

UNIVERSAL GRAMMAR AND THE NECESSITY
OF LINGUISTIC DIVERSITY

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The title I am using here is ill-formed, on purpose, in order to express in one phrase the senses in which linguistic diversity is necessary. First, it is necessary to us, as linguists and as people, for the very business of doing our professional work, which many of us would argue is impossible without it, and for the fulfillment of the greater purpose of providing, together with cultural diversity, the enabling condition for the maximal exercise of human intellectual capacities in the creation of the most precious products of human labor. Second, linguistic diversity is necessary in the sense that it is inevitable, a natural consequence of the very nature of linguistic structure. I will spend most of my time today on this latter sense.

My own interest in linguistic diversity stems, in fact, from my interest in universal grammar, an aspect of language which is not, and cannot be, diverse. I want to know how it can be that there is universal grammar beside almost unimaginable diversity in the actual languages of the world. The answer is perhaps complex, but I think there is an idealized answer that is very simple. The answer is this: linguistic diversity stems from the fact that there are no stipulations in grammar, no inviolable principles; all invariant aspects of grammar are due to the fundamental nature of the elements which define, or project, linguistic form. While this is an idealization, I think it is closer to the truth than anything else, and I will pretend that it is absolutely true for present purposes.

Consider the projection of syntactic structure from lexical items, or "heads", taking these to be the basic nuclear elements of grammar. And suppose that it is in the nature of these entities to enter into, or not to enter into, certain linguistically fundamental structural relations, of which there are just two: the "head-complement" relation, and the "subject-predicate" relation. A head x will therefore belong to one of just four classes, according to its participation in these relations, as depicted in (1a-d). In (1a), x belongs to the class whose members take a complement (y), thereby defining the simple syntactic structure given—the category of the head projects, by definition of the relation expressed, we can assume; this class does not project a "specifier" position, since it does not participate in the subject-predicate relation. By contrast, in (1b), x takes a complement (y), forming a predicate therewith, and therefore necessarily further projects a subject (z)—in short, this class enters into both fundamental relations. The third class of heads, represented by x of (1c), participates in the subject-predicate relation, but not the head complement relation. The logic of the system requires that the subject z be projected external to x itself—if z were presented internal to the x -projection, it would be a complement, not a subject—therefore implicating the use of some host category, represented here by α . Finally, x of (1d) represents the class of nuclear elements which participates in neither one of the two basic structural relations relation—it selects no complement and it is not a predicate, hence it has no subject:

(1) Head (x), complement (y of x), predicate (x of z) (Roepfer and Siegel 1978; Walinska de Hockbeil 1986a,b; Williams 1980; Rothstein 1983).



I am assuming that this is an invariant aspect of grammar—there is no sense in which diversity is possible here. However, when the nuclear elements are associated with specific morphosyntactic categories, diversity ensues, since there are no stipulations in grammar. Thus,

while the four-class scheme inherent in the basic system of relations in (1) is neatly replicated in the English part-of-speech repertoire, it is not perfectly replicated there, as is evident from (2), where the b-class is realized as P (as in (*put*) *the book on the shelf*) or V (as in *she knows the answer*). This is not surprising, since, by hypothesis, nothing forces a one-to-one correspondence between the structural projection of a nuclear element and the morphosyntactic category which realizes it. There are tendencies, and certainly ones which are linguistically significant, but there are no hard and fast laws of association.

(2) English:

- (a) $x = V$ (b) $x = P/V$ (c) $x = A$ (d) $x = N$

Although the a- and d-configurations are predominantly the morphosyntactic categories V and N, respectively, even this is not absolutely fixed, and our assignments here represent just the "favorite" realizations. The greatest variety is found in the b- and d-classes. Many languages lack a morphosyntactic category corresponding to "adjective"—in some of these, the c-class is realized by the V-category (as in Navajo), in others it is realized by N (as in Warlpiri).

