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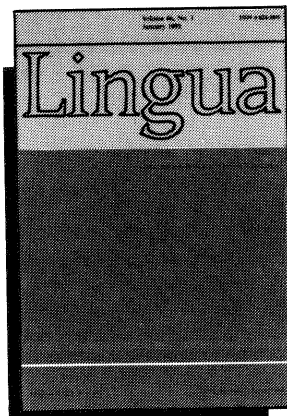
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Some observations on the contributions of local languages to linguistic science

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Lingua

Some observations on the contributions of local languages to linguistic science

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Abstract

Much can be learned about the human linguistic faculty through the study of a single natural language, or through the study of one linguistic family. Fundamental properties of Universal Grammar have been brought to light through the study of a few Indo-European languages, for example. But the simple exercise of comparing an imaginary world of just one language, or one language family, with the existing world of some 6,000 languages makes it clear that linguistic diversity is a necessary condition for an understanding of both the truly elemental principles of human linguistic knowledge and the full range of possibilities permitted by them. The grammatical systems of 'local' languages have been, and continue to be, crucial to the discipline. Examples from Hopi (North American) and Lardil (Australian) illustrate the thesis that linguistic diversity is necessary to understand even the linguistic features and principles involved in phenomena of an apparently accessible character – i.e., grammatical number and affixal concord. Syntactic examples from Navajo (North American) and Misumalpan (Central American) exemplify the role which (apparent) counterexamples can play in compelling researchers to continue to press for deeper understanding of grammatical systems.

1. Introduction

In 1929, Edward Sapir made an elegant and apt tribute to the indigenous linguistic diversity of California, noting that in that state, "there are greater and more numerous linguistic extremes than can be illustrated in all the length and breadth of Europe. Such a group as German, French, Irish, Polish, Lithuanian, Albanian, Greek, Basque, Turkish, Hungarian, Finnish, and Circassian – to list European forms of speech with maximum distinctness – exhibits a lesser gamut of linguistic differences, as regards both phonetic elements and peculiarities of structure, than an equal number of languages that might be selected from among those spoken in California" (Sapir and Swadesh, 1929 [1964]). And he went on to say that "it would be difficult

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to overestimate the value of [the technical studies documenting these languages] for an eventual philosophy of speech. They have something of that apparent aloofness from, yet uncanny subterranean relevance to, the psychology of thought and of patterned expression that a purely theoretical branch of mathematics possesses in relation to concrete physical problems which one would imagine to be safely beyond its reach. All forms of linguistic expression are reducible to a common psychological ground, but this cannot be properly understood without the perspective gained from a sympathetic study of the forms themselves" (Sapir and Swadesh, 1929 [1964]).

Thus, while linguistic diversity, even within California alone, is sufficient to render unsurprising Martin Joos' famous, though perhaps inaccurate, attribution to the Boasian tradition of the notion that "languages can differ without limit as to either extent or direction" (Joos, 1958: 228), this diversity is nonetheless constrained by, or "reducible to", something which is invariant in the human species. There is a methodological paradox here. We cannot learn what we seek to know about that which is invariant in grammar without studying that which is variable in it. We need linguistic diversity.

But linguistic diversity cannot now be taken for granted, given the real possibility that 90 percent of the world's languages will be lost or seriously endangered in two hundred years (Krauss, in Hale et al., 1992). The languages most endangered, of course, are what I have referred to as 'local' languages in the title, indigenous languages associated with a defined region within a state and subordinated to the language of that state (and sometimes to several languages representing various 'layers' of socio-economic advantage and prestige within the state). Most Native American languages fall within this category, as do the languages of Aboriginal Australia. In this discussion, I will present a few linguistic examples of the diversity which these two areas represent, the point being a very simple one. Suppose English were the only language. Or suppose English, Dutch, Hindi, Swahili, Chinese, Indonesian, Spanish, and Arabic were the only languages. What would we miss in our study of the human linguistic capacity? It's clear that we would miss a lot of the variability, but would we miss aspects of universal grammar, of that which is invariant? I begin with a very simple example, the grammatical category of number. The example is perhaps ridiculously simple. I apologize for that. But the question is, would we 'get it right' if we only had English, or even English and Arabic, say?

2. Number

The category of number is exemplified by the English opposition *singular* and *plural*, in the nominal system (*cat, cats; child, children; goose, geese*), the verb (*sees, see; am, are*), and the determiner (*I, we; this, these*). Even from this small sample, it is evident that number represents an abstract mental structure. That is to say, while there is a uniform *opposition* here, it is not uniformly realized in the actual forms of words. As linguists we are interested in the mental representation of this grammatical category. We want to determine what it is that people have when they 'know' this system. We only have indirect evidence of such things, of course –

basically just the observed words, sentences, and intuitions about them. And these are confusing and obfuscatory, since they do not uniformly reflect the basic contrasts and relations.

So how does English number work? There are at least two possibilities: (i) there are two distinct numbers, singular and plural, distinct from one another, but unrelated, just as *one* and *many* are not specifically related words (except as members of a large class of words and expressions naming the cardinalities of sets of things); (ii) English number reflects a binary opposition, a property (or feature) which is either present or absent.

Each of these theories entails certain questions which cannot be answered with English data alone, questions which can be answered only by examining the linguistic diversity which the world still precariously offers. The first hypothesis implies that there could exist languages with *any* number of different grammatical categories of number – any collection from an essentially unending list: nought, singular, dual, trial, quadruple, quintuple, sextuple, septuple, and so on. This may seem unlikely, but it is not *a priori* impossible, since we handle precisely this conceptual system when we name the cardinalities of sets: zero, one, two, three, four, five, six, seven, Thus the first theory is perfectly appropriate as a theory of the numbers, or numerals, of a language. To exclude it as a possible system of *grammatical* number, we must determine the 'true' theory of this category. To do this, it helps to look at languages other than English.

