The rise and fall of languages

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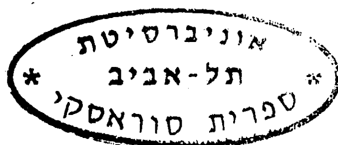

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9 Today's priorities

The loss of diversity in the modern world is reaching critical proportions. The remaining forests contain plants with medicinal uses that are known to the people who live in the forests. In many cases their nature and value have not yet been investigated by modern medicine. How could they ever be, if the plants are destroyed as a consequence of forest-clearing, or if the people who know them are assimilated into the mainstream of their nation, thereby losing traditional knowledge?

Language is the most precious human resource. Each language has a different phonological, morphological, syntactic and semantic organisation from every other. Only by studying the varied possibilities across all languages can we gain a general picture of the nature of the human brain as it relates to language activity. By examining the ways meanings are organised in some little-known language, the linguist may shed light on some universal feature of semantic structure, or evolve some new mode of thinking that could help to deal with problems in the modern world.

The next section will provide examples of linguistic parameters, their interrelations and their sequential changes, illustrating why it is important to document every known language. §9.2 exposes a myth of modern linguistics that is crippling the discipline. And §9.3 details what the work priorities should be for people who call themselves linguists.

9.1 Why bother?

It is estimated that of the 5,000 or so languages spoken in the world today at least three-quarters (some people say 90% or more)

will have ceased to be spoken by the year 2100, as a consequence of the punctuations engendered in the first place by European colonisation. It is an urgent task to document these languages before they disappear.

A typical hard-nosed response to this plea is: Why bother? These are insignificant languages spoken by insignificant peoples, odd tribes and minority groups that will disappear simply because of the relentless advancement of the great civilised nations of the world towards a global community. What interest can there be in the language of a group of hunters and gatherers who spend their days trudging over hot desert sand looking for lizards and grass seed, or of a group of slash-and-burn agriculturalists who move their village every few years because they've exhausted the food resources of that patch of forest? How can these languages tell us anything that we don't know already from studying the rich resources of French, German, Spanish, English and Russian, perhaps throwing in for good measure Finnish, Turkish, Hebrew, Arabic, Hindi, Japanese, Chinese and Swahili? It is the fittest who will survive. Let these meagre languages of primitive peoples pass into oblivion unimpeded. Maybe record a bit of a few of them, as a sample, but it is a waste of time and resources to attempt more.

This form of response reflects several illusions. The first is that people with a limited material culture must have a proportionately threadbare language. The reverse tends to be the case. Small political groups generally have an intricate social structure with an articulated system of classificatory relationships and communal obligations. (In contrast, the social networks of city dwellers are rudimentary, and could appropriately be described as primitive.) Associated with this social structure tend to go complex systems of pronouns, with several number distinctions (there may be separate pronouns for 'you (singular)', 'you two' and 'you all' and sometimes also 'you few'). There is often an inclusive/exclusive distinction for non-singular first person – this involves two different pronouns for 'we two', one referring to 'me and you' and the other to 'me and someone else, other than you'.

It is a finding of modern linguistics that all languages are roughly equal in terms of overall complexity. The areas of complexity vary between languages – one may have a simple verbal structure but complex nouns while another reverses this. We can only get an idea of the range of possibilities available to human languages by looking at every language individually and comparing their features in terms of a common theoretical framework. Suppose that a large meteor had fallen on southern Africa a few hundred years ago, wiping out all the inhabitants. Who would have imagined that clicks could be used as speech sounds? And if we were told that clicks could be used in words, who would have believed that one language could have fifty-five contrastive clicks, as are found in the !Xũ dialect of Bushman (Snyman 1970: 49–50)?

Certain grammatical categories are found in all languages, but they are realised in different ways. Take negation for instance. In European languages clausal negation is shown by a particle (like English *not*) which typically comes immediately before the verb. This is in fact the most common type of negative marking across the languages of the world. But it is not the only type. In quite a few languages negation is shown by an affix to the verb – a prefix or a suffix. In Kabardian, from the North-West Caucasian family, negation is shown by a suffix *-q'əm* to the verb in a finite clause but by a verbal prefix *mə-* in a non-finite clause (Kumakhov and Vamling 1995: 96). In a few languages negation can only be shown through a main verb which literally means 'it is not the case [that...]'. In Fijian the negative verb is *sega* and to express 'I didn't see you' one must use:

(1)	*e*	*sega*	*[ni-u*	*rai-ci*	*i'o]*
	it	be not the case	THAT-I	see-TRANSITIVISER	you

This is, literally, 'that I saw you is not the case' or 'it is not the case that I saw you'. (Fuller details are in Dixon 1988: 40, 279–84.)

