG in house
"boatman in the house"

(14) (a) pinatay na bangkero (= (9d)) *E-noun and E-relative-clause*
PT:PFV-kill LIG boatman
(b) bangkerong pinatay
boatman-LIG PT:PFV-kill
"boatman who was killed"

Examples (11) - (14) illustrate the relative order of E-nouns modified by E-determiners, E-adjectives, E-prepositional-phrases and E-relative-clauses respectively[12]. While in English and in most other languages, the relative order of nouns and their modifiers is fixed, in Tagalog, as shown above, the corresponding orders are quite free. The reason, of course, is that Tagalog does not have nouns, determiners, adjectives, prepositional phrases and relative clauses: they are all S^0s.

The second unusual property of Tagalog resulting from the existence of a single open syntactic category is the absence of grammatical relations such as subject and object. Consider the following constructions, illustrating the "predicate-argument" template in (8) above:

(15) (a) Sumulat ang bata
AT:PFV-write TOP child
"The child wrote"

(b) Isinulat ang liham
PT:PFV-write TOP letter
"(Someone) wrote the letter"

(c) Sinulatan ang pangulo
DT:PFV-write TOP president
"(Someone) wrote to the president"

(d) Pinagsulatan ang mesa
LT:PFV-write TOP table
"(Someone) wrote on the table"

(e) Ipinansulat ang lapis
IT:PFV-write TOP pencil
"(Someone) wrote with the pencil"

Example (15) presents a typical paradigm in which the stem *sulat* "write" is marked with five different voice affixes determining the thematic role of the *ang*-phrase: actor, patient, direction, locative and instrumental respectively. However, whereas in English and most other languages, the unmarked voice associates actor with topic, as in (15a), in Tagalog, if any of the voices is unmarked, it is that which associates the patient with topic, as in (15b)[13]. Thus, typical subject properties such as actorhood and topichood do not pick out a unique expression; similarly, typical object properties fail to converge. These observations have accordingly led some scholars to suggest that Tagalog lacks the familiar grammatical relations of subject and object[14].

The absence of grammatical relations in Tagalog is a straightforward consequence of the absence of distinct open syntactic categories. Grammatical relations result from a verb governing its nominal arguments. Accordingly, if there are no verbs or nominal arguments, there can be no government, and hence no grammatical relations. The renowned voice affixes of Tagalog may be viewed as an alternative means for expressing thematic roles, in the absence of an ordinary nominal case marking system.

The third noteworthy property of Tagalog resulting from the existence of a single open syntactic category is the absence of NP-movement: this is a straightforward consequence of the absence of NPs. Thus, WH-question words, although usually construction-initial, are actually in situ, in the first, or so-called "predicate" position of the template illustrated in (8) above:

(16) (a) * Kanino$_i$ ang sumulat ang bata ng liham [e$_i$]
OBL-who TOP AT:PFV-write TOP child DIR letter

(b) * Kanino$_i$ ang isinulat ng bata ang liham [e$_i$]
OBL-who TOP PT:PFV-write DIR child TOP letter

(c) Sino ang sinulatan ng bata ng liham
TOP-who TOP DT:PFV-write DIR child DIR letter
"Who did the child write a letter to?"

Similarly, instead of relative clauses, a complex but gapless S^0 modifies its head in accordance with the template illustrated in (9) above:

(17)	(a)	*	pangulong$_i$	sumulat	ang	bata	ng	liham [e$_i$]
			president-LIG	AT:PFV-write	TOP	child	DIR	letter
	(b)	*	pangulong$_i$	isinulat	ng	bata	ang	liham [e$_i$]
			president-LIG	PT:PFV-write	DIR	child	TOP	letter
	(c)		pangulong	sinulatan	ng	bata	ng	liham
			president-LIG	DT:PFV-write	DIR	child	DIR	letter

"the president that the child wrote a letter to"

In both cases, it is of course the productive voice affixes that prevent massive loss of expressive power, permitting phrases of various thematic roles -- in (16) and (17) above the direction -- to be questioned and relativized.