The second theory implies that the grammatical category of number is organized in pairs, binary oppositions defined by features with positive or negative values. Suppose we consider this possibility. Here again, we need to look at other languages. With English alone, we cannot determine whether the system involves the opposition [\pm singular] or [\pm plural], or some other opposition (such as [\pm minimal], etc.). We cannot even determine whether this matters one way or another.

In the Uto-Aztecan language Hopi, spoken in northeastern Arizona, number is reflected in several grammatical subsystems. The nominal system is exemplified by the following, where a three-way number distinction is made:

(1) <i>Singular</i>	<i>Dual</i>	<i>Plural</i>	
wùuti	wùuti-t	momoya-m	'woman'
taaqa	taaqa-t	tàataq-t	'man'

With just this, or with the dual of Arabic, we might consider the possibility that the category of number is not binary – it could be ternary, for example. And this, in turn, opens the door to the possibility that an indefinite variety of number systems exists, some binary, some ternary, some quaternary, some quinary, and so on. But this does not seem to be true in actual fact. Rather, systems of the English type and of the Hopi type abound among the world's languages, but systems of other sorts (e.g., systems with a 'paucal' or trial number category) are rare. This observation suggests that we should think of the system exemplified by the Hopi animate nouns in (1) above as implicating a pair of binary oppositions (with choice of feature names essentially arbitrary):

- (2) (a) [\pm singular]
 (b) [\pm plural]

The dual number is the intersection of the negative values of the two features [singular] and [plural]. From two binary features, then, we obtain the observed three-way distinction. And this would be a good move, since the theory involving binary oppositions is constrained in a manner which will permit us to work toward a universal theory of number marking. A theory with *n*-ary features is unconstrained and accordingly predicts that virtually anything is possible, contrary to observed fact.

However, the binary theory could be wrong, and we have seen no empirical evidence in its favor, apart from the fact that languages are rare which do not conform either to the English one/more-than-one pattern of number opposition or else to the Hopi singular/dual/plural pattern. The question, of course, is whether we can find evidence from languages of the Hopi type that dual is the intersection of the negative values of a *pair* of binary oppositions. Can we find evidence that these two oppositions exist independently? In this connection, consider the following sentences of Hopi:

- (3) (a) Pam wari.
 (that run:PERF)
 'He/she ran.'
 (b) Puma wari.
 (those run:PERF)
 'They (two) ran.'
 (c) Puma yùutu.
 (those run:PERF)
 'They (plural) ran.'

These sentences have pronominal subjects and simple intransitive verbal predicates. The verb suppletes for agreement with the number of the subject. And the subjects assume different forms depending on the number category which they mark.

While the sentences of (3) represent a three-way opposition, the subject and the verb each indicate a two-way opposition only, albeit a different opposition in each instance. We can see clearly here that the dual interpretation of (3b) is due to the intersection of two distinct binary oppositions, one of which is realized overtly only in the subject pronoun, the other only in the verb. Hopi pronouns are distinguished according to the opposition [\pm singular], while verbs are distinguished as [\pm plural]. Hopi, therefore, encourages the conviction that the binary organization of the category of number is at least possible. It may in fact be necessary (i.e., universal) in natural languages, and even a rather modest further exploration into the diversity of existing languages certainly reinforces such a belief.

Looking back at Hopi itself, briefly, it is possible to discern the basic structure of the system within the nominal morphology alone – suffixes (*-t*, or *-m*) realize the nonsingular value of the [\pm singular] dimension, and reduplication realizes the plural value of the [\pm plural] opposition. A few additional examples follow:

(a) In Navajo, a Southern Athabaskan language, some suppletive verbs make a three-way distinction (like the Hopi noun); nonsuppletive verbs are simply nonplural unless specifically marked plural by prefix. Nouns and pronominals (including agreement morphology) make the [\pm singular] contrast (like Hopi pronouns).

(b) In some Tanoan languages of the American Southwest, the nominal system employs one and the same suffix for the nonsingular of animates and the nonplural of inanimates. The unmarked nominal corresponds to the positive value of these number categories – singular for animates, plural for inanimates. It follows that dual number in Tanoan is the intersection at the minus values [\pm singular, \pm plural], just as in Hopi, and further that the dual is realized by the suffix described above.

(c) In Warlpiri of Central Australia, transitive clauses involve the juxtaposition, within the auxiliary, of subject and object agreement affixes (in that order). The language makes the same three-way number distinction as Hopi, Navajo, and Tanoan. And like those languages, Warlpiri gives evidence of a feature system of the suggested type. In the subject-object juxtaposition just mentioned, certain 'reductions' occur when both are nonsingular. In this circumstance, duals are disallowed, being replaced by plurals. This principle can be formulated economically by simply omitting the feature value [\pm plural] from any juxtaposition of nonsingulars. Assuming 'late insertion' (cf. Halle and Marantz, 1993; Halle, 1996), this will ensure that only plural forms appear in these cases (regardless of the actual number category of the associated arguments), the plural being the default nonsingular.

In all of these cases, we see evidence for the linguistic reality of the features implicated by a theory which analyzes the grammatical category of number as a pair of distinct oppositions. Hopi, for example, shows that the oppositions [\pm singular] and [\pm plural] function autonomously – i.e., each is independently real in the grammar of the language, though the two function together to express the Hopi three-way number system. Precisely the same feature system functions perfectly to define the three-way systems of Navajo, Tanoan, and Warlpiri, languages utterly distinct from Hopi. Consistently, dual number is straightforwardly derivative and typically invocable with minimal cost in the feature system. The dual enters into two natural classes, defined in a maximally simple manner within the suggested feature system, to wit [\pm singular] and [\pm plural] – as in the Tanoan marked animate and marked inanimate, respectively. This property is involved in formulating the Warlpiri reduction process mentioned above.