It is a common belief that all languages have three tenses – past, present and future. This is far from being so. Biblical Hebrew, for instance, had no tenses, using instead grammatical marking for

aspect – perfective (an action with a temporal end, e.g. 'John sang a hymn') or imperfective (an action with no temporal end specified, e.g. 'John sang'). In Fijian there are past and future tense markers but these are optional; there is no tense specification in sentence (1), for instance. Snyman (1970) reports that the Bushman language !Xũ has no grammatical marking for tense or aspect, although it does have temporal adverbs such as 'now', 'long ago', 'yesterday', 'finally', 'then' and 'will'.

In languages that do have a grammatical system of tenses, a past/present/future distinction is rather rare; it is found in Classical Greek but in few other languages. The most common tense system has just two choices, past and non-past; this is found in Singhalese and in Turkana, a Nilotic language from East Africa, for instance. And there can be much more complex systems than are found in the familiar languages of Europe. For instance, the language spoken on the western islands of the Torres Strait, between Australia and New Guinea, has no less than four past tenses ('last night', 'yesterday', 'near past' and 'remote past') and three futures ('immediate', 'near' and 'remote future').

Negation and tense are familiar categories. We have been talking about the different ways they can be realised, and the size of the system. But there are some grammatical specifications that are not found at all in the most widely spoken languages. One of these is Evidentiality. It involves an obligatory specification of the type of evidence on which a statement is based, e.g. whether the speaker observed it themself, or someone told them, or they inferred it, or assumed it (or just had a 'gut feeling' that it must be what happened). Evidentiality is found in languages from various parts of the world – the Balkans, Tibeto-Burman languages, Classical Japanese (but it has almost been lost from Modern Japanese), some languages from North America and many from South America, both on the Andes and in the Amazon basin (see the papers in Chafe and Nichols, 1986).

Some languages have just a two-term evidentiality contrast (most commonly: eyewitness/non-eyewitness) but others make

additional distinctions. The most developed system is found in a number of languages of the Tucanoan family and one language of the Arawak family, spoken together in a small, tightly knit linguistic area in the Vaupés River basin, overlapping Colombia and Brazil – see §3.2. Here there is a system of five evidentiality choices (see, for instance, Barnes 1984). Suppose that I want to say 'The dog ate the fish.' I must include one of the following evidentiality markers:

(a) Visual – would be used if I saw the dog eat the fish.
(b) Non-visual – would be used if I heard the dog in the kitchen (but did not see it) or if, say, I smelled fish on the dog's breath.
(c) Apparent – could be used if there are fish bones spread on the floor around the dog, which looks satisfied, as if after a good meal.
(d) Reported – someone told me that the dog ate the fish.
(e) Assumed – the fish was raw and people do not eat raw fish so it must have been the dog that took it.

Wouldn't it be wonderful if there was obligatory specification of evidence in English? Think how much easier the job of a policeman would be. And how it would make politicians be more honest about the state of the national budget. However, detailed systems of evidentials tend to be found only among non-industrialised people. Why? This is a topic at present little understood, but it must surely relate to the people's attitude towards specificity in talking, towards how generous one should be in the communication of information, and towards telling the truth.

A recent study of evidentiality in Amazonia has two main findings. (a) That a grammatical category of evidentiality must have developed, independently, in at least six different places and times. It appears that the cultural orientation of people in the Amazon basin is such that they tend to evolve 'nature of evidence' as an obligatory grammatical system. (b) That once a language develops an evidentiality system, this tends to diffuse into neighbouring languages. The next-door languages take over the category – the idea of evidentiality

– but develop the actual grammatical marking of evidentiality choices from their internal resources. (See Aikhenvald and Dixon, forthcoming.)

There is a lesson to be learnt from this. If linguists hadn't gone out into the Amazonian jungle – after having inoculations against yellow fever, typhoid, tetanus and all the varieties of hepatitis; loading up with malaria pills; and so on – to study these languages, we wouldn't have full awareness of an important dimension of human language, complex systems of evidentials.

