

CHOMSKY'S UNIVERSAL GRAMMAR: A CHRONOLOGICAL AND CRITICAL OVERVIEW

*The greatest danger in scholarship,
and perhaps especially in linguistics,
is not that the individual may fail to
master the thought of a school but that
a school may succeed in mastering the
thought of the individual.*

Geoffrey Sampson

1. INTRODUCTORY REMARKS

“Universal Grammar” or UG has been a popular term since the early 1980s, or more precisely since the publication of Chomsky’s (1981) *Lectures on Government and Binding*. Despite its popularity, however, the term has met diverse reactions. Because UG theory deals with highly abstract linguistic principles, it is mostly comprehensible to few scholars of formal linguistics but often partly or even totally puzzling to many students of language. Moreover, because of its big claims in linguistic theorizing, UG may have been taken as a whole truth, a partial truth, or even an abstract nonsense. Among hard-core Chomskyans, UG is seen as the best possible theory for its (claim of) explanatory adequacy. Among those who see language both as a social construct and a mental reality, UG may at best be taken as half a truth, because it deals with language only as a psychological fact while ignoring social aspects of language. Among those who commit themselves to “linguistics of particularity” (e.g., Becker 1995), UG remains up there in the abstract and fails to show the local significance of language as used in its cultural context. Taking into account these diverse reactions to UG, this article presents a brief historical and critical overview of UG, highlighting its inception and its changing characteristics through half a century of its development, and taking a closer look at its theoretical claims so as to prove that not all of them are justified empirically.

2. UNIVERSAL GRAMMAR IN A CHRONOLOGICAL PERSPECTIVE

One important key word in the generative enterprise is “theory”, and Chomsky is best at linguistic theorizing. In Chomskyan linguistics today, UG holds the center of generative theory. However, UG, as now understood in the generative school, did not come into being in a sudden blow; but rather it had taken a slow process of becoming. Below I will describe how and explain why UG came into existence, and point out each phase in which UG has undergone internal changes as generative theory has undergone revision and reformulation.

2.1. Toward Universal Principles

The so-called “Chomskyan Revolution” began in 1957, when Chomsky published his now monumental classic *Syntactic Structures*. The revolutionary ideas, still relevant today as seen against its historical background, loom large in at least four important ways. First, syntax moves to the center stage of linguistics, replacing phonemics and morphemics which were the hallmarks of American Structuralism. Chomsky (1957: 11) defines syntax as “the study of principles and processes by which sentences are constructed in particular languages”. Notice that the phrase “principles and processes” in the definition suggest a

cognitive or mental activity, since for him “a grammar mirrors the behavior of the speaker who ... can produce or understand an indefinite number of sentences (p. 15)”. A careful reading of “grammar” defined that way reveals the seminal idea of *linguistic competence*.

Second, the introduction of the transformational component to syntactic description is meant to overcome the weakness of the immediate constituent (IC) analysis; for the IC model fails to see, for example, the inherent relation between active and passive sentences (p. 6). Lingered behind the transformational model are the embryonic ideas of *deep structure* and *surface structure*. The deep structure also peeps secretively behind Chomsky’s exposition of syntactic ambiguity (pp. 87-88), as illustrated by the following examples.

- (1) a. flying planes
b. the shooting of the hunters

Each of these phrases has two possible interpretations, as made explicit in (2).

- (2) a. i. planes which are flying
ii. to fly planes
b. i. the shooting of the hunters (of a tiger)
ii. the (soldier’s) shooting of the hunter

The ambiguity in (1.a) is due to the fact that the verb *fly* can be used either transitively or intransitively, whereas the ambiguity in (1.b) lies in possible omission of the object or subject of *shoot* in the gerundial phrase *the shooting of the hunter*. Syntactically ambiguous constructions are constructions having one surface structure but two or more deep structures. In other words, surface structure and deep structure constitute an inseparable pair of devices necessary for adequate syntactic description, the former referring to observable form and the latter to hidden meaning.

Third, linguistic meaning or semantics, long neglected by Bloomfieldian scholars (see Bloomfield 1933: 140), is now given its due attention. There are “many important correlations, quite naturally, between syntax and semantics” (Chomsky 1957: 108); and “these correlations could form part of the subject matter for a more general theory of language concerned with syntax and semantics and their points of connection” (*ibid.*). However, syntax is “best formulated as a self-contained study independent of semantics” (p. 106). The now well-known linguistic nonsense

- (3) Colorless green ideas sleep furiously (p. 15)

is given as evidence that “grammar is autonomous and independent of meaning” (p. 17). That is, while sentence (3) is semantically ill-formed, it is nonetheless syntactically well-formed. This is to prove that, in an extreme case, syntax may exist without semantics. With regard to their theoretical positions, syntax is given a central role whereas semantics is assigned a marginal position. It is syntax, and not semantics, that “generates” grammatical sentences in a language (p. 13). This is the reason in later development for calling syntax *generative* and semantics *interpretive*.