(3) Navajo:

- (a) $x = V$ (b) $x = -P/N$ (c) $x = V$ (d) $x = N$

(4) Warlpiri:

- (a) $x = V$ (b) $x = -P/N$ (c) $x = N$ (d) $x = N$

While the b-class is commonly represented by an "adposition", category P (preposition or postposition), sometimes bound (as in Navajo and Warlpiri), it is commonly represented by the morphosyntactic category N as well (as in Warlpiri). In Lardil, the favorite realization of the b-class is by suffixal verb (cf also (8)):

(5) Lardil:

- (a) $x = V$ (b) $x = -P/-V$ (c) $x = N$ (d) $x = N$

In some languages, exemplified here by Salish, a single open class is associated with the four structural classes of (1a-d). The nuclear elements themselves have no fixed categorial association. The distinct categories of phrasal syntax—e.g., clause, noun phrase—are defined by categorially distinct extended projections headed by the Open Class Roots, INFL for the clause, DET for nominal arguments, as in (6):

(6) Salish (Inflected Open Class Root; Kinkade 1983; Jelinek and Demers 1994):

- (a) $x = \text{INFL}$ (b) $x = \text{INFL/OBL}$ (c) $x = \text{INFL}$ (d) $x = \text{DET}$

Cross-linguistic diversity, and intra-linguistic diversity as well, is present not only in the morphosyntactic realization of the basic lexical-syntactic configurations but in their morphophonological realization as well. English is extraordinarily replete with denominal and deadjectival verbs. Thus while the class of structures corresponding to (1a) is productively represented by verbs taking a free-standing phrasal complement, like *make trouble*, *do a jig*, it is also abundantly represented by denominal verbs, like *sneeze*, *laugh*, *dance*, which involve the "merger" of a phonologically empty verbal head with a nominal complement—the head of *y* "merges with" or "incorporates into" the head *x* which selects it; on this view a verb like *sneeze* has the same basic structure as hypothetical *do a sneeze*. In many languages, the same class of

structures—i.e., (1a)—involves conventional, or standard, incorporation, in which a noun is incorporated, that is to say “adjoined”, to the phonologically overt head of the governing verb. This is exemplified here by the Tanoan language Jemez. In other languages, like Basque, for example, the a-class structure is overtly a transitive light-verb construction (cf. Grimshaw and Mester 1985; Laka 1992):

(7) English (a): *laugh, sneeze, sing, work; make trouble, do a jig, have puppies.*

Jemez (a): *sae-'a* (work-do) ‘work’, *záae-'a* (song-do) ‘sing’, *see-'a* (word-do) ‘speak’; *shíl-'a* (cry-do) ‘cry’, *tún-'a* (whistle-do) ‘whistle’.

Basque (a): *lan egin* (work do), *hitz egin* (word do), *negar egin* (cry do),
ziztu egin (whistle do), *barre egin* (laugh do), *usin egin* (sneeze do).

English-style “merger” or “incorporation” is also found in deriving location and locatum verbs from P-based structures corresponding to (1b). English *put apples in the box* involves a b-class structure embedded as the complement of an a-class structure. In the form just given, all heads are overt, with V = *put* and P = *in*. But English permits non-overt P and non-overt V as well. Successive cyclic merger (or incorporation) of the nominal complement *box* into the empty governing heads gives the derived verb phrase *box apples*.

(8) English (b): (*put*) *the apples in a box*, (*fit*) *the horse with a saddle*; *box the apples*, *saddle the horse*; *the cow has horns*; *mom knows Gaelic*.

The adposition category (P) is, in a real sense, the supreme b-class item, inasmuch as it expresses a relation between two entities, hence two arguments, a complement and a subject. But the element heading structure (1b) is also realized by the morphosyntactic category V—e.g., by English *know, have, weigh.*, or by the Jemez verb of directional motion *mí/mae* ‘go’.

(9) Jemez (b): *níin* *vakeeki* *u-mae*.
 I Albuquerque 1sg-go.PERF
 ‘I went to Albuquerque.’

In Lardil the morphosyntactic realization of b-class is consistently suffixal, whether categorially P (as in (10i,ii)) or V (as in (10iii)). Like case endings, both categories exhibit suffixal “concord”, attaching to each head within the extended projection of the complement—i.e., attaching to a determiner, to a modifier, and to the head noun (and, where the latter is a compound, to each subcomponent of the compound):

(10) Lardil (b):
(i) *kantha wangalk-ur*
 (father boomerang-with)
 ‘(My) father has a boomerang.’

(ii) *ngama jik-ur kang-k-ur reman-k-ur*
 mother many-with speech-INC-with mouth-INC-with
 ‘(My) mother knows many languages.’