As a final illustration of the variety across human language, correlations between categories, and linked changes, we will briefly look at two parameters: (1) different ways of marking subject and object functions; and (2) different kinds of adjective classes.

(1) Marking syntactic function

The major clause type in every language centres on a verb, as head of the clause. The verb requires a number of core arguments (subject and object) which depend on the verb. A requirement on any grammar is to distinguish between subject and object, so that one can tell who is doing something to whom. Simplifying a little, there are three basic ways of achieving this.

(a) BY THE ORDER OF ELEMENTS Thus in English the subject precedes the verb and the object follows; by this means, *Fred hit Bill* is distinguished from *Bill hit Fred*.

(b) BY MARKING ON THE DEPENDENTS[1] In many languages a suffix is added to each argument of the verb, indicating its syntactic function. In Latin, for instance, a singular subject is marked by *-us* and a singular object by *-um* with nouns from one declension. Thus *Domin-us serv-um audit* ('master-SUBJECT slave-OBJECT hears') is 'The master hears the slave' and *Serv-us domin-um audit* is 'The slave hears the master.' The words in these sentences can occur in

[1] The terms 'head marking' and 'dependent marking' were introduced in a classic paper by Nichols (1986).

any order, without change of meaning, since what is subject and what is object are shown by endings on the nouns.[2]

(c) BY MARKING ON THE HEAD The third way of marking syntactic function is found in languages where the verb has obligatory prefixes and/or suffixes providing information about the person and number (and often gender as well) of subject and object. Here the verb, with its pronominal affixes, can make up a complete sentence. For example, in Kabardian one can say *s-a-łeɣᵊas'* 'they saw me', where the prefix *s-* indicates 'me' as object and the following *-a-* is 'they' as subject (Kumakhov and Vamling 1995: 96).[3]

Let us now look at how a language can switch from one type of marking to another; here we will focus on types (b) and (c). Almost all linguistic change is cyclic, and a language can readily switch from head marking to dependent marking, and then back again.

(i) FROM HEAD MARKING TO DEPENDENT MARKING Proto-Arawak, the ancestor language of the most extensive family in South America, is reconstructed to have had just head marking. With a transitive verb, the subject (A) was marked by a prefix to the verb and the object (O) by a suffix.[4] All modern Arawak languages retain the subject prefix. About half keep the O suffix but the remainder

[2] There are two main kinds of dependent marking. In Latin the transitive subject (A) has the same marking as intransitive subject (S), nominative case; and transitive object (O) has a different marking, accusative case. The alternative system is where S and O are marked in the same way, by absolutive case, and A in a different way, by ergative case. (A full discussion is in Dixon 1994.)

[3] Many languages combine head and dependent marking. In Latin, for instance, there is full dependent marking and also partial head marking since the verb includes information about person and number of subject; *audit* is actually the third person singular present tense (active, indicative) form of 'hear'.

[4] Intransitive verbs have a 'split-S' system. For some verbs (mostly referring to volitional actions) the intransitive subject (S) is marked by the same prefix that shows A with a transitive verb, and with other verbs (mostly referring to non-volitional actions and states), S is marked by the same suffix that shows O with a transitive verb.

have lost it. Tariana is one of this group and it has gained some dependent marking, a suffix *-nuku* which can be added to a noun in any non-subject function. Tariana has undoubtedly developed dependent marking through diffusional pressure from the Tucanoan languages spoken in the same linguistic area, which all have dependent marking. The important point is that half the head marking (the object part) has been lost, and some dependent marking (on objects and other non-subject constituents) has been gained, effectively in compensation (Aikhenvald 1996).