Fourth and finally, *Syntactic Structures* is best seen as a rigorous attempt to build linguistic theory, and has proven to be a remarkable success. Chomsky claims that the “ultimate outcome of [syntactic] investigations should be a theory of linguistic structure in which the descriptive devices utilized in particular grammars are presented and studied abstractly with no specific reference to particular languages” (p. 11). This statement implies that syntactic description is only a beginning—unlike in the Bloomfieldian school where “description of an individual language is an end in itself” (Sampson, 1980), and hence the name “Descriptive Linguistics”. The upward movement from particular grammars to abstract principles or general grammars goes hand in hand with the

progressive movement from linguistic description to linguistic explanation. These parallel movements are important steps toward theory building, or—using Chomsky’s own words—toward “the explanatory power of linguistic theory” (p. 49).

To recapitulate, lingering behind *Syntactic Structures* are seminal ideas ready to leap up to become vocabulary of concepts in the Chomskyan school: *generative*, *linguistic competence*, *transformation*, *surface structure*, *deep structure*. All of these are key concepts necessary for outlining the centrality of syntax. Indeed, “a grammar of the language L is essentially a theory of L” (p. 49). While the illustrative examples presented in support of theory building are all in English, the book has in it deep insights into establishing general or universal principles in syntactic theory. And a good theory should be internally *simple* (p. 55) and externally meet *conditions of adequacy* (p. 49)—both to be explained shortly.

2.2. Universal and Particular Grammars

The publication of *Aspects of the Theory of Syntax* (1965) signifies the maturity of the new school; it makes the so-called Transformational Generative Grammar a well-established linguistic theory. In this second monumental book, all seminal ideas lingering in *Syntactic Structures* are used explicitly as formal terms. Chomsky (1965: 2-4) claims that linguistic theory is concerned primarily with *linguistic competence*. Loosely defined, linguistic competence means “a specific mental ability that enables humans to produce and understand novel grammatical utterances” (see Fromkin et al. 1997: 70). The actual use of competence in concrete situations is known as *performance*. Just as *deep structure* and *surface structure* are necessary devices for complete and accurate sentence derivation, competence and performance are necessary devices for adequate linguistic description.

The above definition of competence suggests two basic assumptions in Generative Grammar. The first assumption is that human language is fundamentally creative. In the everyday act of speaking or writing, we normally produce or “create” novel grammatical utterances. Similarly, in the act of listening or reading, we assign meaning to utterances which probably we have never encountered before. This is what Chomsky (1966: 3-31) calls “the creative aspect of language use”. Subsequently, he defines language as “an expression of the human mind rather than a product of nature; [it] is boundless in scope and is constructed on the basis of a constructive principle that permits each creation to serve as the basis for a new creative act” (Chomsky 1972: 102). Formally, the constructive principle that accounts for linguistic creativity is represented by PS rules¹ which may recur indefinitely. Moreover, Chomsky (1972: 56) believes that the essential feature of language is not its structure, but its creative use. Metaphorically, language is a mirror of the mind (ibid., pp. ix-x). Since the human mind is essentially creative, human language must be creative too.

The second basic assumption is that language is a mental or psychological fact. This assumption is further confirmed by the statement, “linguistic theory is mentalistic, since it is concerned with discovering a mental reality underlying actual [linguistic] behavior” (p. 4). At this point the term *generative* is helpful. Generative means specifying the rules, or more clearly, making the hidden linguistic rules in the mind explicit. How

¹ A PS (Phrase Structure) rule, formalized as a rewrite rule, is the rule in the form of X → Y. In syntax, the sentence *The boy arrived*, for example, is derived by means of the following PS rules:

S → NP VP
 NP → Det N
 VP → V

does Chomsky do this? He proposes a model (Figure 1) showing how grammatical sentences are generated.

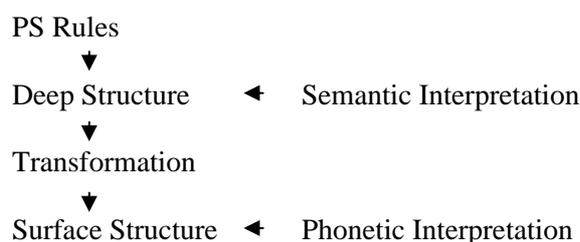


Figure 1. Diagrammatic Representation of Linguistic Competence

It should be noted that this model is a rough outline of linguistic competence. According to this competence model, sentence generation proceeds as follows. PS (Phrase Structure) rules, followed by lexical insertion, produce a kernel sentence at the deep structure (DS). The kernel sentence obtains its meaning or semantic interpretation at the DS. The transformational rules apply, either obligatorily or optionally, to the kernel sentence at the DS, producing the surface structure (SS). The sentence at SS obtains its phonetic interpretation, producing an actual utterance as used in concrete situations.

Notice that *PS Rules*, *Deep Structure*, *Transformation*, and *Surface Structure* in Figure 1 are four major components that constitute **syntax**. The model clearly shows that syntax is given a central position, and hence it is *generative*. On the other hand, **semantics** and **phonology** are assigned marginal position, and hence they are *interpretive*. In other words, in generative theory syntax is central and autonomous, whereas semantics and phonology are marginal and dependent on syntax. The competence model in Figure 1 is assumed to be a general, and hence universal, model of linguistic competence for any speaker-hearer of any language. Of course, since the illustrative examples in *Aspects* are all in English, adjustments of rules are required. For example, PS rules and transformational rules suitable for English may not be suitable for Indonesian, and hence the necessity of rules adjustments.

