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different kinds of speech acts, as well as the ability to parse and process the utterances. Like phlogiston and the ether, Universal Grammar turns out to be an initially appealing but ultimately empirically empty theoretical construct.

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Semantic Element(s)	Syntactic Unit
Predicate	Nucleus
Argument in semantic representation of predicate	Core argument
Non-arguments	Periphery
Predicate +Arguments	Core
Predicate + Arguments + Non-arguments	Clause (= Core + Periphery)

Table 1 : Semantic notions underlying the syntactic units of the clause

There is a fundamental connection between the universality of nouns and verbs and the universality of the nucleus-core-clause structure. Language has many functions, and surely one of the most basic, if not the most basic, is conveying meaning from one interlocutor to another, in other words, communication. An important aspect of the meaning of sentences is their representation of states of affairs in the world, and this is achieved through reference and predication. Essentially, reference involves linguistic elements denoting or picking out entities outside of language, and predication involves specifying some property or attributing some action, event or affect to these entities. All languages have means so that speakers can refer and predicate, and all languages have at least some elements which are specialized for referring and others that are specialized for predicating, hence the universality of nouns and verbs in human languages. This has structural implications as well, as Table 1 shows. The distinction between reference and predication is also the fundamental distinction underlying the universal structure of clauses in Figures 2 and 3: predicate underlies nucleus and referring expressions are arguments and adjuncts. There is no need to posit innate, autonomous syntactic principles to account for the universality of nouns and verbs or the universality of the nucleus-core-clause structure; they follow directly from the meaning (reference and predication) that language serves to encode and express. There are additional absolute universals that are derived from the basic communicative function of languages. For example, speakers of every language can make assertions, ask questions and give commands, and this entails that every language has declarative, interrogative and imperative sentence forms.

The existence of implicational universals was mentioned earlier, for example word order in the clause and the type of adposition, and such universals do not follow from the distinction between reference and predication. Rather, Dyer and Hawkins<sup>26</sup> have proposed that the word order universals first proposed by Greenberg can be explained in terms of processing constraints inherent in the cognitive mechanism for parsing and processing linguistic structures, something which is not directly part of the grammar. Here again it is not necessary to postulate abstract autonomous syntactic principles to account for implicational universals, since they are a function of psycholinguistic processing mechanisms.

**Conclusion**

There are language universals and universals of grammars, both absolute and implicational, but it is not necessary to postulate something like Chomsky’s universal grammar to explain them. Rather, they derive from the function of language as a conveyor of meaning between interlocutors, and this involves not only reference and predication, but also

<sup>26</sup> Cf. Dyer (1992), Hawkins (1994).

Amazonian language Pirahã lacks recursion in its grammar, thereby calling into question the universality of this feature of grammar.<sup>24</sup> Hence all of the possible universals listed in (1) turn out to be invalid.

We have argued that many familiar grammatical phenomena are not found in all languages, and so the question immediately arises: are there any absolute language universals and therefore universals of grammars? The answer is 'yes', and one example has already been presented: 'all languages have nouns and verbs among their parts of speech'. Another pertains to universal features of the structure of sentences. All languages make two fundamental distinctions: the first is between predicating and non-predicating elements, and the second is among the non-predicating elements, whereby some are semantically related to the predicate and others are not. In other words, all languages make the following contrasts: predicate versus argument versus adjunct. This is reflected syntactically in what in Role and Reference Grammar<sup>25</sup> is called 'the layered structure of the clause'. The predicate occurs in the syntactic 'nucleus', the nucleus plus the arguments of the predicate make up the 'core' of the clause, and adjuncts appear in a periphery of the clause. The clause consists of a nucleus + core + (optional) periphery. This is illustrated in Figure 1, and these distinctions may be represented graphically for a simple English sentence as in Figure 2.