(ii) FROM DEPENDENT MARKING TO HEAD MARKING It is clear that at an earlier stage Australian languages were entirely dependent marking, using case suffixes to indicate syntactic function. In one geographical area the languages have developed complex verb structures including prefixes; there are obligatory pronominal affixes to the verb, indicating the person and number of subject and object. In some of these languages, gender is also marked by verbal affixes, at least for third person. It is just the general feature of head marking that has diffused across all the languages of the region – each language has developed bound pronominal affixes independently, from its own free pronouns. In all the languages (a) 'I saw him' and (b) 'He saw me' can be expressed as a one-word sentence, but there are different rules for ordering the components of the verb. Using A for subject prefix and O for object prefix or suffix, there are the following main possibilities:

- A-O-verb, i.e. (a) 'I-him-saw', (b) 'he-me-saw', e.g. in Djamindjung;
- O-A-verb, i.e. (a) 'him-I-saw', (b) 'me-he-saw', e.g. in Ungarinjin;
- A-verb-O, i.e. (a) 'I-saw-him', (b) 'he-saw-me', e.g. in Njigina;
- both A and O are prefixes to the verb root but the ordering depends not on syntactic function but on person: a first person marker precedes a second or third person form and second person precedes third person (whatever the syntactic functions

involved), i.e. (a) 'I-him-saw', (b) 'me-he-saw', e.g. in Mangarrayi.[5]

In languages with head marking (where this includes gender specification for third person), the pronominal affixes to the verb adequately indicate the syntactic function of arguments, so that dependent marking is no longer needed. An ergative suffix (marking a noun phrase in A function) occurs over most of Australia with the original form **-dju*. Some of the head-marking languages retain this (with assimilation and lenition giving *-dji* or *-yi*) but it is now used only optionally. Other head-marking languages have lost it, the shift to a fully head-marking system now being complete.

(2) *Adjective classes*

There are two kinds of adjective classes across the languages of the world. One is an open class with hundreds of members; new members can be added to the class, through borrowing from other languages or through coinages. The other is a small closed class. Some languages have only five adjectives, others may have a hundred, but in each case no new item can be added to the class. Languages with small adjective classes are found in every continent except Europe (see Dixon 1982), and they have similar semantic composition, typically including words referring to size, colour, age, and value. Igbo, from West Africa, has just eight adjectives: 'large' and 'small'; 'black, dark' and 'white, light'; 'new' and 'old'; and 'good' and 'bad' (Welmers and Welmers 1969). It is relevant to ask what happens to other concepts that are coded as adjectives in languages such as English. Again, a general tendency can be noted – words referring to physical properties ('hot', 'wet', 'heavy') tend to be placed in the verb class (one says, literally, 'the stone heavies') while words referring to human propensities ('sad', 'rude', 'clever') tend to be nouns (literally, 'she has cleverness').

[5] If both A and O are third person, then O will precede A (Merlan 1982).

Large open adjective classes fall into four types: (a) adjectives are very similar in their grammatical properties to nouns – they show gender and number and case, like nouns (e.g. Latin and Spanish); (b) adjectives are grammatically very similar to verbs, e.g. they inflect for tense or aspect (as in Malay); (c) adjectives combine grammatical properties of nouns and of verbs (e.g. Berber languages from North Africa); (d) adjectives have grammatical properties which are distinct from those of nouns and of verbs (e.g. English). Types (c) and (d) are rather rare, most languages with large adjective classes being of types (a) and (b).

(3) *Correlation between head/dependent marking and adjective type*

There is a strong statistical correlation between the two parameters we have just outlined.

Correlations

(I) Head-marking languages tend to have an adjective class of type (b), where adjectives are grammatically similar to verbs.

(II) Dependent-marking languages tend to have an adjective class of type (a), where adjectives are grammatically similar to nouns.

The rationale is evident. Adjectives tend to be in the centre of things. Whichever of noun and verb bears the marking for syntactic function, that is likely to be the class to which the adjective class is grammatically most similar.

(4) *Consequential changes*

We have illustrated how a language with head marking may shift towards dependent marking, and vice versa. These changes tend to take place quite rapidly; they can readily be reconstructed. There is no doubt that a language can change from having an adjective class of type (a) to having one of type (b), and vice versa, but all the indications are that such a change would be much slower than one between head and dependent marking.

We can return to the Arawak and Australian examples of shift in the technique for marking syntactic function.