(iii) *thabu kiin-ki-ya-thur mutha-ya-thur ketharr-i-ya-thur*
 OBro that-INC-go-FUT big-go-FUT river-INC-go-FUT
 ‘(My) older brother will go to that big river.’

We assign lexical nuclear elements to morphosyntactic categories on the basis of certain distinctive morphological properties which they exhibit. Typically these properties are intimately related to the “extended projections” (cf. Abney 1985; Grimshaw 1991) in which they function. Thus, for example, the category V is often distinguished from the category N, say, by virtue of a conjugation system which determines the manner in which its members combine with elements from the functional categories of inflection, or INFL. And likewise, nouns, adpositions, and adjectives are often similarly bestowed with morphological increments associated with inflection. Where this is not the case, there is a strong correlation between category and extended projection—prevalingly, the functional categories exhibit the selectional patterns shown in (11), and where categorial distinctions are made, it is generally clear what category an element belongs to.

(11) The Extended Projections (Abney 1985; Grimshaw 1991):



But none of this is rigidly fixed, it seems. And this is to be expected if selection belongs to the kind of relation which cannot be stipulated. Thus, it is not surprising to find diversity here. In the Misumalpan languages of the Atlantic Coast of Nicaragua and Honduras, clauses—i.e., the category IP—is selected by the functional category D, forming both the internally headed relative clause (as in (12) below) and the factive complement. To be sure, this selectional relation, like others in the system of functional projections, is constrained to satisfy requirements of Logical Form. But there are no stipulations here, so far as I can see—all limitations derive from general properties (here the LF property of Full Interpretation).

(12) D and I and the Misumalpan Internally Headed Relative Clause:

<i>sana</i>	<i>ya</i>	<i>îr-ida</i> (Ulwa)
<i>sana</i>	<i>kidi</i>	<i>kîra-na</i> (N. Sumu)
<i>sula</i>	<i>ba</i>	<i>plap-an</i> (Miskitu)
deer	the	run-PAST3sg

‘The deer ran (away).’

[<i>yang</i>	<i>sana</i>	<i>as</i>	<i>tal-ikda]</i>	<i>ya</i>	<i>îr-ida</i>
[<i>yang</i>	<i>sana</i>	<i>as</i>	<i>tal-nayang]</i>	<i>kidi</i>	<i>kîra-na</i>
[<i>yang</i>	<i>sula</i>	<i>kum</i>	<i>kaik-ri]</i>	<i>ba</i>	<i>plap-an</i>
[I	deer	one	see-PAST1sg]	the	run-PAST3sg

‘The deer that I saw ran (away).’

Hopi is noted for the fact that the morphologically distinctive category P, and other non-verbal categories as well, can be selected by INFL (as in (13)), often the exclusive province of verbs:

(13) Hopi I and P (Masayesva Jeanne 1978):

<i>’ita-na</i>	<i>paasa-t</i>	<i>a-w-ni</i>
our-father	field-ACC	3sg-to-FUT

‘(Our) father will go to the field.’

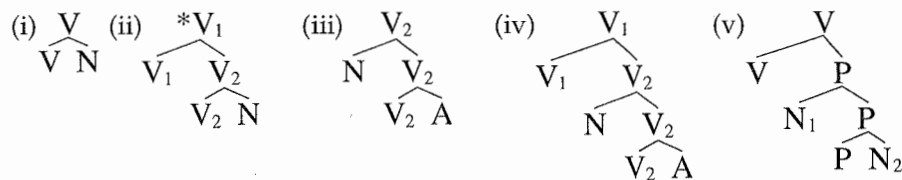
Examples such as these suggest that the association of morphosyntactic categories with the basic structural classes (1a-d), and the selection of categories by functional heads as well, exhibit the sort of freedom which is to be expected under the “thesis of no stipulations”. But there are important limitations on the interaction of the basic elements, limitations stemming from their elementary properties. This sets a certain bound on the possible diversity of argument structures, accounting for observed limits on them.