These examples are drawn from one of the most 'accessible' areas of grammar. But while the category of number is accessible, in an obvious sense, its surface realization across languages exhibits great diversity, and a great many individual languages fail to present the observable data which will permit us to get at the fundamental character of the oppositions involved and, thereby, to come closer to an understanding of the universal organization and inventories of the category of number. The same is true of grammatical categories in general, in fact.

The example of grammatical number is a small example of the tension inherent in the scientific study of grammar – i.e., the seemingly paradoxical circumstance that we must look at diversity in order to discover what is universal, or uniform, in human linguistic knowledge. Diversity matters in the area represented by this brief

example, but it is in fact essential to progress in every area of grammatical research. I turn now to another example of this relatively ‘accessible’ type.

3. Concord

This example comes from the area of morphosyntax, involving the phenomenon sometimes called ‘concord’, whereby the subparts of a phrase are marked for some grammatical category pertaining to the phrase as a whole. Case concord is very familiar to us, since many Indo-European languages show it. The example in (5) below is from Lardil, an endangered Australian Aboriginal language of North Queensland. In Lardil plain non-future clauses, the object of the verb is overtly marked for accusative case. And if the object is ‘complex’, consisting for example of a demonstrative, an adjective, as well as the head noun, each of these subconstituents will bear the accusative ending, as indicated:

- (4) diin-in karnan-in maarn-in
 this-ACC long-ACC spear-ACC
 ‘this long spear’

This behavior is altogether familiar, of course. The principle is rather simple, reflecting a universal and favored option among languages with suffixal case inflection: attach suffixal Case to the head of the phrase it locally governs, where ‘head’ is understood as referring to *each* head in the minimal domain locally governed by Case, the accusative (ACC) in the example given.

In Lardil, and most other Australian languages, a possessor phrase (or genitive, glossed GEN) also acquires the case inflection of the accusative object of which it is a part, as in (5):

- (5) kantha-kan-in karnan-in maarn-in
 father-GEN-ACC long-ACC spear-ACC
 ‘father’s long spear’

However, there are limitations on concord, evidently. Not every word is properly ‘in the domain’ of an accusative case governing the nominal as a whole. Thus ACC does not attach to a genitive which is itself contained within a larger genitive constituent. Thus, there are limits on ‘how far down’ case marking can extend, as seen in (6). This sort of limitation is also quite familiar, of course, being a reflection of the general structural relation of locality. Case concord cannot invade a subordinate domain (here, the domain headed by the genitive governing *nyalmungan kantha* ‘our father’); thus, the inner genitive fails to acquire the accusative inflection:

- (6) nyalmu-ngan kantha-kan-in karnan-in maarn-in
 us-GEN father-GEN-ACC long-ACC spear-ACC
 ‘our father’s long spear’

Most of what we see here (apart from the details of morphology) belongs to the realm of that which does not have to be *learned* in the course of first language acquisition. It is part and parcel of universal grammar. We are not surprised.

But given the principles of case concord, there is much more that we would be surprised *not* to find. If suffixes can attach to the head (i.e., *any head*) in the domain they locally govern, then it is natural to expect, for example, that overt suffixal Tense would also exhibit concord, spreading onto the heads in the verb phrase it locally governs. But we have something to learn here, for this behavior is the exception, not the rule. Lardil, and its sister Wellesley Island languages Kayardild and Yangkaal, belong to the exceptional class of what might be termed tense- (or modality-) concord languages. Thus, while the non-suffixal perfective of (7a) does not participate in tense concord, the suffixal future (FUT) tense of (7b) does undergo spreading of the type we might expect to be possible, despite its rarity among languages of the world:

- (7) (a) Ngada yuurr-were kiin-in karnan-in maarn-in.
 I PERF-throw that-ACC long-ACC spear-ACC
 ‘I threw that long spear.’
 (b) Ngada were-th-ur kiin-kur karnan-kur maarn-kur.
 I throw-*th*-FUT that-FUT long-FUT spear-FUT
 ‘I will throw that long spear.’

The question is, why is tense concord of the type represented by (7b) so rare? But, on second thought, perhaps the *real* question should be, why is it possible at all? It should perhaps be impossible, in fact, since it could be seen as invading a subordinate domain (that of the Case projection which governs the object, i.e., the domain delimited by ACC) and, therefore, as violating the principle of locality. This would certainly account for its rarity. So what accounts for its occasional possibility, as in the Wellesley Island languages of North Queensland?

The answer may be something like the following. Notice that the future suffix (-FUT) *replaces* the accusative (-ACC), in effect. This suggests that the Case and Tense nodes are merged in syntax and realized by the future suffix alone at the level of phonological form. If Case and Tense were merged in this way, they would not define distinct domains, and the single ending could then be realized in the manner which is normal for Lardil inflections, i.e., as suffixed to each head in the shared domain. What is special about Lardil is not that it permits a violation of locality – by hypothesis, no language does that – rather, it permits a merger which results in the circumstance that Tense *appears* to undergo concord, like Case, and in the process, appears to invade a subordinate, non-local domain. The merger itself represents a perfectly commonplace, and generally licit, syntactic process. The process involved, i.e., the raising of Case to Tense is a standard instance of Head Movement (cf. Travis, 1984; Baker, 1988). The only limitation on merger is that it be local; we assume Case-Tense merger to be local here, though that depends on the relationship between the verb and Tense and, in particular, on whether the structure projected by the verb defines a domain which is autonomous from that of Tense and therefore

constitutes a barrier between the latter and Case. We must assume that the verb does not project such a barrier.

If all of this comes together in the suggested manner, then the existence of tense concord is to be expected. But its rarity is also to be expected, since it is a *marked* phenomenon whose occurrence requires a constellation of factors, each unremarkable in itself, but remarkable in concert.