A relevant question arises: how does linguistic competence come into being? As shown in Figure 1, linguistic competence is exceedingly complex; and yet after approximately three years of exposure to language use, children will normally acquire competence. This curious phenomenon is known as “the logical problem of language acquisition” (see Chomsky 1965: 58). That is, how come human children know so much about language when they are exposed to so little of it? In response to this logical problem, Chomsky (*ibid.*, p. 47) proposes the LAD (*language acquisition device*) hypothesis. The language acquisition device is a psycho-biological disposition which enables human children to acquire language. The LAD is much like a linguistic blueprint. As shown in Figure 2, when exposed to language data, the LAD turns out into grammar or linguistic competence.

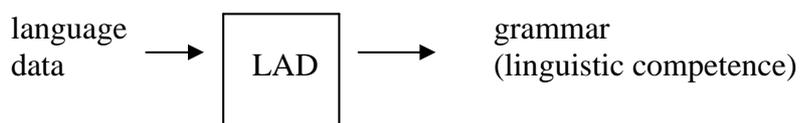


Figure 2. The LAD Hypothesis

The LAD hypothesis is proposed as a probable answer to the logical problem of language acquisition. Linguistic development in the young mind proceeds in a step-by-step manner. The LAD is equal to Grammar zero (G_0). As it is exposed to language use surrounding the child, the following process occurs: $G_0 \rightarrow G_1 \rightarrow G_2 \rightarrow G_3 \rightarrow \dots G_n$. This means exposure to language data triggers or activates innate principles within the LAD, making G_0 develop into G_1, G_2, G_3 , etc., and finally into G_n . G_n is adult grammar or linguistic competence. It is this adult grammar or linguistic competence that is the major concern of generative theory.

As noted at the end of section B.1, a well grounded linguistic theory should be internally *simple* and externally meet *conditions of adequacy*. The simplicity of grammar shows up in Figure 1. The simple model reveals the components of linguistic competence, which operate together in a flow-chart manner so as to generate grammatical sentences. As for external conditions of adequacy, there are two distinct levels: descriptive and explanatory adequacy. Avoiding technicality, *descriptive adequacy* means providing a complete and accurate description of a speaker-hearer's competence. If the description of competence in Figure 1 is complete and accurate, then the theory has accomplished descriptive adequacy. *Explanatory adequacy* means giving theoretically and empirically justified explanation of how humans are capable of acquiring and using language, despite its inherent structural complexity. If the LAD hypothesis proves to be true, then the theory has accomplished explanatory adequacy.

Going back to Figure 2, it is reasonable to assume that every set of language data (to which the LAD is exposed) always belongs to a particular language. Therefore, the resulting grammar is a grammar of a particular language. Chomsky (1972: 28) calls this kind of grammar *particular grammar*. He further maintains that a linguist is always involved in the study of both particular and universal grammar. In his attempt to describe a particular grammar, the linguist is guided by certain assumptions as to the form of possible grammar. If these assumptions are justified on empirical grounds, then they belong to the theory of *universal grammar*. Here we see theoretical abstraction. Particular grammars of individual languages are based on general principles. Taken together, these general principles constitute universal grammar—an essential property of the human mind.

In summary, human language, best seen as a mirror of the mind, is fundamentally creative. As a mental fact, language is represented by linguistic competence; it is a particular grammar resulting from the LAD being exposed to specific language data. In-depth analysis of individual languages will yield particular grammars; and yet deep down in human cognition there are innate principles, believed to be components of universal grammar and serve as basic foundations for particular grammars. Descriptive adequacy refers to complete and accurate description of particular grammars; and explanatory adequacy refers to justifiable explanation of the highly abstract nature of universal grammar.

2.3. LAD as Universal Grammar

In the *Aspects* model, the major concern of Generative Grammar, as noted earlier, was *linguistic competence*. Recall that linguistic competence is the same as G_n or adult grammar of a particular language; and hence linguistic competence equals a *particular grammar*. Since particular grammars of different languages show much greater variation of rules than uniformity of principles, there has been a shift of focus in linguistic research. In line with Chomsky's ambition to attain explanatory adequacy, linguistic investigation since 1980s has been aimed directly at unraveling universal principles

common for all languages. In other words, the goal of linguistic theory is to provide adequate description and explanation of Universal Grammar² (UG). During the 1980s UG was at the center of the so-called Government and Binding (GB) Theory. Similarly, since the mid 1990s UG has remained at the center of the Minimalist Program. Both GB Theory and Minimalism³ are unified by the same approach: Principles-and-Parameters⁴ (P&P) approach.

The enormous change in the goal of linguistic theory (from describing linguistic competence to explaining UG) signifies two theoretical moves. First, generative theory moves deeper in a psychological sense, and hence becomes more strongly mentalistic in its approach. Secondly, generative theory moves to higher abstraction, claiming that UG is modular in its design, consisting of “theories” (such as bounding theory, government theory, theta theory, binding theory, Case theory, and control theory⁵ (Chomsky 1981: 5)) working in a simultaneous and interactive way in the mind so as to produce grammatical utterances. More explanation of these two theoretical moves is presented in order.