(i) FROM HEAD MARKING TO DEPENDENT MARKING Proto-Arawak was entirely head marking. I described how Tariana has lost some head marking and gained some dependent marking. Proto-Arawak appears to have had an open adjective class of type (b), taking tense and aspect suffixes just like verbs. This is continued in the modern languages that retain full head marking. However, adjectives in Tariana – while still taking tense and aspect suffixes – have developed some properties that align them with nouns. Both adjectives and nouns can (in Tariana but not in other Arawak languages) occur with a classifier, e.g. the 'round thing' classifier *-da*, as in:

heku-da tree (noun)-CLASSIFIER	'round tree (trunk)'
matfia-da beautiful (adjective)-CLASSIFIER	'beautiful round thing'

In summary, Tariana has shifted from a head-marking to a mixed-head-and-dependent-marking profile and, in correlation with this, adjectives are moving from a pure type (b) system (like verbs) to a system with some features of type (a) (some properties like nouns).

(ii) FROM DEPENDENT MARKING TO HEAD MARKING I have said that at an earlier stage all Australian languages were dependent marking; many still are but an areal group in the north have shifted to be predominantly or entirely head marking. Australian languages have large adjective classes, invariably of type (a), being grammatically similar to nouns.[6] This is in keeping with our correlation.

Head marking has developed rather recently in the northern area. I have suggested that a shift in type of adjective class is likely to

[6] Indeed, for some languages linguists consider that a distinction between noun and adjective class cannot be made, e.g. Dench (1995: 51–55).

be a slower matter than a shift from dependent to head marking (or vice versa). In fact, there are just the first signs of a change in adjective type, in some of the head-marking languages. In Emmi, for instance, adjectives still take the same case affixes as nouns, but they behave like verbs with respect to negation. A noun is negated by the negative copula *piya*, but verb and adjective are negated by the particle *way* (Ford, forthcoming).

We can draw the following conclusions, following on from correlations (I) and (II):

(III) Languages change fairly easily from head marking to dependent marking, and vice versa.

(IV) If a head-marking language takes on features of dependent marking, its adjective class will tend to change – but much more slowly – to become grammatically more similar to the noun class.

(V) Similarly, if a dependent-marking language takes on head marking, its adjective class will slowly change to become grammatically more similar to the verb class.

There are other examples of these concomitant changes, but points (I)–(V) should for the time being be regarded as tentative, subject to revision as more languages are studied from this point of view.

These illustrations ought to suffice to answer the question 'why bother?' If one simply examines a few dozen languages, all spoken by large communities, nine-tenths of the diversity and complexity of human language will remain undiscovered.

Every language has it own genius, its own points of interest, certain things that can be said in it more clearly than in other languages. And only by describing every possible language – investigating the correlations between their categories, and the ways in which these change – can we hope to achieve a reasonable understanding of what human language is, how it can be structured, and the ways in which it evolves.

9.2 Some modern myths

There are two interwoven aspects to linguistics: theory and description. One must work in terms of a theoretical framework to describe a language – using theoretical notions such as phoneme, word, adjective, subject, object, relative clause, negation, tense and evidentiality. As described in the last section, descriptive work feeds back into theory, helping to refine and extend our characterisation of how languages vary and change, of what human language is like.

Modern linguistic theory originated from the work of the first grammarians of Greek, at about the time of Christ (and their work was founded in the philosophical ideas of Plato and Aristotle). Some hundreds of years earlier, the greatest grammarian of all, Pāṇini, wrote a grammar of Sanskrit. His work only became known in the West in the nineteenth century and was then assimilated into the Greek-based tradition. Over the past few hundred years work has been done on languages from every part of the world, with many aspects of linguistic theory being rethought, reformulated and refined as a result.

The term Basic Linguistic Theory has recently come into use for the fundamental theoretical concepts that underlie all work in language description and change, and the postulation of general properties of human languages.

If a linguist is properly trained, they must have a solid grounding in the criteria employed in Basic Theory, and also in descriptive techniques. In working out the grammar of a language, alternative analyses have to be posited, their advantages and disadvantages weighed, and a decision reached on which is the most appropriate. Consider the question 'What is a word?' There are two kinds of criteria – phonological (e.g. each word has one stressed syllable) and morphological (e.g. there is one inflectional affix per word). Sometimes these coincide but other times they do not, and the linguist then has to recognise two units, Phonological Word and Grammatical Word, where a grammatical word may consist of one or more than one phonological words (or vice versa). (There is an illustration of this, for Fijian, in Dixon 1988: 21–31.)