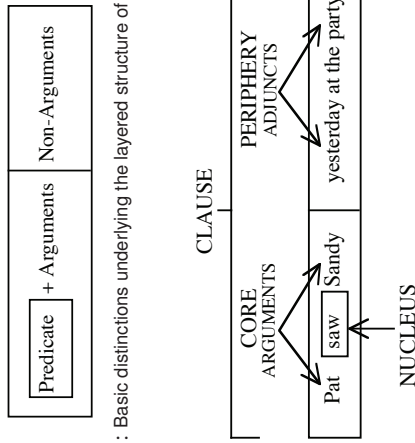


Figure 1: Basic distinctions underlying the layered structure of the clause

Figure 2: The layered structure of a simple English sentence

The semantic motivation for these syntactic units is summarized in Table 1. These distinctions apply as readily to fixed word order languages like English and Lakhota as they do to free word order languages like Dyirbal; no matter what the order in a variant of (6) is, 'the man' and 'the big woman' are core arguments, and 'see' is the predicate in the nucleus, just as in their English translation equivalents. The reason for this is that they are semantically motivated distinctions.

<sup>24</sup> Cf. Hauser *et al.* (2002) and Everett (2005).

<sup>25</sup> Cf. Van Válin (2005).

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The phenomena in (1a–c) are specific linguistic phenomena, and it is not entirely unexpected that specific phenomena may or may not occur in different languages. But what about the abstract structure of language, its phrase structure? Shouldn't it be the same in all languages? The abstract schema for phrase structure is an important component of Universal Grammar. Don't all languages put modifier + modified together to form a unit, for example determiner + adjective + noun as in *the big man* in English and noun + determiner as in *wichāśa ki* [man the] 'the man' in Lakhota? And, because they form a unit, shouldn't they always have to occur together? This is certainly the case in English and Lakhota, as (5) shows; the only difference between them is that the determiner precedes the noun in English but follows it in Lakhota.

- (5) a. \*The man saw big the woman.  
 a'. \*Big man saw the woman the.  
 b. The man clearly saw the woman.  
 b'. \*The clearly man saw the woman.  
 c. \*Wichāśa wīyā ki ki wayāke. (cf. (4a))  
 man woman the the saw  
 'The man saw the woman.' [intended meaning]

The answer to these questions is 'no'. There are languages which do not seem to have the same kinds of constraints on their structure that languages like English and Lakhota have. Dyirbal is an outstanding example of such a language. There is no requirement that elements which constitute what corresponds to a noun phrase or a verb phrase in familiar languages occur contiguous to each other; rather, the words in a sentence can occur in any possible order, with the determiner, modifier and noun in an expression like *the big woman* scattered around the sentence. This is illustrated in (6) from Dyirbal.

- (6) a. Baṅgul yaṛaṅgu balan bulgan-Ø dyugumbil-Ø buṛan.  
 DET.ERG man-ERG DET.ABS big-ABS woman-ABS saw  
 'The man saw the big woman.'  
 b. Dyugumbil baṅgul buṛan balan yaṛaṅgu bulgan.  
 woman.ABS DET.ERG see DET.ABS man.ERG big.ABS  
 c. Bulgan yaṛaṅgu dyugumbil balan baṅgul buṛan.  
 big.ABS man.ERG woman.ABS DET.ABS DET.ERG see  
 (all possible orders are grammatical with the meaning 'the man saw the big woman'.)

The phrase structure of Dyirbal would appear to be rather different from that in Lakhota and English, since the syntactic relationship between semantically related elements is signalled by case agreement rather than by linear contiguity as in most languages. Languages like this show that phrase structure of the kind found in English and familiar languages cannot be assumed to be universal, and therefore (1d) is also false.<sup>23</sup>

Finally, the issue of recursion has become a central topic, ever since Hauser *et al.* claimed that it is the defining property of human language, and Everett has argued that the

<sup>23</sup> This does not mean that English-style phrase structure cannot be forced upon such languages, which it routinely is, the typical analysis being that (6a) represents the basic structure and everything else is a derived variant of it. See Van Valin and LaPoila (1997), chapter 2, for arguments against such an imposition.

for example Acehnese, a language spoken in Sumatra.<sup>20</sup> For the relevant grammatical phenomena in such languages, the crucial factor determining the syntactic behavior of a noun phrase is whether it is actor or undergoer and not its case marking (like in German) or position in the clause (like in English). In other words, the restrictions are *semantic*, not syntactic, and consequently there is no evidence for a grammatical (syntactic) notion of subject in such languages. Therefore the claim that all languages have subject (in the syntactic sense) as a grammatical relation is not valid.