The “deep move” shows up, first of all, in the definition of UG itself. Chomsky (1975: 29) defines UG as “the system of principles, conditions, and rules that are elements or properties of all human languages, not merely by accident but by [biological] necessity”. In *Aspects* (Chomsky 1965), the language acquisition device (LAD) was there as a “black box”, a mental device which enables human children to acquire language but unknown as of its properties. Now the deep move clearly suggests that the LAD is “the system of principles, conditions, and rules” (meaning “grammar”) that are “elements or properties of all human languages” (meaning “universal”), determined “by biological necessity” (meaning “innate”). More clearly, Smith (1999: 42) defines UG as “the set of linguistic principles we are endowed with at birth in virtue of being human”. Thus, in the classical approach, the major concern was linguistic competence; but in the P&P approach, the major concern is UG—a new name for the LAD or Grammar₀. The linguistic competence

² The change in spelling from *universal grammar* (in Chomsky 1965; 1975) to *Universal Grammar*, often abbreviated *UG*, (in Chomsky 1981 onward) is worth noting. It indicates that the term obtains greater prominence; it moves from a general term into a proper name; and therefore it is spelled with capitals *U* and *G*.

³ I have presented outlines of GB Theory and Minimalism in a previous paper (Kadarisman 2004). To avoid redundancy and for the sake of simplicity, I will not repeat presenting the outlines here. In the present discussion, the focus is on UG (i.e., the development of its internal structure and the change of its theoretical position), pushing GB Theory and Minimalism to the background.

⁴ The terms “principle” and “parameter” in UG refer to universal rules. A principle is a universal rule in the form of general statement (e.g., the *structure-dependent* principle, “Syntactic operation relies on structural relationships between elements in the sentence rather than on the linear order of items” (Crystal 1991: 332)). A parameter is a universal rule of binary status (e.g., the *head* parameter specifies the positions of heads within phrases: head-first (as in English) or head-last (as in Japanese)) (ibid., p. 249).

⁵ Due to space limitation, I will not give detailed explanation of these theories. Briefly, bounding theory accounts for constraints in NP movement and *wh*-movement; government theory is closely related to Case theory in that both account for case assignment; theta theory deals with semantic roles (such as agent, experiencer, patient) and their assignment; binding theory deals with reference relationships of NPs within a “local domain” (i.e., a sentence or an NP); and control theory deals with the subject of infinitival clauses (e.g. *John want to go* is label bracketed as [[John wants [PRO to go]]. It is worth noting that binding theory is part of semantics in Generative Grammar; theta theory is part of semantics and syntax; and the other theories (bounding theory, government theory, Case theory, control theory, and also X-bar theory (not mentioned in the quote above)) are part of syntax. In other words, the centrality of syntax remains despite the tremendous change of the internal mechanism of Generative Grammar.

is not totally excluded, but given a less prominent function: it is a gateway to understanding and explaining UG.

Secondly, the deep move implies that “the central concept throughout is ‘grammar’, not ‘language’” (Chomsky 1981: 4). Grammar is a deep-seated mental entity, whereas language is derivative from grammar. The centrality of grammar here reminds us of the centrality of competence. A newly coined term for “grammar” in this sense is introduced: *I-language*, where I is to suggest ‘internal’, ‘individual’, and ‘intensional’ (Chomsky 1986: 22-24). Language is internal in that it deals with the inner state of one’s mind, independent of elements in the outer world; it is individual in that it deals primarily with an ideal speaker-hearer, and only secondarily with his/her speech community; and it is intensional in that I-language is a function specified in intension (internal sentence sense), not extension (external world reference). The opposite of I-language is *E-language*, where E is to suggest ‘external’ and ‘extensional’ (ibid., pp. 19-21); and E-language, like linguistic performance, is excluded from the database of generative research.

The deep move from examining particular grammars to investigating Universal Grammar is in tandem with the “abstract move” to “higher theories” with greater power of generality. While in the *Aspects* model grammatical rules (e.g., transformational rules) were meant to be language-specific, in the P&P approach UG principles and parameters are claimed to be universal. These principles and parameters are there like “blueprints” in the LAD, waiting to be activated through exposure to language data. In a technical sense, language acquisition means activating the innate principles and fixing the innate parameters as the child is exposed to a particular language. In a general sense, language acquisition can be regarded as language growth, that is, the growth of UG becoming a particular language. By way of analogy, Chomsky (1975: 9-11) remarks, language grows in the mind just as the arm grows out of the body; the former is the growth of a mental organ and the latter of a physical organ. Both are innate and genetically determined. In a philosophical sense, the P&P approach, according to Smith (1999: 141), may well be considered as *linguistic naturalism*. That is, like geology, physics, or biology, “linguistics is conducted according to the methodology of the natural sciences, ... though it need not follow that linguistics is reducible to hard sciences”.