We can offer a short illustration of how competing analyses may be assessed, also from Fijian (Dixon 1988: 26). This language has two phonological constraints: (1) a monosyllabic word must include a long vowel or diphthong, not just a short vowel; (2) if a word has a final short vowel, the penultimate vowel must also be short, i.e. it cannot be long. Now consider the two words:[7]

caa 'bad' *ca-ta* 'consider bad, hate'

That is, we have a root *caa/ca*. Used without a suffix it is an adjective 'bad'; used with the transitive suffix *-ta* it is a transitive verb 'consider bad, hate'. The question is: what is the form of the underlying root, *caa* or *ca*? Either choice is plausible:

(a) One could take the underlying form to be *caa*, and specify that the vowel is shortened, giving *ca*, when the suffix *-ta* is added, to satisfy rule (2), that we cannot get a long vowel in the penultimate syllable of a word when the final vowel is short.
(b) Or one could take the underlying form to be *ca*, and say that the short vowel is lengthened when no suffix follows, to satisfy rule (1), that a monosyllabic word cannot contain just a short vowel.

How do we choose between these alternatives? The basis for choice comes from another part of the grammar. There is a process of partial reduplication which applies to just a handful of adjectives, with plural meaning. Consider:

levu	'big'	*le-levu*	'lots of big things'
vou	'new'	*vo-vou*	'lots of new things'
caa	'bad'	*ca-caa*	'lots of bad things'

The process repeats, before the root, the initial consonant and following short vowel. Note that for *vou* it is just the *o*, not the whole *ou*, that is included in the reduplication.

[7] In the Fijian orthography, *c* represents a voiced apico-dental fricative (rather like the initial sound in English *this*).

Now consider alternative analyses (a) and (b):

(a) if the underlying form were *caa*, reduplication would yield *ca-caa*.
(b) if the underlying form were *ca*, reduplication would yield *ca-ca*, which would be a perfectly acceptable word in the language.

In fact the reduplicated form is *ca-caa*, indicating that (a) is the most appropriate analysis, with the underlying root being taken to be *caa*.

To become a professional in any field one has to undertake the appropriate training, and then serve an apprenticeship. A surgeon attends medical school and then does routine operations before going on to do innovative work in, say, heart transplantation or plastic surgery (or to write a book on the principles of surgery, or on new directions in surgery). A linguist must be taught the principles of Basic Linguistic Theory, and also receive instruction in how to describe languages (through Field Methods courses). The ideal plan is then to undertake original field work on a previously undescribed (or scarcely described) language, and write a comprehensive grammar of it as a Ph.D. dissertation. Every language poses some kind of theoretical challenge, and solving this is likely to lead to feedback into theory, helping to enlarge and refine it.

At a later stage a linguist who has a thorough grounding in a particular language family and/or linguistic area – with good knowledge of one, or preferably more than one, of its languages – can embark on a comparative study. They may attempt to reconstruct a proto-language, or study subgrouping, or investigate types of diffusion (or combine all of these).

This is what should happen. This is what used to happen. But it is not what happens today over most of the world.[8] Over the last forty years or so the discipline of linguistics has been knocked off balance. I will try to explain how this came about.

The major development has been the invention of a number of restricted sets of formalisms, that have been called 'theories'. Each is based on some part of Basic Linguistic Theory. Each is useful for describing certain kinds of linguistic relationships, but it is put forward as if it were a complete theory of language. The word 'theory' is being used in a novel way.

These formalisms (non-basic theories) tend to last for only a short time; the typical half-life is six to ten years. But while a particular formalism is in vogue – rather like a fad in fashion – its adherents proclaim it to be the only viable model of how language works. It is said that one shouldn't mix theories (just like one shouldn't mix religions) but in fact each is founded on a different part of Basic Theory, and it can be profitable to use ideas from different formalisms in describing different parts of a language. Of course, some excellent ideas have been put forward by people working within the various formalisms, and these feed back into Basic Theory.

A minority of linguists have continued as before, writing grammars of languages in terms of Basic Theory, and naturally expanding and refining the theory. However, they didn't have a name for the theory they were using; for them, it was just writing grammars, as people have been doing for millennia.

The formalists *do* have names for their 'theories'.[9] And they

[8] Australia is, by and large, an exception. At the Australian National University, for instance, about 80% of the Ph.D. dissertations completed in the 1970s and 1980s were grammars of previously undescribed languages. Just a few linguistics departments in the USA encourage their students to write grammars of languages for a Ph.D. dissertation, notably the University of California at Santa Barbara and the University of Oregon.