Are there any true surprises in the case and tense of concord? Let us continue looking at the domains into which concord can penetrate. If what we have suggested so far is correct, concord cannot really violate the locality condition. But consider the following sentences:

- (8) (a) Ngada yuurr-kurri maa-n#nanga-n.
 I PERF-see child-ACC#person-ACC
 'I saw the child.' (cf. mangarda 'child')
- (b) Ngada kurri-th-ur mang-kur#dangka-r.
 I see-th-FUT child-FUT#person-FUT
 'I will see the child.'

The Lardil word *mangarda* (= manga#da < mang#dangka) 'child' is a compound, one item from an impressively large inventory of nominal compounds, some rather opaque and eroded (like this one) and some relatively transparent. The sentences of (8) illustrate the fact that Lardil concord does not respect the integrity of compounds. It treats the parts of a compound as if they were separate words – the relevant inflection attaches to each component, not merely to the whole (as it would in German, or Irish, say). This is a surprise if lexical integrity is the general rule in morphology. Why is the Lardil pattern possible in that language, but not in another, even one which generally exhibits concord? Lardil, and its Wellesley Island sister languages, forces this question upon us, another benefit from linguistic diversity.

In addition to the locality requirement, an element undergoing concord, or 'spreading', must be an affix. It is worth asking whether there are any limits on the *nature* of the affix. We know, for example, that verbs can be affixes – the causative is an affix belonging to the verbal category in many languages; and in incorporating languages, a verb which hosts an incorporated noun is likewise an affix in many languages. It is natural to ask whether a suffixal verb, for example, could participate in concord. This might be seen as surprising, since a lexical (as opposed to functional) category is at issue; but it would not be surprising from the strictly morphological point of view, where the category *suffix* is the relevant one. The Wellesley Island languages, including Lardil, possess a set of semantically 'case-like' suffixal verbs. Perhaps it is not too surprising that these participate in the concord system:

- (9) (a) Ngada ketharr-iya-th-ur.
 I river-GO-th-FUT
 'I will go to the river.'

- (b) Ngada kiin-kiya-th-ur ketharr-iya-th-ur.
 I that-GO-th-FUT river-GO-th-FUT
 'I will go to that river.'
- (c) Ngada mutha-ya-th-ur ketharr-iya-th-ur.
 I big-GO-th-FUT river-GO-th-FUT
 'I will go to the big river.'

Note that the suffixal verb (-ya 'go to') can itself be inflected for Tense; this inflection is 'carried along' in the process resulting in concord.

While the suffixal concord system of Lardil, and its fellow Wellesley Island Languages (e.g., Kayardild, cf. Evans, 1995), is not fully understood as yet, it is expected on the basis of what is known so far that it will be consistent with principles of universal grammar and, therefore, essentially confirmatory in relation to that aspect of the general program of linguistic research. As is often the case, however, the Lardil details of overt morphophonological realization at the surface syntactic representation of sentences offers up things that are new and relatively rare. In this, Lardil, and each other natural language, contributes to a parallel program of linguistic research, that of understanding the extent and limits of surface diversity. In the following section, an example of a more syntactic character will be discussed.

4. Rightward movement

In languages which use overt syntactic movement in realizing the operator-variable binding configuration, it is overwhelmingly the case that the movement is to the left periphery of the relevant clause (cf. Rizzi, 1996). It is natural to ask whether this is a true and fundamental invariant characteristic of natural language. Is quantifier movement, or movement resulting in variable-binding, ever rightward?

On the face of it, Navajo indirect questions (Schauber, 1979) and negative polarity constructions (Hale and Platero, 1996) involve rightward movement. I will exemplify this with examples of negative polarity. The overt expression of negative polarity is achieved in Navajo by means of two constructions, in fact. One of these involves an in situ polarity expression, as in (10):

- (10) (a) Shi-zhé'é doo ha'át'íi-da nayiisnii'-da.
 my-father NEG what-DA 3.P.3.-DA
 'My father has not bought anything.'
- (b) Shi-zhé'é doo háágóó-da deeyáa-da.
 my-father NEG where-AL-DA P.3.go-DA
 'My father is not going anywhere.'
- (c) Shi-zhé'é doo háágóó-da deeshááł nízín-da.
 my-father NEG where-AL-DA F.1s.go P.3.want-DA
 'My father does not want to go anywhere.'

The construction illustrated by the sentences of (10) involves the use of Navajo h-initial nominals, 'h-words', close functional parallels of English wh-words. Nega-

tive polarity constructions of this type are characterized by the use of the negative particle *doo* immediately before the indefinite nominal, and the latter is followed immediately by the enclitic *-da* (glossed DA) – the same element which appears as the ‘scope-marker’ at the end of the clause in negatives.

The second construction which Navajo uses to express negative polarity is exemplified in (11):

- (11) (a) Shi-zhé’é doo nayiisnii’-í-da.
 my-father NEG 3.P.3.buy-PRN-DA
 ‘My father did not buy anything.’
 (b) Shi-zhé’é doo deeyá(h)-í-góó-da.
 my-father NEG P.3.go-PRN-AL-DA
 ‘My father is not going anywhere.’
 (c) Shi-zhé’é doo deesháál nízín-í-góó-da.
 my-father NEG F.1s.go P.3.want-PRN-AL-DA
 ‘My father does not want to go anywhere.’

In these versions of the Navajo polarity construction, the indefinite nominal is missing from its expected post-negative position. Instead, an as yet unidentified element appears following the verb – specifically, between the verb and the enclitic *-da*, the negative scope marker. This new, unidentified element, having the shape *-í-*, is identical to the morphological base of certain pronouns, determiners, and question words, as shown in (12):

- (12) sh-í ‘1st singular’
 b-í ‘3rd’
 há-í ‘who’
 é-í ‘that’

These are perspicuous examples of determiners containing the element at issue – its use is general in this class of words, if often obscured phonologically in less perspicuous cases. We will assume that the *-í-* of the polarity constructions is the very same element as that which functions as the morphological base of pronominals and determiners.