The third universal in (1) concerns the phenomenon of displacement in language. Chomsky characterizes displacement as a situation in which “the surface phonetic relations are dissociated from the semantic ones.”<sup>21</sup> As an example, consider a simple question like *Who did the man see?* The question word *who* is interpreted as the direct object of *see*, but it does not occur in the usual direct object position, i.e. right after the verb. This is an instance of displacement. A great deal of the machinery in all versions of generative grammar is devoted to the analysis of displacement, and all of this machinery is attributed to Universal Grammar and therefore to the Language Acquisition Device.<sup>22</sup> There are, however, languages which lack displacement, for example Lakhota. The most obvious example of displacement is questions like the one discussed above, and in Lakhota the question word occurs in the same position as a non-question word noun phrase. This is illustrated in (4): *tuwá* ‘who’, which is interpreted as the direct object, occurs in the same position in the question in (4b) as the direct object *wáyá ki* ‘the woman’ in the statement in (4a). As (4c) shows, *tuwá* in initial position can only be interpreted as the subject.

- (4) a. *Wicháša ki wáyá ki wáyáke.*  
 man the woman the saw  
 ‘The man saw the woman.’
- b. *Wicháša ki tuwá wáyáka he?*  
 man the who see Question  
 ‘Who did the man see?’
- c. *Tuwá wicháša ki wáyáka he?*  
 who man the see Question  
 ‘Who saw the man?’, not ‘Who did the man see?’

Languages without displacement are very common cross-linguistically, and consequently, the universal in (1c) also turns out to be invalid. The complex machinery for handling displacement that is allegedly hard-wired into the brains of human beings is largely irrelevant for such languages, and this raises questions about the validity of these constructs, which are central to Universal Grammar.

<sup>20</sup> Cf. Durie (1985) and Durie (1987).

<sup>21</sup> Chomsky (1998: 35).

<sup>22</sup> It is crucial to distinguish displacement, which is a linguistic phenomenon, from movement, which is a theoretical description of displacement. The displacement of the question word in a language like English or German can be described by a movement rule, as is traditionally done in Chomskyan generative grammar, but many theories operate without movement rules and capture this phenomenon in entirely different ways. Hence displacement is not necessarily evidence for transformational movement rules, since it can be explained in non-movement terms.

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that it is traditionally characterized in terms of a number of properties, a few of which are given in (2).

- (2) a. The subject carries nominative case, for example *Er* [NOM]/\**ihn* [ACC] *ist wegge-  
laufen*.<sup>18</sup>  
 b. The subject controls agreement on the tensed verb or auxiliary, for example *The boy  
[sing] is [sing] eating the peanuts* [plural]/\**The boy are* [plural] *eating the peanuts*.  
 c. The subject represents the doer of the action (the actor) in the active voice and the  
 participant affected by the action (the undergoer) in the passive voice, for example  
*The boy* [actor] *is eating the peanuts* [undergoer] vs. *The peanuts* [undergoer] *are  
being eaten by the boy* [actor].

There are many languages in which the subject-like arguments do not carry nominative case, for example ergative languages like Dyirbal,<sup>19</sup> and there are many languages in which subject-like arguments do not control agreement. The most important fact about subjects, however, is (2c): they are grammatically defined and not semantically defined. This can be seen clearly in the following simple example from English, in which the possibilities regarding (2b), verb/auxiliary agreement, are laid out; the semantic characterization of the agreement controller in each example is given in the right-hand column.