[9] I won't attempt a full list, but some of the theories of the past forty years are: Transformational Grammar, Standard Theory, Extended Standard Theory, Revised Extended Standard Theory, Government and Binding Theory, Principles and Parameters Theory (all of these associated with Chomsky), Tagmemics, Scale-and-category Grammar, Systemic Grammar, Functional Grammar, Daughter Dependency Grammar, Stratificational Grammar, Generative Semantics, Relational Grammar, Arc-Pair Grammar, Lexical Functional

often say that the people writing grammars of languages (something that, with rare exceptions, they do not do themselves) are working without a theory. As if one could possibly undertake any linguistic analysis without a theoretical basis.

It is only within the last few years that the term Basic Linguistic Theory has come into use, to describe the fundamental theoretical apparatus that underlies all work in describing languages and formulating universals about the nature of human language.

Each of the formalisms (the non-basic theories) provides a set of postulates about the structure of language, a framework into which every language can – it is believed – be fitted. When writing a grammar in terms of Basic Linguistic Theory one takes nothing for granted. Each analytic decision has to be approached as an open question. Is it appropriate to recognise one unit 'word' or two (a 'phonological word' and also a 'grammatical word')? Is there a construction type that has the properties normally taken as defining a 'relative clause'? Is it valid, for this language, to recognise a category of 'verb phrase'? In contrast, each of the non-basic theories posits that certain categories are relevant for all languages – one has only to find them. For instance, the Government and Binding formalism specifies that all languages have 'verb phrases', so that all one has to do is discover what the verb phrase is in a given language (one doesn't have to provide any justification for recognising a category of verb phrase).

When working in terms of Basic Linguistic Theory, justification must be given for every piece of analysis, with a full train of argumentation. Working within a non-basic theory there is little scope for

Grammar, Generalised Phrase Structure Grammar, Head-driven Phrase Structure Grammar, Cognitive Grammar, Role and Reference Grammar. The non-linguist reader will surely concur with my cynical comment that if a discipline can spawn, reject and replace so many 'theories' (in most cases without bothering to actually write a grammar of a language in terms of the 'theory') then it could be said to be off balance.

argumentation[10] – it is just a matter of slipping bits of the language into pre-ordained pigeon holes (and if there is some bit for which no slot seems appropriate, then that is of little interest since it falls outside the scope of that particular theory). Needless to say, such an approach tends to make all languages seem rather similar, and ignores the really interesting features which do not conform to any expectations.

The term 'analysis' is used in two quite different ways by linguists. For people working directly in terms of Basic Linguistic Theory, the analysis of a language implies recognising the operative elements of meaning, their underlying forms, and their combination and coding to produce a stream of speech. Adherents of non-basic theories use the term 'analysis' in a totally different way, to describe fitting a language into their axiomatic framework.

In fact few formalists do attempt to write comprehensive grammars of languages (which is just as well, since no formalism is fully adequate for the task). They sometimes work on just a bit of a language; this is generally not a sensible thing to attempt since each part relates to the whole and can only be properly understood in the context of the whole. Most often they confine themselves to working on their native language. But some of them do, from time to time, consult the descriptive grammars written by real linguists (in terms of Basic Linguistic Theory) and attempt to reformulate parts of them within their formalism.

There is one major myth in modern linguistics which is responsible more than anything else for the discipline losing contact with its subject matter, the study of languages. It goes as follows. There are

[10] William McGregor's Ph.D. thesis (at the University of Sydney) was a grammar of Gooniyandi, an Australian language, cast in terms of Systemic Grammar (a non-basic theory); this basically consisted in recognising in this particular language the items specified by the formalism. When revising the thesis for publication, he did include justification for the categories and structures set up, commenting (McGregor 1990: v) 'particular emphasis has been placed on argumentation, a consideration which has been consistently ignored in systemic theorising'.

essentially two types of linguist. The descriptivists, who do field work and write grammars. And the 'theoreticians' (i.e. the formalists, people working on non-basic theories), who do not gather data themselves but rather interpret it, from the point of view of their chosen formalism. The myth is that the work done by the 'theoreticians' is more difficult, more important, more intellectual, altogether on a higher plane than the basic work undertaken by the descriptivists.