It is clear that something is missing from the preverbal part of the sentences of (11), and the position of the missing element, i.e., the ‘gap’, is at some point following the negative particle *doo*. In fact, we can show that the gap directly follows the negative particle, since a sentence like (13) below can only have the reading according to which the missing indefinite corresponds to the subject:

- (13) Doo béégashii yizloh-í-da.
 NEG cow 3.P.3.rope-PRN-DA
 ‘Nobody roped the cow.’

This cannot have the meaning according to which the cow didn’t rope anything, an idea which could only be rendered as in (14):

- (14) Béégashii doo yizloh-í-da.
 cow NEG 3.P.3.rope-PRN-DA
 ‘The cow didn’t rope anything.’

We have reason to suppose, then, that the sentences of (11), (13)–(14) have a gap – an empty category, possibly a trace of movement – immediately following the negative particle. Putting this observation together with that concerning the postverbal pronominal element *-í-* (glossed PRN), it is natural to suggest that the surface positioning of the latter is effected by rightward movement from the preverbal, and post-negative, position which we have identified with the gap. That is to say, the postverbal element *-í-* is an ‘enclitic’, variant of the indefinite nominal expression appearing in sentences of the type represented by the overt polarity constructions of (10) above.

By assuming that the sentences of (11), say, are derived by movement from structures in which the clitic PRN originates in the position following the negative particle, we give a natural account of the paraphrase relation which holds between the sentences of (10) and (11). The two sets have essentially identical d-structures, and the entities involved in the negative polarity relations are essentially identical, abstractly speaking, in the two sets. Furthermore, movement is strongly suggested not only by the displacement of the PRN enclitic itself, but also by the case-like locational and directional enclitics (assumed to represent a class of postpositions, hence P) which are likewise displaced – pied-piped, so to speak – with the pronominal enclitic, as in (11b) above, in which the allative (glossed AL) appears. In (10b), the corresponding sentence with an in situ h-word polarity item, the directional phrase appears with a verb which ‘selects’ it, in an intuitively clear sense. This sentence conforms to the natural, or ‘basic’ verb-final order of Navajo. Accordingly, the directional phrase *precedes* the verb which selects it. By contrast, in sentence (11b), the directional phrase is missing from its putative base position, and the enclitic itself appears attached to the pronominal clitic element *-í-* (PRN) suffixed to the verb word. The paraphrase relation holding between (10b) and (11b) is accounted for very naturally under the assumption that the latter is derived by rightward movement (of the enclitic pronominal, and with spatial enclitic if one is present), as depicted in (15):

- (15) ... doo PRN(-P) ... V -da
 _____^

We can assume that PRN, being a bound element, must attach to some head. This requirement is satisfied by movement to a position from which it can attach to the verb word, although we must suppose also that the particular target or landing site is determined by more fundamental linguistic principles.

If standard A-bar movement is involved here, we can expect that it will conform to established constraints on extraction operations. While ‘long extraction’ is possible, it is not possible to extract over certain barriers or out of certain contexts. Putative long extraction is limited to movement out of direct discourse complements (cf. Schaubert, 1979; Hale and Platero, 1996), as in (11c) above, repeated here as (16):

- (16) Shi-zhé'é doo deesháál nízín-í-góó-da.
 my-father NEG F.1s.go P.3.think-PRN-AL-DA
 'My father does not think (i.e., want) to go anywhere.'

The clausal complement here represents a type which can be selected by the members of a small set of verbs of saying and thinking. Sentences having the essential structure of (16) are characterized not only by 'direct discourse' personal deixis but also by the absence of an overt complementizer. Additional examples of extractions from direct discourse complements are given in (17):

- (17) (a) Shi-zhé'é doo naháñnii' ní(n)-í-da.
 my-father NEG P.1st.buy 3.say-PRN-DA
 'My father didn't say he bought anything.'
 Cf.
 (a') Shi-zhé'é chidí naháñnii' ní.
 my-father car P.1st.buy 3.say
 'My father said he bought a car.'
 (b) Shi-zhé'é doo ji-deeyá shó'ní(n)-í-góó-da.
 my-father NEG 4.P-go 1s.P.3.regard-PRN-AL-DA
 'My father doesn't think I'm going anywhere.'
 Cf.
 (b') Shi-zhé'é Na'nízhoozhí-góó ji-deeyá shó'ní.
 my-father Gallup-AL 4-P.go 1sP.3.regard
 'My father thinks I'm going to Gallup.'

In these examples, as in (11c), the gap which is construed with the verb-final dislocated pronominal enclitic clearly corresponds to a phrase selected by the embedded verb, not the main verb. Thus, it is reasonable to conclude that 'long extraction' is involved here, as depicted in (18):

- (18) XP doo [_S ... PRN(-P) ... V] V -da
 \ \ \ \ \ ^

I will consider next the relationship between extraction and the appearance of an overt complementizer.

By far the greatest number and variety of dependent clause constructions in Navajo involves the use of postverbal subordinating morphology which, we suppose, occupies the complementizer position in the syntactic structure projected for the relevant sentences. This morphology includes the nominalizing, referentially definite, enclitic morphology involved in the Navajo internally headed relative clause, as in (19), and Navajo expressions corresponding to factive complements in English and other familiar languages, as in (20).