As outlined above, the internal mechanism of generative theory has undergone tremendous change. But some fundamental concepts have remained the same. Syntax has remained at the center of generative theory, and semantics in the periphery. Note that in the course of half a century, Chomsky has been preoccupied with “theory building”. In fact, *theory* has become *the key concept*. As noted earlier (see footnote 5), grammatical rules have been condensed into interactive modules, all named “theories”. In linguistic theorizing, generative theory has been internally and continually driven toward greater simplicity and elegance (Chomsky 1981: 14-15). Externally, the theory has made less effort to meet the condition of descriptive adequacy but more effort to meet the condition of explanatory adequacy. Finally, it should be noted in passing that Generative Grammar has remained a *context-free* linguistics. All the “big theories” have been proposed to account for *grammaticality* and *ungrammaticality* of syntactic constructions—and nothing more.

To summarize, in the *Aspects* model, UG was left vaguely in the shade; but in the P&P approach it is drawn to the center of generative theory. UG is another name for the LAD in state zero, just as linguistic competence is another name for a particular (adult) grammar. In the *Aspects* model, a full description of particular grammars was required as a way to disclosing universal principles. In the P&P approach, the nature of UG can be

disclosed directly though in-depth analysis of a few languages, or even a single language (Chomsky 1981: 6). Briefly, Generative Grammar, taking UG as the primary goal of linguistic theory, has moved to deeper mentalism and higher abstraction, maintaining the belief that language is nothing but mental grammar.

3. CRITIQUES OF UNIVERSAL GRAMMAR

It may be true that UG theory has accomplished greater simplicity and elegance, but it is doubtful if it has managed to meet the external conditions of descriptive and explanatory adequacy. Critiques of UG come from the outside and inside of the theory. External critiques come from the study of language in sociocultural context, more specifically from sociolinguistics. Internal critiques question whether or not UG principles and parameters are empirically justifiable. Both external and internal critiques are presented in order.

3.1. External Critiques from Sociolinguistics

The objection of sociolinguists to the generative claim that language is a purely mental fact has been voiced during the last two or three decades (see, e.g., Hymes 1974; Hudson 1980; Wardhaugh 1986). For sociolinguists, language is first and foremost a social construct and only secondarily a mental fact. More precisely, language is best defined as Saussurean *langue*, in the sense that it is an abstract system existing within the collective mind of the speech community. Along this line of argument, the term *communicative competence* proposed by Hymes (1974: 75) suggests two important things. On the one hand, it emphasizes the social function of language: it is a primary means of social communication. On the other hand, it is meant to be a counter-term against Chomsky's linguistic competence. For Hymes, linguistic competence simply means grammatical competence; and for communicative purposes, grammatical utterances alone are never enough. Speakers having communicative competence are expected to produce, in their communicative act, utterances that are grammatically correct and pragmatically as well as sociolinguistically appropriate. In actual verbal communication, appropriate language use often has greater prominence than grammaticality does. Failure in the former may offend the addressee and embarrass the speaker; but failure in the latter may only embarrass the speaker.

A relevant question arises: how does UG theory deal with sociolinguistic phenomena? As an extreme case, Javanese⁶ data will be a real challenge. In a multi-level language such as Javanese, "appropriateness" penetrates deep into the paradigmatic system

Table 1. 2nd person singular pronouns in Javanese

2nd pronouns	formal feature	local terms for speech levels
<i>kowe</i>	[-deference]	<i>ngoko</i> (low level)
<i>sampeyan</i>	[+mid deference]	<i>madya</i> (mid level)
<i>panjenengan</i>	[+high deference]	<i>krama</i> (high level)

⁶ I am a native speaker of Javanese and Indonesian. Therefore, examples for counter-argument against UG theory are mostly given in Javanese and Indonesian. As for languages with multi-speech-levels, they include—in addition to Javanese—Balinese, Madurese, and Sundanese, which are sister languages of Javanese (Poedjosoedarmo et al. 1979: 8).

of the lexicon, particularly high-frequency words, including function words. For example, the notion “2nd person singular” in Javanese, as shown in Table 1, has three different forms serving as the basis for speech levels which are socially determined.

The three Javanese pronouns *kowe*, *sampeyan*, and *panjenengan* have the same semantic reference: *you*. But as shown by their distinctive formal features in Table 1, they have **different social meanings**. In verbal communication, a second person may be picked up as *kowe*, *sampeyan*, or *panjenengan*, depending on the personal and social factors (such as gender, age, sosio-economic status, educational background, and familiarity) relating between the speaker and the addressee. In fact, the choice of a speech level is a projection of the selected 2nd person pronoun. Choosing *kowe*, the speaker decides to use *ngoko* (low level); choosing *sampeyan*, s/he decides to use *madya* (mid level); and choosing *panjenengan*, s/he decides to use *krama* (high level). A set of illustrative examples should make the explanation clear.

- (4) a. *Kapan kowe teka ?*
 b. *Dhek napa sampeyan dugi ?*
 c. *Kala menapa panjenengan rawuh ?*
 when you arrive
 ‘When did you arrive?’