Assuming that transitivization, of the type represented by *cleared the screen* from *the screen cleared*, is achieved by embedding an elementary structure, the intransitive in this case, as the complement of a verb, the impossibility of hypothetical “causatives” like **sneeze the child* and **laugh the audience* follows directly from the nature of the complement. The hypothetical transitives here have the form depicted in (14ii), necessarily, since the embedded structures are the a-class configurations of (14i). Since these lack a subject, there is no source for the surface object in the transitive. By contrast, where (14iii) is embedded as the complement, well formed transitives result, since the c-class structure, predominantly adjectival in English, does present a subject, giving the surface object of the transitive, as in *clear the screen*. The same line of reasoning explains why derived ‘O’odham verbs of manufacture and production, basic a-class structures, cannot have the causative meaning when transitivized—instead, they are benefactives, involving an embedded b-class structure, as depicted in (12v); the subject of that embedded structure furnishes the surface object of the derived verb, corresponding thematically to the beneficiary.

(14) Limits on Argument Structures:

English (a): **sneeze the child*, **have Lassie puppies*, **make him trouble*.
 But: *clear the screen* (cf. the screen cleared), *darken the room* (cf. the room darkened).

‘O’odham (a): *kii-t* (house-make) ‘build a house’, *kii-cud* (house-make.TRAN) ‘build him/her a house’ NOT: ‘have him/her build a house’.
ñe’e (sing), *ñe’i-cud* (sing-TRAN) ‘sing for him/her’
 NOT: ‘make him/her sing’.
 But: *weg-i* (reddden-INCH), *weg-i-jid* (red-INCH-TRAN) ‘reddden it’;
moik-a (soft-INCH), *moik-a-jid* (soft-INCH-TRAN) ‘soften it’.



English denominal location and locatum verbs, like *box* in *box the apples* and *saddle* in *saddle the horse* have the underlying form depicted in (14v), the derived verb arising in the usual way, by successive cyclic incorporation (into empty P and finally Empty V). Assuming that this is correct, it follows that these verbs are consistently transitive, as seen in (15). The verbal head selects the category P, whose subject is internal to its own projection. This subject supplies the syntactic object of the derived verb. The P-projection itself, being just that, cannot occur as an autonomous verbal predicate, of course, hence the ungrammaticality of **the apples boxed*, **the horse saddled*, and the like. This pattern is evident also in languages with predominantly overt derivational morphology, like ‘O’odham, where locatum verbs have no intransitive counter parts.

(15) English (b): **the apples boxed* (cf. box the apples), **the horse saddled* (cf. saddle the horse).

'O'odham (b) (cf. Zepeda 1984): '*on-mad g hugi* (salt-APPL₁ art food) 'salt the food', *siil-rad g kawyu* (saddle-APPL₂ art horse) 'saddle the horse'.

By contrast, deadjectival verbs are freely transitive or intransitive. Since the subject of an adjective must be external to the A-projection, it must be hosted by a matrix category, typically V, which selects A as its complement, as in (14iii)—incorporation then gives the intransitive deadjectival verb straightforwardly, e.g., *clear* as in *the screen cleared*. English freely allows transitive deadjectival verbs as well, of course, as in *clear the screen*. This is the category which results when the intransitive appears as the complement in a higher verbal a-class structure, as depicted in (14iv).

I am assuming that the limitations just reviewed are consistent with the anti-stipulation these, since they derive from the nature of the elements involved, from the nature of the basic nuclear elements and relations presented in (1) above. The next example relates directly to the notion "relation" inherent in the projection of syntactic structure. Hypothetical verbs of the type represented by *apple* in **apple in the box* (meaning 'put apples in the box') and *arrow* as in **arrow straight* (meaning 'straighten arrows'), as indicated in (16) are generally impossible, in any language, so far as I can tell.

- (16) English (b, c): **apple_v in the box* (cf. box apples, put apples in a box),
**arrow_v straight* (cf. straighten an arrow, make arrow straight).

These impossible verbs are based on the otherwise fully legitimate structures (14iv) and (14v). The problem is this: these verbs are formed by incorporating the internal subject N₁ into the matrix verb. That is, they are not formed in the usual successive cyclic manner. Successive cyclic incorporation is legitimate because it always involves the merger of elements which are *related* in the sense of (1). Specifically, a head incorporates its *complement*. In the derivation of the ill-formed verbs, by contrast, elements merge which bear no relation to one another—a head is related to its complement, but it bears no relation to the subject of its complement.