Unlike direct discourse complements of the type represented by (16), (17), relative clauses and factives are 'opaque', resisting extraction from a position internal to them – thus, the following patterns are observed (illustrating the relative clause, in (19) and the factive complement in (20)):

- (19) (a) Bee'eldooh nahíníñnii'-éé n-ee né'íí'.
 gun 3.P.2s.buy-COMP 2s-post 3.P.1s.steal
 'I stole (from you) the gun you bought.'
 (b) Doo bee'eldooh nahíníñnii'-éé n-ee né'íí'-da.
 NEG gun 3.P.2s.buy-COMP 2s-post 3.P.1s.steal-DA
 'I didn't steal (from you) the gun you bought.'
 (c) *Doo ____ nahíníñnii'-éé n-ee né'íí'-í-da.
 NEG ____ 3.P.2s.buy-COMP 2s-post 3.P.1s.steal-PRN-DA
 (#I didn't steal (from you) anything that you bought.)
 (20) (a) Na'nízhoozhí-góó nisíníyá(h)-ígíí b-aa shi-í hózhó.
 Gallup-AL P.2s.go-COMP 3-about 1s-with A.P.good
 'I'm happy about the fact that you went to Gallup.'
 (b) Doo N.-góó nisíníyá(h)-ígíí b-aa shi-í hózhó-da.
 NEG G.-AL P.2.go-COMP 3-about 1s-with A.P.good-DA
 'I'm not happy about the fact that you went to Gallup.'
 (c) *Doo ____ nisíníyá(h)-ígíí b-aa shi-í hózhó(n)-í-góó-da.
 NEG ____ P.2s.go-COMP 3-about 1s-with A.P.good-PRN-AL-DA
 (#I'm not happy about the fact that you went anywhere.)

The relevant observation here, of course, is that the enclitic pronominal *-í-* (PRN, with or without pied-piped P) cannot be construed with the vacant position (symbolized ____) following the negative particle in the (c)-sentences of (19)–(20). The hypothetical 'gap', theoretically the trace of the extracted enclitic, is inside a relative clause here, while its putative antecedent, the enclitic PRN itself, is outside that clause.

This restriction is not limited to nominalized clauses, since it is also observed with adjoined (adverbial) clauses of the type represented by (21) below. In general, in strictly observational terms, a gap cannot be construed with an antecedent 'across an overt complementizer':

- (21) (a) Shi-ye' hashtl'ishítlzh-go hadeeshghaazh.
 1s-son mud.P.3.fall-COMP P.1s.shout
 'I shouted out when my son fell in the mud.'
 (b) Doo shi-ye' hashtl'ishítlzh-go hadeeshghaazh-da.
 NEG 1s-son mud.P.3.fall-COMP P.1s.shout-DA
 'I didn't shout when my son fell in the mud.'
 (c) *Doo ____ hashtl'ishítlzh-go hadeeshghaazh-í-da.
 NEG ____ mud.P.3.fall-COMP P.1s.shout-PRN-DA
 (#I didn't shout when anybody fell in the mud.)

Assuming that the (c)-sentences owe their ill-formedness to the abortive extraction of a PRN element from the position indicated by the dash, the appearance of a complementizer on the dependent clause is presumably correlated with this. It is at least reasonable to suspect that this is the case in view of the fact that direct discourse complements, which lack any overt complementizer, permit extraction from them. In

any event, I will assume simply that complementizer-bearing clauses present a barrier to extraction and that the observations embodied in (19) through (21) constitute evidence in favor of the idea that the GAP-PRN dependencies in sentences of the type represented by (11) above result from movement from an argument position to a nonargument position – i.e., classic ‘movement to COMP’, as in canonical Wh-movement.

Is this in fact *rightward* movement of the type at issue – an A-bar movement creating a quantifier-variable dependency? If it is, why is this type so uncommon? An answer which suggests itself, of course, is that this is movement in accordance with the head-final word order typology to which Navajo, like other Athabaskan languages, belongs. This would make perfect sense if the movement involved here were head-movement. But this clearly violates the Head Movement Constraint (Travis, 1984; Baker, 1988), as is evident from cases of ‘long extraction’ and from extraction from the possessive construction, as in (22):

- (22) (a) Doo shi-zhé'é bi-líí' yíiitsáa-da.
 NEG 1s-father 3-horse P.1s.see-DA
 ‘I didn’t see my father’s horse.’
 (b) Doo háí-da bi-líí' yíiitsáa-da.
 NEG who-DA 3-horse P.1s.see-DA
 ‘I didn’t see anyone’s horse.’
 (c) Doo ___ bi-líí' yíiitsá(n)-í-da.
 NEG ___ 3-horse P.1s.see-PRN-DA
 ‘I didn’t see anyone’s horse.’

In ‘long extraction’ (e.g., (11c) and (17a,b)) the subordinate verb is ‘skipped’, as is the head noun in the possessive construction of (22c). At the very least, this suggests that we are not dealing with head-movement; and I will assume that we are not. Rather, this is the usual movement of a phrasal category (DP, PP) to the complementizer position – precisely the same, incidentally, as that involved in dependent questions (Schauber, 1979).

What of the apparent fact that this is rightward movement to COMP? Is this a true counterexample to an otherwise general principle of grammar? The prevailing leftward positioning of moved operators and scope-taking is no doubt a consequence of the fact that these elements occupy the specifier position in syntactic projections, itself prevailing to the *left* of its subphrasal sister, i.e., specifiers are normally phrase-initial. If the specifier is *necessarily* initial (cf. Kayne, 1994), then either Navajo is a counterexample which will require us to revise the theory which makes this ordering necessary, or else, Navajo is only an apparent counterexample. In either case, it is interesting and must be dealt with.

My suspicion is that the rightward positioning of PRN is a strictly phonological matter. This element is an enclitic and must, accordingly, attach to a host to its left – hence, it must appear to the right of some overt supporting base. If PRN, a phrase, first raises to specifier of CP, satisfying its scopal requirements, it will not actually appear there in phonological form. Instead, it will suffix to some appropriate ele-

ment. This appropriate element is evidently the verb, itself probably head-adjoined to C, the head of CP.

If this is correct, then Navajo exemplifies here one of the most important general types of contribution deriving from linguistic diversity – to wit, that of the ‘(apparent) counterexample’, a major tool in pushing substantive theories to their limits. In the following section, I will present a final example, one which, to my knowledge, remains a challenge to standard conceptions of grammar.