- (3) a. The teacher has read the words. Actor of transitive V  
 b. The teacher has sung. Actor of intransitive V  
 c. The teacher has fainted. Undergoer of intransitive V  
 d. \*The teacher have read the words. \*Undergoer of transitive V [active]  
 e. The words have been read by the teacher. Undergoer of transitive V [passive]

Can this restriction on agreement in English best be captured in semantic or syntactic terms? Let's consider two rather simplistic hypotheses: (i) agreement is controlled by the actor argument, the doer of the action, and (ii) agreement is controlled by the first noun phrase in the clause. The first two examples, (3a) and (3b), are compatible with both hypotheses, since the actor argument is also the first noun phrase in the clause. The third example, however, is a counterexample to hypothesis (i), since the agreement controller is not semantically an actor; rather, it is an undergoer, because its referent undergoes a change of state from conscious to unconscious. The crucial examples are in (3d) and (3e). In both examples, the undergoer, *the words*, controls the agreement, but only in (3e) is the sentence grammatical. What is the difference between the two sentences? In (3d) the undergoer is not the first noun phrase in the clause, whereas in (3e) it is. Thus, the controller of agreement must be the first noun phrase in the clause, regardless of whether it is actor or undergoer. This is what defines 'subject' as a syntactic or grammatical relation and not a semantic relation: the crucial restriction is syntactic (position in the clause, in this example) and not semantic (actor or undergoer). The situation is similar in German: the finite verb or auxiliary agrees with the nominative-case noun phrase, regardless of whether it is actor or undergoer. With respect to the question of the universality of subject, the most important fact is that there are languages in which the pattern in (3) does not occur,

<sup>18</sup> Abbreviations: ABS 'absolutive case', ACC 'accusative case', DET 'determiner', ERG 'ergative case', NOM 'nominative case', sing 'singular'.

<sup>19</sup> Cf. (6) below.

of the form 'all languages do/have X': Let us consider the five candidates for absolute universals in (1), which are taken from the study of familiar Indo-European languages.

- (1) a. All languages have the same parts of speech: nouns, verbs, adjectives, adpositions, etc.
- b. All languages have subject and direct object as their primary grammatical relations.
- c. All languages put question words at the beginning of a sentence.
- d. All languages have the same basic hierarchical phrase structure, with differences only in the ordering of elements within phrases.
- e. All languages have recursion in their syntax.

It turns out that none of these proposed universals is valid. Let us briefly examine each one in turn.

It is relatively easy to show that categories like adjective, adposition and adverb are not universal, since there are languages which manifestly lack them in their lexical and grammatical inventory. In Lakhota, a Siouan language of North America,<sup>15</sup> the words that translate the concepts expressed by adjectives in German and English are formally verbs, while in Dyirbal, an Australian Aboriginal language,<sup>16</sup> they are all formally nouns. Dyirbal also lacks adpositions, as all nouns carry case suffixes and some of the case suffixes express the same thing as German and English prepositions, and it lacks adverbs, too, as in this language adverbs are all formally a type of verb. So when it is claimed that a language lacks adjectives or adverbs, it is not a claim that it cannot express concepts like 'big', 'tall', or 'quickly'; rather, the words that express these concepts pattern grammatically with words expressing concepts like 'dog', 'tree' and 'run', for example, and do not constitute a distinct class in terms of their grammatical behavior. It does appear that noun and verb are universal, however. That is, languages do seem to make a fundamental distinction between elements which refer to entities in the world (and possible worlds) and those which express events and states of affairs, among other things. Thus, the proposed absolute universal in (1a) is not valid, but a weaker version is valid, namely, 'all languages have nouns and verbs among their parts of speech.'

Grammatical relations like subject and object stem from traditional grammar, and their universal validity has been a controversial issue in linguistics for the past 30 years. The focus here will be on the notion of subject, and at the outset it is necessary to distinguish two senses of the term. The first sense is semantic and is usually discussed in terms of 'subject-predicate' relations in logic and often represented as 'f(x)', where 'f' is the function or predicate, and '(x)' is the subject or argument. This semantic, non-grammatical concept of 'subject' is universal, and we return to it below. The sense relevant to this discussion is the grammatical notion of subject, i.e. 'the subject of the sentence'. The subject is the privileged syntactic argument in the sentence, the argument with the most syntactic properties, some of which are discussed below. Being syntactically privileged involves restrictions; for example, the subject and the subject alone can trigger agreement on the tensed verb or auxiliary in many languages. Subject is a cluster concept,<sup>17</sup> meaning

<sup>15</sup> Cf. Boas and Deloria (1941).

<sup>16</sup> Cf. Dixon (1972).

<sup>17</sup> Cf. Keenan (1976).