This is a restrictive interpretation of the matter. To say that the matrix V in (14v) bears no relation to N₁, the subject of its complement, flies in the face of the fact that this is precisely the "relation" which holds between a verb and a nominal argument which it "exceptionally case-marks". Nonetheless, I maintain that the explanation (14v) bears no relation to the subject of its lexical complement; this reflects the undeniable fact that the latter is not an argument of the former. Processes, like merger or incorporation, are grammatical expressions of true relations. What, then, of exceptional case-marking? Let us assume that case-marking is also the grammatical expression of a relation. If so, then the relation involved is of a different sort from the elemental relations defined in (1) above. This is understandable in view of the fact that the latter relations pertain to lexical heads, while Case belongs to the systems of functional projections, to the extended projections which dominate the lexical projections. For the latter, just the relations head-complement and subject-predicate are relevant—this is part and parcel of the very notion "lexical head". For the functional projections, on the other hand, other, additional, relations are relevant, including "local c-command", "government", and "binding". We move now to this realm for a brief examination of observed diversity.

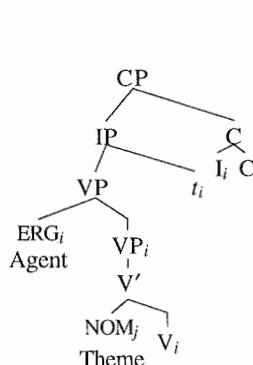
In her recent book, *Case, Scope, and Binding*, Bittner (1994) has developed a theory of marked structural Case which attributes to that phenomenon certain fixed properties, invariant across languages. An argument *A* to which a marked structural Case is assigned must be "Case-bound", which is to say it must stand in a structural relation to a head *H* which satisfies all of the following requirements: (i) *H* delimits (projects or governs) a small clause, (ii) *H* locally c-commands *A*, and (iii) *H* governs a "competitor" (an unmarked co-argument of *A*). These are

the fixed defining attributes of marked structural Case. An argument which does not have these attributes must be unmarked, that is to say “nominative”, or else it must have an inherent Case. Diversity is allowed by this system in a number of places; I will exemplify just one.

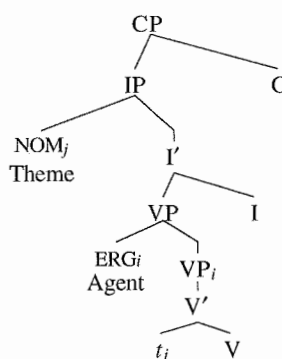
Another invariant aspect of the the grammar of Case has to do with the unmarked Case, the nominative. Not only must a nominative *not* appear in a Case-binding configuration, it must satisfy a structural requirement as well. Specifically, it must be governed by a Case-like head—i.e., K (case) or C (complementizer). The principal division among ergative languages is attributable to this requirement. In “morphologically” ergative languages, the nominative is licensed *in situ* (as in (17a)); in “syntactically” ergative languages, on the other hand, the nominative must raise to satisfy the requirement—it raises to the specifier position in IP, where it is governed by the complementizer (as in (17b)).

(17) Case, Structural Relations, and Transparency—
Two Types of Ergativity (Bittner 1994):

(a) Morphological



(b) Syntactic



The difference is due, not to variability in the basic structural relations involved in licensing the nominative, but rather to the widely recognized variability in what functions as a barrier to government (cf. Rizzi 1978). In morphologically ergative languages, the verb, INFL, and C, form a “discontinuous head”, rendering IP and VP transparent to government from C, permitting the nominative to remain in its d-structure position, where it is asymmetrically c-commanded by the subject. In syntactically ergative languages, IP and VP are barriers to government, forcing the nominative to raise. The justly renowned characteristics of syntactically ergative languages follow rather directly. In general, the object, being nominative, is relatively high in the structure, like the subject in an accusative language. Consequently, in syntactically ergative structures, agreement is according to the canonical ergative pattern (uniting objects and intransitive subjects, in opposition to the transitive subject), objects take wide scope in semantic representation (in relation to the subject), objects are relatively more “accessible” than subjects, and object anaphors must be bound by an argument in the matrix, not by the local subject.