5. Eccentric raising

In the Misumalpan languages of eastern Nicaragua and Honduras, the causative construction is based on the common ‘clause-sequencing’ construction of the type represented by the Ulwa sentence (36):

- (23) Yang baka kau tal-ing wauhdi-da.
 I child ACC see-OBV1 fall-PAST3
 ‘I saw the child and it fell.’
 (Lit: I seeing the child, it fell.)

The first clause here is an adjunct; it is subordinate in the sense that its tense is dependent on that of the main (final) verb, and it bears the obviate morphology regularly used on a dependent adjunct clause whose subject is distinct from that of the main clause (this is the DS ‘different subject’ morphology commonly seen in the literature on switch-reference).

Superficially, at least, the Misumalpan causative parallels this exactly:

- (24) Yang baka kau ât-ing wauhdi-da.
 I child ACC cause-OBV1 fall-PAST3
 ‘I made the child fall.’

Thus, it would appear that Misumalpan reverses the asymmetry usually found in causatives; here, the effect clause is superordinate and the causative clause is subordinate.

It is as if Misumalpan simply did not have a causative at all, saying instead ‘I did something to the child and it fell’. But this will not do; (24) differs from (23) in an important respect. For one thing, if the causative is negated, by putting the final verb in the negative (*wauhdasa dai*), the negative has scope over the entire construction – it negates the causative, not just the final verb. This is not true in the case of (23), where the negative has scope over the final verb alone. Thus, in the causative, the two clauses are more ‘integrated’ than in the normal clause chaining construction represented by (23). This tighter integration is even more evident in the following:

- (25) (a) Yang [baka kau ât-ing wauhda-naka] walta-yang.
 I child ACC cause-OBV1 fall-INF3] want-PRES1
 ‘I want to make the child fall.’

- (b) Baka kau ât-am wauhda-ngh.
 child ACC cause-OBV2 fall-IMPER3
 'Make the child fall.'

Normally, our expectation is that agreement and control will converge on the same argument wherever the relevant grammatical relation is subject. Where control involves the use of PRO and the infinitive, it is the subject that will appear as PRO; and the subject is also the argument which controls 'subject agreement', normally. But in (25a), the embedded causative construction (bracketed) apportions these two subject-oriented phenomena to two *distinct* subjects. Control and the associated subject-infinitive dependency are identified with the subject of the *causative* verb, while agreement on the infinitival verb is determined by its true (i.e., clausemate) subject. The infinitive morphology appears on the final verb, expectedly in view of its status as main verb, but unexpectedly on comparative grounds, where we would be led to expect it to appear on the causative verb. The same split is seen in the imperative in (25b). We expect an 'addressee' imperative to have a second person subject, and we expect that to be the same notion of subject as that which is relevant to subject agreement. Here again, we find a split. The subject of the imperative is second person and it is located in the causative clause (as can be seen from the form of the obviative morphology). The subject-imperative dependency holds between the causative subject and the final verb, not the causative verb. But the agreement morphology of the imperative is third person, being determined by the local (clausmate) subject, i.e., the subject of the final verb. Since the final verb is the main (independent) verb in the Misumalpan causative, it is that verb that bears the imperative morphology; the non-final verb cannot, since it is dependent.

A mechanical 'solution' to this problem would involve adjoining the causative clause below the specifier of the main clause IP-projection, extracting the causative subject from its own clause, and raising it into the main clause IP specifier. We must assume that, from that position, the raised subject is permitted to 'act' as if it were the subject of the main verb in relation to control and the imperative – i.e., in relation to the dependency between PRO and the infinitive, and in relation to the dependency between an imperative addressee (second person) and the imperative mode. Agreement, however, must be unaffected by this process; agreement is determined locally, as in any standard clausal construction – thus, the subordinate Infl carries agreement corresponding to the subject of the causative verb (i.e., corresponding to the trace of the raised subject), while the final Infl agrees with the clausemate subject of the final verb, as expected under normal conditions. These observations suggest that agreement is determined by the subject in its basic VP-internal position.

All of this requires some modification of generally accepted assumptions, especially in regard to the putatively, and 'eccentrically', raised subject. This argument must skip the local specifier position assumed to be available to it as the subject of the subordinate IP. Furthermore, it must escape an adjunct in its journey to the upper specifier, assuming the nonfinal clause in the causative is in fact an adjunct. While this is not the only analysis that has been suggested, all solutions known to me share the basic property of requiring some departure from standard expectations.

For many of us, theoretically recalcitrant constructions like the Misumalpan causative are the pure gold of linguistic diversity. These are the 'apparent counterexamples' which, by virtue of the challenge they represent, will advance the general program of theoretical linguistics by pushing us toward a deeper understanding of grammar.

6. Concluding remark

The decline in the world's linguistic diversity since the European invasion of the Western Hemisphere and the South is continuing more or less unabated in the present period. This is a serious matter for human intellectual life and for the science of linguistics. To appreciate the cost to linguistic science, it is sufficient to imagine two worlds, one in which English is the only language, and another which boasts linguistic diversity on something like the scale which, though diminishing, still exists at this time. On the basis of the second world, we know that the first would leave us in ignorance not only in relation to variability in superficial and readily observable features of the structure of linguistic expressions, including surface word order, inventories of consonants and vowels, agreement morphology, case morphology, etc., but also in relation to matters which are at the very core of the principal linguistic agenda – that of determining the universal and invariant properties of the human linguistic capacity. Any one language, it must be admitted, tells us a lot about this capacity, i.e., about the capacity which we call 'universal grammar'. However, crucial aspects of universal grammar would inevitably elude us if we were not able to compare different realizations of it. Comparative syntax, impossible without linguistic diversity, has given us many of our deepest insights into the structure of language, and it has been responsible for the most important theoretical advances in recent years. It is appropriate to remind ourselves that as linguists become increasingly aware of the scientific importance of language diversity, that very diversity is itself increasingly under threat.