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grammar is essential if we are to proceed towards assimilating the study of language to the natural sciences.<sup>10</sup>

Generative grammar is not about language; it's about grammar. Chomsky's more recent formulation is in terms of an opposition between '[E]xternal-language' (= 'language' in the quote above) and '[I]nternal-language (= grammar)', but it is the same distinction. When Chomsky talks about 'language and mind' or 'language and the brain', he means 'grammar and mind' or 'grammar and the brain', and he is not referring to language in the usual sense assumed by researchers in other disciplines within cognitive science. What he is referring to is a language as "a set of structural descriptions of sentences, where a full structural description determines (in particular) the sound and meaning of a linguistic expression".<sup>11</sup> Hence the universals proposed by Chomsky are universals of the structural descriptions of sentences, not universals of languages. He has never used the term 'language universals' to refer to them; rather, they are called 'linguistic universals'. The terms are not synonyms.

Examples of proposed linguistic universals were given in the previous section, and one of their most striking features is how much they have changed from decade to decade, starting in the 1960's. The reason for this is that they are not anchored in the facts of languages but rather in the ever changing analyses proposed in generative syntactic theory. Changes in the nature of the structural representations of sentences and their derivation entails changes in the universal aspects of these representations and their derivation. It might be supposed that this is simply the result of progress in normal science, but there is good reason to doubt this; as Lappin and colleagues have cogently argued.<sup>12</sup> The major theoretical shifts in Chomskyan theory, i.e. classical transformational grammar (1965) to government and binding theory (1981, 1986) to the minimalist program (1995, 1998), were all motivated primarily (but not exclusively) by theory-internal formal issues, not empirical discoveries about language. And with each shift the nature of Universal Grammar and its constituent linguistic universals changed.

Are there any language universals? Are there any universals of grammars? Unlike linguistic universals, universals of grammars are based on universal properties of languages. That is, the grammatical characterization of a language universal would be a universal of grammar. Universals of grammars are derived from empirical facts about languages, not from theoretical models of grammar.

There are language universals, and to begin with, it is necessary to distinguish two types of universals: implicational and non-implicational (absolute). Implicational universals, which were first formulated in the work of Greenberg,<sup>13</sup> have the form 'if a language has grammatical property X, then it has/does not have property Y'. An example of this is the correlation between word order and whether a language has prepositions (for example German *zu* in *zu dem Haus*) or postpositions (for example German *zuliebe* in *den Eltern zuliebe*),<sup>14</sup> verb-initial languages with adpositions have prepositions exclusively, while verb-final languages with adpositions overwhelmingly have postpositions. There are many implicational universals. Non-implicational or absolute universals, on the other hand, are

<sup>10</sup> Chomsky (1981b: 4, 7).

<sup>11</sup> Chomsky (1977: 81).

<sup>12</sup> See the debate in Lappin *et al.* (2000a), Lappin *et al.* (2000b), Lappin *et al.* (2001) and related articles.

<sup>13</sup> Cf. Greenberg (1966).

<sup>14</sup> The cover term for prepositions and postpositions is 'adpositions'.

The theory of Government and Binding ran into numerous difficulties. Empirical investigations of languages outside of Europe showed that the kinds of things that were supposed to be correlated when parameters were set simply were not correlated in many languages.<sup>5</sup> Chomsky's own work was far more focussed on the principles rather than the parameters, and the development of the theory of parameters was left to others. The theory became more and more complicated, leading to ever more complex structures and therewith complex parameters.

At the end of the 1980's and the beginning of the 1990's, Chomsky made another radical turn, albeit within the general principles and parameters framework. He began to explore the question of what the conceptually necessary components of language are and what the optimal structure for language could be. This led to the elimination of many of the representations and principles central to Government and Binding Theory, and the new approach was labeled the Minimalist Program.<sup>6</sup> A significant feature of the Minimalist Program is the restriction of the scope of the investigation to what Chomsky calls 'narrow syntax',<sup>7</sup> which is that aspect of the computational system of language which is invariant across languages. The domain of Universal Grammar is rather restricted in comparison with earlier approaches, and parameters are much less important. Moreover, in a series of recent works Chomsky has asserted that the crucial distinctive feature of human language is recursion,<sup>8</sup> the property of permitting a category to have an element of the same category as a constituent, for example sentences within sentences (*John thinks that Mary believes that Bill expects that Sam knows . . .*) or noun phrases within noun phrases (*John's sister's husband's friend's car*).