Sentences (4.a, b, c) have the same referential meaning (i.e., When did you arrive?) but different social overtones toward the addressee: (4a) shows familiarity and absence of deference; (4b) shows some deference; and (4c) shows high deference. Examples (4.a, b, c) clearly indicate that “appropriateness” not only penetrates the lexicon in the paradigmatic axis, but also projects itself along the syntagmatic axis, creating speech levels. As such, Javanese grammar—in the sense of Saussurean *langue*—deals more with sociolinguistic appropriateness than grammaticality. In the face of Javanese language data, UG theory would explain the phenomena only half-way. It may succeed in explaining the grammaticality of sentences at each speech level; but it sees nothing pertaining to sociolinguistic appropriateness.

A less extreme case can be seen in English example (5), where the politeness expression *Would you please* is combined with the impatience expression *shut up*

(5) *Would you please shut up.*

While sentence (5) is syntactically well-formed, it is pragmatically ill-formed; for it violates linguistic politeness or the rules of co-occurrence (Evin-Trip 1972: 233-39). According to these rules, given a chosen variety or style, the same level of structure—phonological, lexical, grammatical—should be maintained throughout an utterance or a discourse. It is language data of this type that lie beyond the reach of UG. In the last three decades, UG has continually developed and now become a very powerful theory for explaining sentence grammar; but at the same time, it has moved so far away from language as a social fact.

3.2. Internal Critiques of Universal Grammar

Moving on to internal critiques, I would repeat the question: are UG principles and parameters empirically justifiable. Due to space limitation, I will do only “small sampling”, limiting the discussion to the following: the structure-dependent principle, Binding Theory, and the pro-drop (null subject) parameter.⁷

⁷ In a previous paper (Kadarisman 2004, “*Keterbatasan Teori Minimalis Chomsky*” (Limitations of Chomsky’s Minimalist Theory)), I have pointed out flaws in Binding Theory and X-bar Theory. Part of the

3.2.1. Structure Dependency

Syntactic constructions can be seen as a linear order or a hierarchical structure. The linear order is obvious in the surface structure; but the hierarchical structure, showing structural relationships, is “hidden” behind the surface structure. Structure dependency is concerned with the hierarchical structure, commonly revealed in syntactic analysis by means of tree diagrams. The structure-dependent principle (repeated here from footnote 4) states, “Syntactic operation relies on structural relationships between elements in the sentence rather than on the linear order of items” (Crystal 1991: 332). To illustrate, given the affirmative sentence (6.a), we cannot make a *wh*-question as in (6.b) or (6.c), because our mind can “see” the phrase *squirrels and birds* as the NP object. *Wh*-conversion and *wh*-fronting can apply to the NP object as a whole, but not part of it.

- (6) a. John saw squirrels and birds.
 b. *What did John see *t* and birds?⁸
 c. *What did John see squirrels and *t* ?

Partial conversion and fronting of the NP object in Indonesian, as shown in (8) and (9), also produces ill-formed *wh*-questions.

- (7) *Jono melihat tupai dan burung.*
 Jono see squirrel and bird
 (8) **Apa yang Jono lihat t dan burung?*
 what that Jono see and bird
 (9) **Apa yang Jono lihat tupai dan t ?*
 what that Jono see squirrels and

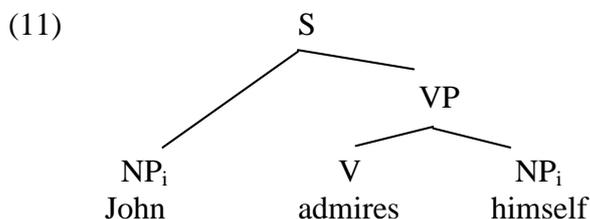
The structure-dependent principle very probably applies universally across languages, leading to the right conclusion that it is a truly universal principle.

3.2.2. Binding Theory

Binding Theory deals with the reference relationships of NPs (Cook 1988: 34)—mostly within a simple sentence and occasionally within an NP, both technically called “local domain” or “governing category”. More specifically, the theory deals with the interpretation of anaphors (reflexives), pronouns, and R-expressions (proper names), stating whether their reference is the NP inside or outside the local domain. Binding Theory is comprised of three principles (Chomsky 1981: 188).

- (10) Principle A: An anaphor must be bound in its governing category.
 Principle B: A pronominal must be free in its governing category.
 Principle C: An R-expression is free.

The technical terms “free” and “bound” refer to the structural relationship between syntactic elements as seen in the configuration of a tree structure.



discussion of Binding Theory is repeated here for the same purpose: showing some internal problems of UG theory.

⁸ The lower case *t* in (7.a) and (7.b) means “trace”, indicating the original position left by a moved element.

Avoiding technicality, consider the relationship between *John* and *himself* in (11). In configuration (11), the NP subject *John* binds the NP object *himself*, for the fact that both of them are dominated by the node S, and the VP does not block the binding relationship. The binder *John* and the bindee *himself* are coreferential, that is, they refer to the same person: *John*. The coreference is shown by the same index: the subscript *i*. In this configuration, the anaphor *himself* is bound in its governing category. Principle A is satisfied, and therefore the sentence is perfectly grammatical.