If the loss of linguistic diversity is costly for us as linguists, it is perhaps even more costly for us as people, i.e., as beings perpetually in need of intellectual nourishment. Linguistic diversity is an enabling condition, perhaps the most important enabling condition, for minimally fettered creation of precious products of human intellectual labor. Moreover, a language and the intellectual productions of its speakers are often inseparable. Some forms of verbal art – verse, song, or chant – depend crucially on morphological and phonological, even syntactic, properties of the language in which they are formed. In such cases, the art could not exist without the language, quite literally. Even where the dependency is not so organic as this, an intellectual tradition may be so thoroughly a part of a people's linguistic ethnography as to be, in effect, inseparable from the language.

The loss of local languages, and of the cultural systems which they express, has meant irretrievable loss of diverse and interesting intellectual wealth, the priceless products of human mental industry. The process of language loss is on-going. Many linguistic field workers have had, and will continue to have, the experience of bear-

ing witness to the loss, for all time, of a language and of the cultural products which the language served to express for the intellectual enrichment of its speakers. I would like to mention briefly an example which I repeatedly cite in this connection (cf. Hale et al., 1992). It is an example from Aboriginal Australia.

Imagine a society of mobile extended family groups whose material wealth consists of the land, the tools of subsistence and defense (generally small enough and light enough to carry in the hand), some personal adornments, and ceremonial objects, generally hidden from view. The bulk of the wealth of the community is mental, a towering body of knowledge consisting of, among other things, (i) songs with intricately structured and phonologically tricky verses implicating by equally tricky allusions both heroic and mundane deeds of totemic beings whose travels and contacts form a vast network ultimately linking all parts of the Australian continent, (ii) an entire theory of kinship so perfect in its construction and detail that it has been the object of anthropological study and wonder for well over a century, and (iii) artificial auxiliary languages (both oral and signed) embodying an abstract semantic analysis of the entire lexicon of the ordinary language and, in some cases, an invented phonology which systematically overturns certain canons of the ordinary language by introducing outrageous consonants (clicks, ingressive laterals, sniffles), a vowel system which upsets the frequency pattern of the ordinary language (putting /a/ as the least frequent vowel, for example), and an eccentric morpheme structure canon (using monosyllabic roots where the ordinary language is one that favors polysyllabics). One such language, Damin of the Lardil tribe of Mornington Island, North Queensland, has sentences of the following form (where *n!* represents a nasalized palatal click, *L*[<] a voiceless ingressive lateral):

- (26) *n!aa tiiti-thu n!uu-ngku n!n!a-ngku L<ii-ngku.*
 I give-FUT you-FUT WiOBro-FUT fish-FUT
 'I will give your brother in law fish.'

The most impressive aspect of Damin is its semantic structure. The inventory of lexical items barely exceeds 150 items, but, with the help of Lardil inflectional morphology and syntax, they can be used to express any idea. The trick, of course, is abstractness – the vocabulary is a sophisticated reduction of the Lardil lexicon to its basic, fundamental, semantic oppositions, a tour de force of linguistic analysis.

Now imagine an invading society whose primary interest is material and whose assessment of other societies is generally in terms of visible material wealth. In the Australian case, the wealth that was seen by the invading Europeans was the land. The Aboriginal people, so far as the invaders could see, had nothing else of value and, where they were not the objects of straightforward genocide, they were made landless paupers, typically scattered and no longer able to do their traditional intellectual work or to pass their knowledge on to their descendants. There are exceptions, of course, although of precarious circumstance and in relatively isolated parts of Australia. But an incalculable amount has been lost, and even where policies have been pro-Aboriginal, recognition of Aboriginal intellectual wealth has typically come too late. The loss of Damin, a ritual language of advanced male initiations

among the Lardil people of North Queensland, and a monument to human intellectual labor, is due in large measure to the educational policies of the Mornington Island Mission – this involved housing the young people in dormitories, separating them from the adults and effectively destroying the system of initiations to which Damin was linked. In the 50's and 60's Doug Belcher, then superintendent of Mornington, realizing what was being lost, defied policy and worked with the Lardil people to restore initiations. By then, however, only a half-dozen speakers of Damin remained; now there are none, only the recordings of a couple of anthropologists and linguists remain.

Let me end on an optimistic note. The situation just described is not hopeless. It would not be impossible for Lardil novices to recover Damin and to develop it. It would not be the same as it once was, of course, just as the Irish recovered by the Shaw's Road Community in Belfast is not, in every respect and detail, the Irish of the Donegal Gaeltacht, the primary model (Maguire, 1991). Just as in the Irish case, the new Damin of Mornington, based initially on recordings and transcriptions, would be theirs, and it would be living. I think it is important to have a positive attitude generally in situations of this sort. And there is reason to be optimistic. There are promising programs in almost all parts of the world – to cite just a few, the Irish programs of West Belfast, the Maori and Hawaiian language nest programs, and the Master-Apprentice programs of California. The Californian programs are especially significant, as they involve languages with extremely small numbers of remaining speakers (Hinton, 1994).

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for monographs: Bloomfield, L., 1933. *Language*. New York: Holt.
for articles in journals: Halliday, M.A.K., 1961. Categories of the theory of grammar. *Word* 17, 241-292.
for papers in contributed volumes: Kiparsky, P., 1968. Linguistic universals and linguistic change. In: E. Bach, R.T. Harms (eds.), *Universals in linguistic theory*, 171-202. New York: Holt.
If several papers by the same author in the same year are cited, small a, b, etc. should be added after the year of publication, both in the main text and in the reference list.

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2. Phonetic representations ('narrow transcriptions') between square brackets: [...].
3. Phonemic representations ('broad transcriptions') between slant lines: /.../.
4. Glosses are added directly after the cited form, between single quotes: '...'
5. Reconstructed, hypothetical or non-occurring forms are preceded by an asterisk: *...

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