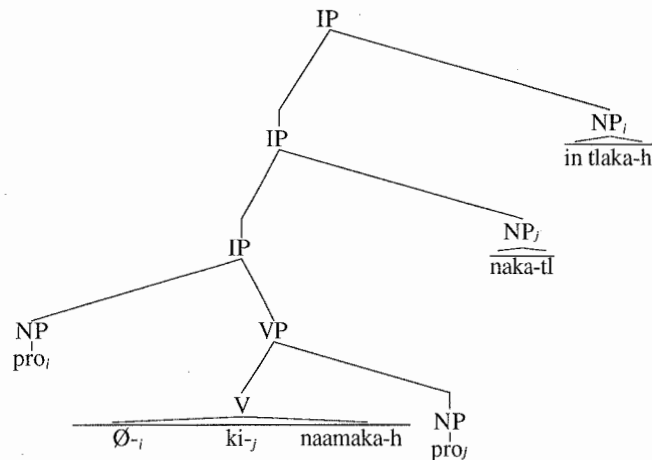
Case is assigned to phrases in argument positions. It does not follow from this, of course, that argument positions are necessarily occupied by overt arguments. The relations “argument of” and “argument position” refer to aspects of grammar which are invariant—they are fixed, immutable attributes of syntactic projections. However, the morphosyntactic *realization* of arguments is not fixed. On the contrary, it is variable both *within* languages and *across* languages. The distinction between languages which do and do not permit so-called “pro-drop” is now well known (cf. Chomsky 1981, Rizzi 1984, and much subsequent literature). And work during the past fifteen years on so-called non-configurational languages (cf. Chomsky 1981; Farmer 1980, 1984; Jelinek 1984; Baker 1994; Jelinek and Demers 1994) has led to the identification of a

linguistic type which, in a real sense, epitomizes the diversity which is achieved by the languages of the world. This is the type whose representatives have the characteristic that syntactic arguments are not directly represented by overt (nominal) phrases, but rather by morphology internal to the verb word (or an auxiliary). Argument position are construed with the verbal morphology, but they are themselves phonologically empty. Overt nominal phrases may or may not appear in association with a verb. When they do appear, they are not a part of the core clause; instead, they are *adjuncts* to it—i.e., to IP—and they are related to the “actual” arguments the way a dislocated phrase is related to a resumptive pronoun. All of this is perfectly possible, given the anti-stipulation thesis, and it is not surprising that such languages actually exist—one language said to be of this type is Nahuatl, as exemplified in (18):

(18) Free Word Order, Pronominal Argument Languages, and Polysynthesis (Farmer 1980, 1984; Jelinek 1984; Baker 1994; Jelinek and Demers 1994):

Nahuatl:

- (i) \emptyset -ki-naamaka-h naka-tl in tlaka-h
3sg-3sg-sell-PL meat-ABS the man-PL
'The men sell meat.'
- (ii) \emptyset -naka-naamaka-h
3sg-meat-sell-PL
'They sell meat.'
- (iii) \emptyset -ki-naamaka-h
3sg-3sg-sell-PL
'They sell it.'



The argument structure is fully realized internal to the VP, and it is *overtly* represented, if at all, only within the verb word. Overt nominal expressions are adjuncts, bearing no specifiable structural relation with the arguments of the verb or with each other.

This has consequences. Since adjuncts bear no structural relation to arguments or to each other, certain effects familiar from configurational languages are not observed. For example, the well-known effect associated commonly with Binding Condition C fails to hold between arguments and adjuncts (or between adjuncts) in non-configurational languages. Thus, in Mohawk and Navajo, a (non-overt) pronominal subject may be coreferential with an overt R-expression internal to the object, as in (19) and (20):

(19) Mohawk (Baker 1994):

Wa'-t-há-ya'k-e' [Sak raó-[a]'share'].
FACT-DUP-1sS-break-PUNCT [Sak MsP-knife]
'He broke Sak's knife.'

(20) Navajo (cf. Platero 1978, 1982):

['Adáá'dáá' shi-zhé'é k'í' nayiisnii']-éé yí didootik.
[yesterday my-father horse bought]-REL will.brand
'He will brand the horse that my father bought yesterday.'

Here, the coreference relation which is impossible in English, is perfectly possible in Mohawk and Navajo. It is possible, precisely because there is no structural relation whatsoever between the subject argument and the overt nominals, hence no possibility of the c-command relation which is relevant to the Binding Theory. This is one characteristic of the type of languages variously referred to as “non-configurational”, “pronominal argument” (PA) (cf. Jelinek 1984), or “polysynthetic” (cf. Baker 1994, invoking and refining Sapir’s original 1921 designation).