(12) John_{*i*} admires him_{**i/j*}

In contrast, the pronoun *him* in sentence (12)—no tree diagram showing—is free; it is not bound by the NP subject *John*. Interpreting *him* as referring to *John* would make the sentence ungrammatical. The absence of binding relationship is shown by different indices (*i* and *j*), which indicate that the pronoun *him* refers to a male person other than *John*. Principle B is satisfied, and hence the sentence is syntactically well-formed.

(13) He_{*i*} admires John_{**i/j*}

Similarly, the R-expression *John* in (13) is free; it is not bound by the NP subject *he*. Neither binding relationship nor coreference obtains. Principle C is satisfied, and so the sentence is perfectly well-formed.

Examples (11), (12), and (13) prove that Principles A, B, and C of Binding Theory apply well in English. The picture can be more complex, as we change (11) into (14).

(14) John's_{*i*} brother_{*j*} admires himself_{**i/j*}

In sentence (14), the NP subject *John's brother* binds the anaphor *himself*, and so they are interpreted as coreferential. Interpreting *himself* as referring to *John* is not legitimate, because the genitive NP *John's* serves as the modifier, not the head of the NP subject. The complexity of the picture further confirms that Principle A applies very well in English.

However, Indonesian data present a serious problem to Binding Theory. While Principles B and C apply equally well in Indonesian, Principle A is in trouble. Consider the anaphor *dirinya* (himself/herself) in (15) and (16).

(15) *Adi_{*i*} memuji dirinya_{*i*}*
 Adi admire himself
 'Adi admires himself.'

(16) *Kakak_{*i*} Adi_{*j*} memuji dirinya_{*i/j*}*
 brother Adi admire himself
 'Adi's brother admires himself.'

The interpretation of Indonesian sentence (15) confirms that of English sentence (11), in that the NP subject *Adi* binds the anaphor *dirinya* (himself), making (15) syntactically well-formed. On the contrary, in sentence (16) the anaphor *dirinya* (himself) is only bound by *kakak Adi* (*Adi's brother*), and yet *dirinya* may refer to either *kakak Adi* or *Adi*. The reference to *Adi* (it is a modifier, not the head of the NP) violates Principle A, and yet the sentence remains grammatical.

One may argue that the true Indonesian anaphor is not *dirinya* but *dirinya sendiri* (his/her own self). Indeed, when we substitute *dirinya sendiri* for *dirinya*, as shown in (17), the anaphor refers only to *Kakak Adi*.

(17) *Kakak_{*i*} Adi_{*j*} memuji dirinya sendiri_{**i/j*}*
 brother Adi admire his own self
 'Adi's brother admires himself.'

However, a more serious problem arises, since both *dirinya* and *dirinya sendiri* may occur in the subject position, and hence it is free—not bound by anything.

- (18) *Dirinya telah lama menderita*
 himself for long suffer
 ‘He has been suffering for long.’
- (19) *Dirinya sendiri di-telantarkan*
 his own self be neglected
 ‘He neglects himself.’ (Literally: ‘Himself is neglected.’)

Sentences (18) and (19), perfectly grammatical in Indonesian, are examples of total violation of Principle A. This means that Principle A falls apart in the face of Indonesian data. Since the universality of Principle A has been proven false, then the universality of Binding Theory as a whole is questionable.

3.2.3. Pro-drop (Null Subject) Parameter

Parameters of UG are binary in nature, in that they have [+] and [-] values. One of UG parameters is the pro-drop parameter. The term “pro-drop” means dropping or deleting the subject pronoun from a sentence. Thus the *pro-drop parameter* is a UG parameter of binary values: one allowing and the other disallowing subject deletion from a declarative sentence, if the subject is a pronoun. According to the pro-drop parameter, languages fall into two different categories: [+] pro-drop languages (such as Italian and Spanish) and [-] pro-drop languages (such as English and French). For convenience, the former can be called pro-drop languages, and the latter non-pro-drop languages. Example (20) is a Spanish sentence with subject deletion.⁹

- (20) *Siempre habla de examen.*
 always talks about exam
 ‘He always talks about the exam.’

In this Spanish sentence, the null subject pronoun *el* ‘he’ is identifiable from the inflectional marker *-a* in the simple-present verb *habl-a* ‘he talks’. Identifying the null subject pronoun from “rich verbal morphology” can also be done in other pro-drop languages, such as Italian and Arabic. This leads to the conclusion that subject pronoun deletion is allowed if the language has rich verbal morphology.

In contrast, non-pro-drop languages disallow subject pronoun deletion.

- (21) *Always talks about the exam

Sentence (21) is ungrammatical because English is a non-pro-drop language; it disallows subject pronoun deletion. Moreover, the inflectional suffix *-s* in *talks* signifies only “third person singular”, without further specifying the gender, masculine or feminine. In other words, English morphology is not rich enough to allow subject pronoun deletion.

However, not all languages fall neatly into two different categories as specified by the pro-drop-parameter. In generative literature (see, e.g., Huang 1989 and Jaeggli & Safir 1989), languages like Chinese and Korean are known to allow subject pronoun deletion although they are not rich in verbal morphology. The suggested solution is that the null subject pronoun is to be recovered from discourse content. While the suggestion may temporarily help to solve the problem at hand, it betrays the innateness of UG. Recovering the subject pronoun from discourse content or pragmatic context signifies that the pro-drop parameter is not truly innate. In fact, the problem is confounded by subject deletion in Indonesian

⁹ I am grateful to Margaret Dufon, Ph.D., a former classmate and a friend, for providing the Spanish sentence as an illustrative example of a pro-drop language.