In this paper it is argued that although there are language universals and universals of grammars, there is no such thing as Universal Grammar in the Chomskyan sense. It is like the phlogiston of 18<sup>th</sup> century chemistry, or the ether of 19<sup>th</sup> century physics – an unobservable theoretical construct that fills in contemporary explanatory gaps as needed.<sup>9</sup> But it does not correspond to anything in reality.

## Universals of Languages and Universals of Grammars

Chomsky has never proposed any language universals; indeed, generative grammar is not even about language at all, as Chomsky makes very clear.

The study of generative grammar in the modern sense [...] was marked by a significant shift in focus in the study of language. To put it briefly, the focus of attention was shifted from 'language' to 'grammar'. [...] We shift our focus from the language to the grammar represented in the mind/brain. The language now becomes an epiphenomenon; it is whatever is characterized by the rules of the grammar. [...] The grammar in a person's mind/brain is real; it is one of the real things in the world. The language (whatever that may be) is not. [...]

The shift of focus from language (an obscure and I believe ultimately unintelligible notion) to

<sup>5</sup> Cf. Newmeyer (1998: 357–359).

<sup>6</sup> Cf. Chomsky (1995).

<sup>7</sup> Cf. Chomsky (1998).

<sup>8</sup> Cf. Hauser *et al.* (2002), Chomsky (2005).

<sup>9</sup> This analogy comes from Michael Tomasello, personal communication.

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**ROBERT D. VAN VALIN, JR.****Universal Grammar and Universals of Grammars****Universal Grammar<sup>1</sup>**

Noam Chomsky introduced the notion of Universal Grammar into contemporary linguistics in the 1960's,<sup>2</sup> and it has undergone significant changes and reconceptualizations over the past 40 years. It has long been a goal of investigators of language, dating back at least to the 13<sup>th</sup> century, to distinguish what might be universal about human language from the 'accidental' properties of particular languages. Chomsky originally proposed that the abstract organization of grammars constituted Universal Grammar, i.e. the abstract forms of syntactic rules and the constraints on their interaction, while the specific instantiations of those rules, for example the rule for passive sentences in English or the one for German, would be constrained by Universal Grammar but not be directly a part of it; rather, they would be part of the grammar of English or of German. Chomsky also declared that a top theoretical goal of linguistics was to explain how children acquired their first language, and he asserted that Universal Grammar was an autonomous, innate component of the human cognitive faculty and was critical for acquisition. It contained those grammatical rules and principles that children could not possibly learn from listening to others speak (given only general cognitive and learning skills).<sup>3</sup> Thus, Universal Grammar was simultaneously a Language Acquisition Device.

In the early 1980's a major revision was proposed, known as principles and parameters.<sup>4</sup> This theoretical change was designed to meet a number of formal problems within the theory, and also to meet the challenge of an ever-increasing corpus of cross-linguistic data that undermined many assumptions about what was universal in the world's languages, as will be discussed below. During the 1980's the primary representative of the principles and parameters approach was known as Government and Binding Theory. The basic idea was that Universal Grammar contained not just the organization or architecture of grammars, but also specific syntactic principles and very general syntactic rules with preprogrammed variables, typically with binary choices, that were differently activated in different languages, thereby preserving the idea of Universal Grammar and at the same time accounting for cross-linguistic variation. For example, in some languages sentences may occur without an overt subject, for example Spanish *was* 'you go' [wa- 'go' + -s 'you'], which does not require the pronoun *tú* 'you', unlike English and German, in which the pronoun subject is required in statements and questions. This was considered to be a parameter, with Spanish, Italian and other such languages being [+subject drop] and English, German and other such languages being [-subject drop].

<sup>1</sup> I would like to thank Anja Latrouite for comments on an earlier draft.

<sup>2</sup> Cf. Chomsky (1965).

<sup>3</sup> This is the argument from the poverty of the stimulus.

<sup>4</sup> Cf. Chomsky (1981a).