Thus, as argued in this section, almost all words and word strings in Tagalog belong to a single open syntactic category S^0. The only exception is a set of clitics, consisting of 15 person forms, or E-pronouns, and 18 other forms with variegated meanings, such as *ba*, forming yes-no questions; *po* indicating politeness; *na*, marking aspect; and *din*, meaning "also"[15]. The most salient characteristic of these clitics is that they typically occur in Wackernagel's sentence-second position. These clitics accordingly belong to the closed syntactic category S^0/S^0; in accordance with the Slash Combination rule in (6a), they may combine with S^0s to yield other S^0s[16]. Thus, the syntactic category inventory of Tagalog consists of the open syntactic category S^0 and the closed syntactic category S^0/S^0.[17]

4. Logical Types in Tagalog

Following are three hypotheses regarding the relationship between syntactic categories and semantic interpretation, presented in order of decreasing strength:

(18) *Absolute Isomorphism Hypothesis*
For any syntactic category X, the meanings associated with X are identical for all languages possessing X.

(19) *Prototypical Isomorphism Hypothesis*
For any syntactic category X, the prototypical meanings associated with X are identical for all languages possessing X.

(20) *Logical-Type Isomorphism Hypothesis*
For any syntactic category X, the logical type associated with X is identical for all languages possessing X.

The Absolute Isomorphism Hypothesis is trivially false. The Prototypical Isomorphism Hypothesis is also false, though perhaps non-trivially so. Consider the category S^0/S^0. In Tagalog, as noted above, S^0/S^0 is a closed category of semantically diverse clitics, whose only prototypical meanings are those of the personal forms. However, in English, S^0/S^0 is an open category, corresponding roughly to sentential adverb, which contains, among its prototypical members, expressions of place, time and manner. Thus, contrasting the category S^0/S^0 in Tagalog and English, the Prototypical Isomorphism Hypothesis is refuted.

However, the third and weakest hypothesis, the Logical-Type Isomorphism Hypothesis, derives some tentative support from various facts about Tagalog semantics. Among other things, the Logical-Type Isomorphism Hypothesis predicts that the all S^0 expressions in Tagalog will be interpreted just as S^0 expressions in English, namely as propositions. In fact, this seems to be the case. Consider the following examples:

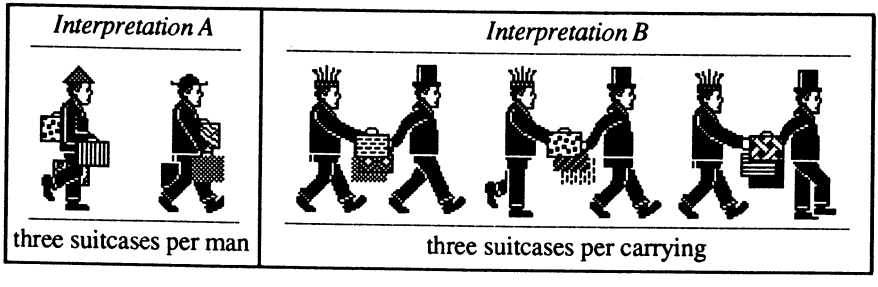
(21) (a) Bumalik *E-verb*
AT:PFV-return
"(Someone) returned"

(b) (Si) Bong (o) *E-proper-noun*
PERS.TOP Bong EXCL
"(Someone is) Bong" / "Here's Bong"

As S^0s, virtually all single words in Tagalog may stand alone. However, whereas (21a), with E-verb *bumalik*, looks superficially like "pro-drop" constructions in other languages, (21b), with E-proper-noun *Bong*, resembles nothing whatsoever in familiar "pro-drop" languages. Nevertheless, with optional *si* (the personal variant of *ang*) and *o* (an exclamation "look!"), (21b) is the most natural way in Tagalog to say "Here's Bong". Accordingly, just as S^0 *bumalik* expresses a complete proposition, "x returned", so S^0 *Bong* expresses a complete proposition, "x is Bong". Thus, although the membership of S^0 in Tagalog and English is very different, the logical type of S^0 in Tagalog and English appears to be the same.

Further evidence for the Logical-Type Isomorphism Hypothesis derives from the interpretation of sentences in which *bawat*[18] "every" occurs in a construction resembling English "*each*-shift"[19]. Consider the following Tagalog sentence and its two possible interpretations[20]:

(22) Nagdala ng *bawat* tatlong maleta ang dalawang lalaki
AT:PFV-carry DIR every three-LIG suitcase TOP two-LIG man
(a) *Interpretation A:* "Two men carried three suitcases each"
(b) *Interpretation B:* "Two men carried (the) suitcases three at a time"



Tagalog sentence (22) thus contrasts semantically with its English calque in (23), which is unambiguous, having only Interpretation A -- Interpretation B being unobtainable:

(23) Two men carried three suitcases *each*

The contrast between (22) and (23) may be represented as follows:

(24) (a) Nagdala ng [bawat]$_i$ tatlong maleta [ang dalawang lalaki]$_i$ A
(b) [Nagdala]$_i$ ng [bawat]$_i$ tatlong maleta ang dalawang lalaki B

(25) (a) [Two men]$_i$ carried three suitcases [each]$_i$ A
(b) * Two men [carried]$_i$ three suitcases [each]$_i$ B

In Tagalog, *bawat* may take as its antecedent either *ang dalawang lalaki* "two men", as in (24a), yielding Interpretation A, or else *Nagdala* "carried", as in (24b), yielding Interpretation B. However, in English, *each* may only take *Two men* as its antecedent, as in (25a), yielding Interpretation A: *carried* is unavailable as a potential antecedent, as in (25b), and hence Interpretation B is unobtainable. These facts suggest that whereas in English, *Two men* and *carried* belong to different logical types, differing with respect to antecedent eligibility, in Tagalog, *ang dalawang lalaki* and *Nagdala* belong to the same logical type, which may be interpreted as the antecedent of *bawat*. Thus, given that these two expressions are both S^0s, the above facts provide further support for the Logical-Type Isomorphism Hypothesis.

In accordance with the preceding observations, the following tentative logical forms may be proposed for some basic constructions in Tagalog:

(26)	*construction*	*logical form*	
(a)	B	B(x)	
(b)	P ang B	P(x|B(x))	(template (8))
(c)	P -ng/na B	(P|P(y|B(y)))(x) or (B|B(y|P(y)))(x)	(template (9))
(d)	P ng B	(P/(y|B(y)))(x)	(template (10))

As specified in (26a), a single word B has the logical form B(x), a predicate applying to a free variable. For example, *bangkero* means "x is a boatman", *bumalik* means "x returned", *mabait* means "x is kind", and *Bong* means "x is Bong". As suggested in (26b-d), larger phrases are associated with more complex logical forms, involving a relativizational operator "|" (read: "such that") and an associational operator "/" (read: "of").

The preceding observations suggest that Tagalog expressions such *bangkero*, *bumalik*, *mabait*, even *Bong* may belong to logical types different from their notional equivalents *boatman*, *returned*, *kind*, and *Bong* in English. Thus, Tagalog and English exhibit Notional-Logical Diversity, as defined in (1). In doing so, they illustrate one of the subtle but fundamental ways in which languages may differ from each other semantically.

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Footnotes

[1]Of course, in addition to principles unique to syntax and thereby justifying its autonomy in relation to morphology, discourse and semantics, there may also exist principles shared by syntax and by morphology, discourse and/or semantics (for example, those of x-bar structure -- see Gil 1985). In fact, a substantive parallel between syntax and semantics is provided by the assumption, mentioned above, that syntactic categories and logical types are in one-to-one correspondence.

[2]Considerations of space preclude a discussion of the ways in which the notion of syntactic category outlined above is similar to and/or different from various other notions of syntactic category that have been proposed in the course of linguistic studies. Suffice it to say that the generative enterprise, although adopting the autonomy of syntax as its motto, has largely failed to practice what it preaches. Thus, in the "Aspects" model, syntax and morphology are conflated, in that the terminal nodes of trees contain formatives, rather than words; in the "Generative Semantics" approach, syntax and semantics are identified, through the positing of abstract, semantically-motivated deep structures; and in the "Government and Binding" framework, syntax, morphology, and semantics are all brought together at the level of Logical Form, with "syntactic categories" bearing names such as "inflection" and "determiner" accurately reflecting their morphological and semantic provenance. Of course, the conflation of morphology, syntax, and semantics is hardly unique to the generative tradition. Thus, the definition of, say, verb as a part of speech containing words that may be inflected for tense and that characteristically denote activities can be traced back to the grammarians of antiquity.

[3]Again, limitations of space preclude an adequate acknowledgement of the sources underlying the above proposal. In brief, the kernel operator is an "upside-down" version of x-bar-theoretic category formation, starting at the top and working downwards, whereas the slash operator resembles that commonly assumed within categorial grammar, albeit allowing for multiple branching.

[4]For example, whereas in a simple intransitive English expression such as *John sings*, *John sings* belongs to the category S^0, *sings* to the category S^1, and *John* to the category S^0/S^1, in the corresponding sentence in Abkhaz, *John sings* and *sings* both belong to the category S^0, while *John* belongs to the category S^0/S^0. This reflects the observation that in Abkhaz, as in many other languages, words corresponding to *sings* may function as complete sentences, while words corresponding to *John* have some of the characteristics of adjuncts.