- (22) *Kapan datang ?*
 when arrive
 ‘When did you arrive?’

Notice that the interrogative sentence in (22) contains no subject. Moreover, the Indonesian verb *datang* ‘arrive’ has no inflection. In addition, the deleted subject can be a pronoun (usually the 2nd person pronoun but occasionally also the 3rd) or an NP, depending on the pragmatic context. Suppose an uncle is speaking to his nephew, the deleted subject in (22), depending on a given context, can be *kamu* ‘you’, *mereka* ‘they’, *ayahmu* ‘your father’, etc. The ‘full form’ of the question is shown in (23).

- (23) *Kapan kamu/mereka/ayahmu datang ?*
 when you/they/your father arrive
 ‘When did you/they/your father arrive?’

The Indonesian examples in (22) and (23) clearly show that subject deletion in this language is not syntactically determined but pragmatically motivated. Therefore, categorizing Indonesian as a pro-drop language would be pointless. While it is true that subject deletion in Indonesian is a syntactic phenomenon, it has nothing to do with the ‘innate’ pro-drop parameter—if innate at all. Obviously, the subject is deleted for a pragmatic reason, made explicit as follows: Since I’m talking to you (*kamu*) and I don’t mention anyone else, when I ask “*Kapan datang?*” I mean “*Kapan kamu datang?*” For any other subject deleted, a different pragmatic context is required. In short, the pro-drop parameter totally fails to account for subject deletion in Indonesian.

To summarize, the present investigation of a very small sample of UG reveals two significant findings. (1) As tested against cross-linguistic data, the structure-dependent principle turns out to be empirically justified and hence universally valid. (2) In the face of Indonesian data, Binding Theory nearly crumbles and the pro-drop parameter looks shaky. These findings lead to a tentative conclusion: the claim that UG principles and parameters are innate and universal cannot be wholly true.

4. CONCLUSION: RETROSPECT AND PROSPECT

Universal Grammar has been a fascinating but puzzling theory. It is fascinating because of its ambitious attempt to achieve universality and accomplish explanatory adequacy. It is puzzling because its extreme move to mentalism and abstraction has made it aloof and far apart from language as social reality. It has taken UG nearly five decades to arrive at its present state. *Syntactic Structures* (1957) came up with seminal ideas leading to universal principles. *Aspects* (1965) introduced *universal grammar* as a general term, suggesting that underlying particular grammars are innate universal principles. *LGB*¹⁰ (1981) put the universal principles together under one banner, christened it *Universal Grammar*, and made it the goal of linguistic theory. *The Minimalist Program* (1995), as the name indicates, tried to do its best to make UG a simple and elegant linguistic theory.

Theory is indeed the driving force for the whole generative enterprise. The P&P approach, first introduced by *LGB*, is a strongly theory-driven approach (Comrie 1989: 1-5). The claim that UG is innate leads to the belief that in-depth study of a small number of languages is the right way of discovering universal principles and parameters. However, as shown in sections C.2.b and c of this article, the universality of Binding Theory and the pro-drop-parameter is empirically false. Similarly, as pointed out by Comrie, (pp. 7-8), the

¹⁰ *LGB* is the common abbreviation for Chomsky’s (1981) book *Lectures on Government and Binding*.

universality of X-bar Theory, as tested against Indonesian data, is also false. The failure of Binding Theory, X-bar Theory, and the pro-drop-parameter is a serious problem for UG. Comrie (p. 7) calls them *putative (conceived) universals*, i.e., universal principles which easily crumble as soon as they are presented with a wider range of language data. Of course, more investigation of other “theories” in UG is necessary; testing them against more language data will prove whether or not their claim of universality is justifiable on empirical grounds.

Without empirical truth, the glorious-sounding name of UG would be empty. When UG principles fail to account for natural language data, it means that they fail to accomplish descriptive adequacy, or even observational adequacy. Thus the ambition to accomplish explanatory adequacy sounds more like a slogan than a lead for scientific endeavor.

Chomsky, as noted earlier, is best at linguistic theorizing, but not at making UG a best theory. He apparently fails to accomplish explanatory adequacy in a narrow (linguistic) sense, but succeeds considerably in doing so in a broad (intellectual and philosophical) sense. In fact, as Lavandera remarks (1988: 1), Chomsky is indirectly held responsible for the accelerated development of sociolinguistics and ethnolinguistics at the end of 1960s, and for the emphasis laid upon pragmatics and discourse analysis in the mid 1970s. Now, at the beginning of the 21st century, both context-free linguistics (Generative Grammar included) and the study of language in social context have gone far and kept moving toward a wider horizon. To unite both strands is impossible. The best possible thing for future research, in my opinion, is to take up language both as a mental fact and a social construct—a revitalization of Saussurean *langue*. Linguistics will always remain a living and lively discipline, since language—a product of the human mind and social convention—remains a fascinating object of never-ending mystery.

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