Another characteristic of these languages is free word order, an expected consequence of the absence of significant structural relations between adjuncts. The situation is, in truth, more complicated than what is implied by saying that word order is necessarily free due to the lack of relations among adjuncts, since sheer linear order is itself, properly speaking, a structural relation, and many non-configurational languages make use of it in structuring discourse, as demonstrated by a number of linguists, including Mithun (1987), Payne (1987), and Swartz (1985, 1987), in their careful studies of word order variation in languages generally considered to epitomize the “non-configurational” type. In some languages, Navajo being an example, the “use” of word order is so important in the construction of sentences in actual discourse that it is anything but “free”, observationally, in the generally accepted sense. In general, however, word order in non-configurational languages is “free”, in the sense that it is independent of the structural relations defined by syntactic projections from lexical and functional heads. Even in Navajo, word order is free where otherwise strong pragmatic factors are absent—thus, while the SOV order is normally overwhelmingly preferred with a verb form like *áyiilaa* ‘he/she made it’, the OSV order is perfectly possible in a sentence like *díí sis shizhé’é áyiilaa* (this belt my father made) ‘My father made this belt.’

On the other hand, many reputedly configurational languages exhibit great apparent freedom of word order. The configurational Uto-Aztecan language ‘O’odham shows approximately the same range of surface word order variability as does the non-configurational Central Australian language Warlpiri. In ‘O’odham, however, it is possible to show that there is a “basic” word order and that deviations from it are by movement—‘O’odham is therefore a *scrambling* language, not a non-configurational language. By contrast, in the non-configuration Warlpiri, there is no “basic” word order, and it is possible to argue that, for the most part, there is no movement. In theory, there *can* be no movement, in a language like Warlpiri; movement is a relation (i.e., a chain) between structural positions, and adjuncts do not occupy structural positions in the required sense—perhaps, technically, the notion “adjunct” is not the correct one here; perhaps a distinct relation, such as that discussed by Dwivedi (1994), in her study of the much more strongly disconnected Hindi “right dislocated” structures, is what is at issue here.

This case represents a type of linguistic variability which is problematic, in a certain sense. It is a case of “concealed” diversity, raising questions about the problem of distinguishing one type from another. How does one know whether one is dealing with a non-configurational language or a scrambling language? Curiously, for the linguist, this is less of a problem than it might be for a first language learner. There are tests, earmarks, such as the coreference test mentioned in connection with Mohawk and Navajo. ‘O’odham, despite its *apparent* non-configurationality, is on the side of English when it comes to coreference in structures corresponding to those in (19) and (20). A linguist can find this out, by asking appropriate questions in the familiar way. But what is the nature of the data which would enable a first language learner to find this out? The answer to this is not obvious. Perhaps it is a *collective* assemblage of characteristics that betrays the type—extensive use of null anaphora, the presence of “rich” agreement morphology for subject and object, lack of true quantifiers (cf. Baker 1994), lack of (free-standing) nominal anaphors, use of noun incorporation. All of these attributes are present in Mohawk (Baker 1994). And all except noun incorporation are arguably present in the configurational language ‘O’odham. Is it noun incorporation that matters then? Does that unmask the type? Navajo lacks noun incorporation, as a productive process, yet it sides with Mohawk, not ‘O’odham, in relation to Condition C of the Binding Theory—that condition is relevant in ‘O’odham, but not in Navajo (for the relative clause structure of (20), but not for the possessive structure corresponding to (19)). Warlpiri sides with Mohawk in failing to show any c-command asymmetries whatsoever among adjuncts, but it sides with ‘O’odham when it comes to judgments about actual coreference in structures corresponding to (19)—coreference is uniformly impossible between a name and a pronoun (overt or non-overt) where the name is embedded within an adjunct phrase, and it is uniformly possible where the reverse relation holds. How are these details learned? Or perhaps the question should rather be this: *are* they in fact learned consistently? Or does a learner simply *chose* a possible analysis in ambiguous cases?