[5]Within current linguistic theories, many researchers, for example Carrier-Duncan (1985) in GB, and Kroeger (1991) in LFG, either argue or else take for granted that Tagalog possesses the same rich inventory of syntactic categories generally assumed unquestioningly for all languages. However, a number of scholars, for example Schachter and Otanes (1972), Gil (1982, chapter 6), Himmelmann (1991), and Shkarban (1992), note that various syntactic categories are less readily differentiated in Tagalog than in other languages. The present claim, first put forward in Gil (1992), is more far-reaching, in that it expressly denies the viability of such categories altogether. In more common parlance, what is being argued here is that Tagalog does not distinguish between syntactic categories such as noun, verb, adjective, preposition, and sentence, nor does it distinguish between lexical and phrasal categories.

[6]The claim that Tagalog has but a single open syntactic category is a non-existence claim, namely that there is no substantial set of syntactic rules and principles

converging on a subset of words and word strings that is significantly smaller than the set of all words and word strings in Tagalog. Claims of non-existence are risky propositions: one has to look everywhere to be absolutely certain that what one seeks does not exist. I have not had occasion to look everywhere; however, I have looked in what I consider to be some of the more likely places, and found no evidence whatsoever for distinguishing between two or more open syntactic categories in Tagalog. The claim that Tagalog has a single open syntactic category, S^0, is accordingly put forth as an interim conclusion, to be supported or perhaps modified by future investigation.

[7]In the morpheme-by-morpheme glosses, the following abbreviations are used: AT "actor topic"; DIR "direct (case)"; DT "direction topic"; EXCL "exclamation"; IT "instrumental topic"; LIG "ligature"; LT "locative topic"; OBL "oblique"; PERS "personal"; PFV "perfective"; PT "patient topic"; STAT "stative"; TOP "topic".

[8]While some scholars have characterized *ang* as a subject or nominative-case marker, other scholars argue that it is more appropriately analyzed as a topic marker (as is arbitrarily assumed in the morpheme-by-morpheme glosses); see Manaster-Ramer (1991) for an extensive survey of the positions on this issue.

[9]Traditionally, descriptions of Tagalog have assumed that sentences such as (8d), with an E-verb in predicate position and an E-noun as its argument, constitute the unmarked instantiations of template (8), whereas sentences such as (8b), with an E-noun in predicate position and an E-verb as its argument are more highly marked, with a "nominal" predicate and a "verbal" argument having undergone "zero-nominalization". However, such descriptions would seem to be the result of viewing the data through Anglocentric eyes; Tagalog itself offers no evidence that I am aware of for such analyses.

[10]The form of the ligature is determined morphophonemically: a suffix *-ng* if the preceding word ends in a vowel, *-n*, or *-ng*; a free form *na* otherwise.

[11]In some cases, one of these interpretations is more readily available than the other; these factors need not detain us here.

[12]As suggested in (9) above, the examples in (11) - (14) may allow an additional interpretation, in which the E-noun is the modifier of the E-determiner, E-adjective, E-prepositional-phrase and E-relative-clause.

[13]See, for example, De Guzman (1976, 1979), Cena (1977), and Gil (1984).

[14]See, for example, Schachter (1976, 1977), and Gil (1984). Other scholars, though, argue that Tagalog does have subjects and objects, identifying these with either pragmatic roles such as topic and non-topic, or thematic roles such as agent and patient. However, under any analysis, Tagalog grammatical relations are quite different from those in other, more familiar languages.

[15]See Schachter and Otanes (1972:183-193,411-435) for detailed discussion.

[16]However, a subset of the clitics, the person forms, may also occur in S^0 positions: these words enjoy dual category membership, in S^0 and S^0/S^0.

[17]In addition, Tagalog possesses a number of other "function words", including *ang*, *-ng/na* and *ng* illustrated in (8) - (10). However, in Gil (1990), phonological evidence is provided suggesting that these items are more appropriately considered as affixes, rather than independent words. Hence, in accordance with criterion (4a), they are not eligible for syntactic category membership.

[18]Interestingly, *bawat* would appear to be the only Tagalog quantifier that does not have the distributional properties of an S^0.

[19]Apparently, this construction is available for only some speakers of Tagalog; others judge it to be ungrammatical. However, all speakers who accept sentences such as (22) judge them to be ambiguous in the way described below.

[20]In the pictorial representations of Interpretations A and B, distinct men are identified by their hats, while distinct suitcases are indexed by Macpaint patterns.

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