I think that the possibility just mentioned is a real one. That could explain, for example, why it is that two reputable linguists can present detailed analyses of the relative clause in a single language, one attributing to it the “internally headed” structure, the other the “left-headed” structure. This has happened more than once in the literature, one example being the analyses of Lakhota by Williams (1985) and Van Valin (1977). In many such cases it can be shown that both analyses are valid, both are real and are variously distributed among speakers, not necessarily in coherent “dialect” clusters. Further examples of recorded variability in relation to the internally headed relative clause construction come from other verb-final languages, including the Misumalpan language Sumu (Norwood 1985, Green 1992), the Athabaskan language Navajo (Platero 1974, 1978), the Uto-Aztec language Hopi (Jeanne 1978), and the Eskimo-Aleut language West Greenlandic Inuit (Fortescue 1984, Bittner 1994). The variability here is surely abetted by the circumstance, common in languages with the internally headed relative clause, that the “relativized” argument is fronted within its clause, effectively reducing the range of surface evidence which would encourage a learner to pick one analysis over another.

Richard Hudson has made a detailed study of the English double-object construction (Hudson 1992) and has developed a picture of variability in that construction which belongs properly to this discussion. He demonstrates that there are three different double-object grammars in English, saying that “most of the data on double-object constructions available to a learner make it possible to construct any one of three different grammars ...,” and he speculates further “that these grammars are randomly distributed among the population and therefore influence each other” (Hudson 1992:274).

At the much more basic level of argument structure, with which I began this brief essay, “concealed” diversity is also present, and it presents a clear challenge for anyone who might be persuaded to think along the lines I have suggested here. I will cite just one example. Consider again the observation that English denominal location and locatum verbs are overwhelmingly transitive; unlike deadjectival verbs, they do not enter into the common causative-inchoative

transitivity alternation (cf. Levin 1992)—hence **the books shelved*, beside well-formed *the road narrowed*. This follows directly from the nature of the elemental b-class and c-class projections. If the inner structure of English location and locatum is fundamentally a P-category b-class projection, then their transitivity follows from the fact that their derived verbal status entails embedding the b-class projection as the complement to a verbal a-class projection. The verbal head then commands the internal subject, which must then, *ceteris paribus*, appear as an object in sentential syntax. This is essentially the explanation which we have suggested for the consistent transitivity of location and locatum verbs. The explanation is not without its problems, however. There is an alternative analysis which would permit the transitivity alternation at issue. The anti-stipulation thesis permits free categorial association with the basic structural configurations of (1). Therefore, the head of the b-class projection could be realized as an empty V, rather than P, giving an intransitive verbal projection straightforwardly. And, in fact, this is attested by such English verbs as those appearing in such intransitive constructions as *the plane landed*, *the cursor centered*, *the back vowels fronted*, *the front vowels backed*, and the like.

The facts here are quite solid, so far as I am aware; unlike the English double object construction, this involves remarkably little variability across speakers. How, then, does one learn that *shelve*, *corral*, *box*, *bottle*, *saddle*, *blindfold*, and *shoe* all share the same structure and, importantly, do not have the simpler structure of *land*, *front*, and the like? The question assumes, of course, that the structural assignments are correct, of course. While this is not necessarily so, I maintain that, in relation to the syntax of argument structure itself, the analyses *are* correct and, further, that the question is meaningful. How is it learned? The answer, however, cannot come from the aspects of lexical argument structure which I have discussed here. It surely involves factors relating to the more “fine-grained” semantics discussed in a number of recent works by Jackendoff (1985), Pinker (19), Labelle (1992), Pesetsky (1992), Bierwisch (1988), Wunderlich (1994), and Kiparsky (1994), among others. It is quite possible, for example, that Kiparsky (1994) is correct when he says that what distinguishes the location and locatum verbs is the requirement that the derived verb necessarily “denotes a canonical use of X”, where X is the reference of the source N. This separates *shelve* from *land*, to be sure; but it is not clear why the two types should be structurally different. That remains a mystery.

This is the challenge of diversity. Diversity is sometimes, perhaps often, “concealed”—this is nothing more than that well known phenomenon of “structural ambiguity”. “Concealed” diversity sometimes gives rise to variability in the grammars acquired by different learners. Where there is variability of this sort, as in the Hudson’s study of the English double object construction and, evidently, in relativization in certain verb-final language, the situation is understandable and not particularly problematic. But where learning takes a particular direction, despite structural ambiguity, the linguistic problem is clear. What factors determine the choice of a grammar?