This is *wrong*, from every angle. First of all, every person who describes a language is also a theoretician; they have to be, to make any analytic decisions. Every point in a grammatical description is a theoretical statement, and must be justified by appropriate argumentation.

I've worked on several fronts. I've written comprehensive grammars of several languages (some of which have had a deep effect on linguistic theory, e.g. Dixon 1972) and I've also produced a theoretical survey of the grammatical parameter of ergativity across every type of language (Dixon 1994). Each presented great intellectual challenges. But there is no doubt whatsoever that undertaking the analysis of a previously undescribed language is the toughest task in linguistics. It is also the most exciting and the most satisfying of work.

It is hard to convey the sheer mental exhilaration of field work on a new language. First, one has to recognise the significant analytic problems. Then alternative solutions may tumble around in one's head all night. At the crack of dawn one writes them down, the pros and cons of each. During the day it is possible to assess the alternatives, by checking back through texts that have already been gathered and by asking carefully crafted questions of native speakers. One solution is seen to be clearly correct – it is simpler than the others, and has greater explanatory power. Then one realises that the solution to this problem sheds light on another knotty conundrum that has been causing worry for weeks. And so on.

Some linguistics departments put on a Field Methods course but have it taught by someone who has never carried out original field

work on a language (they have no choice, since not a single person in the department has ever undertaken field work). Most of these 'linguists' belong to in-groups; they support one another, help each other attain tenure and promotion. They argue that to understand language one doesn't have to work on languages; it can all be achieved by introspective cognition. This is rather like a group of 'surgeons', none of whom has ever actually performed an operation, giving courses of lectures on the principles of surgery.

By and large, the malaise of formalisms has not spread into historical linguistics. It is generally recognised that before one can profitably work on comparing languages one must have a thorough knowledge of one language – or, preferably, more – of the family or area concerned.[11] The difficulty is that comparison requires high-quality grammars of languages, something to compare. And too few linguists devote themselves to this vital task. The malaise of general linguistics, leading to a lack of good descriptive grammars, cuts off the raw materials for comparative linguistics.

9.3 What every linguist should do

A language is the emblem of its speakers. Each language determines a unique way of viewing the world. It encapsulates the laws and traditions and beliefs of its ethnic group. Indeed, a recent report on endangered languages in the USA (co-authored by a speaker of one of these languages) states: 'Each language still spoken is fundamental to the personal, social and – a key term in the discourse of indigenous peoples – spiritual identity of its speakers. They know that without these languages they would be less than they are, and

[11] Only in Moscow (to my knowledge) has the peculiar belief emerged that there may be such a thing as a 'trained comparativist', someone who can be let loose on a language family (without having done detailed work on any of the languages of the family, or having a close knowledge of any of them) and will then reconstruct the proto-language. These 'trained comparativists' have been 'trained' by aficionados of the Nostratic school (see §4.1). No more need be said.

they are engaged in the most urgent struggles to protect their linguistic heritage' (Zepeda and Hill 1991: 135).

Linguists can assist in this task. Documenting languages is the responsibility of linguists. By so doing they can help native speakers to record their traditions, and often extend the use of a language by a generation or two. Describing languages is also the only way to learn linguistics properly; one must serve an appropriate apprenticeship to master an art or profession.[12]

I recall that when I first attended lectures in linguistics, and studied the various theories of the day, I thought I understood it all pretty well. But I did feel the need to do field work. When I got out into the field (in Australia) I found that I actually understood very little about how language is structured. But I learnt, little by little, by undertaking analysis of texts, attempting grammatical generalisations, and checking these with speakers. And then the theoretical ideas that I had read about took on a new light, as I began to understand their relevance to the task I was engaged in.

There is a tradition of *not doing* field work among many modern-day linguists. Many professors dissuade their students from undertaking it; and if the students were to persist, most of the teachers would be unqualified to supervise their work. But if linguistics is to get back on track there must be an estrangement between generations. Nancy Dorian (1994: 799), discussing the need to document endangered languages, stated: 'Arguably the single most fundamental obstacle . . . is an absence of mobilizing will on the part of the profession. A case could be made, it seems to me, for great benefit in at least two different respects from making it a professional requirement that

[12] Besides the formalists, there is another group that has sprung up recently, who can be called 'armchair typologists'. They eschew formalisms but have never worked intensively on a language. Lacking the necessary apprenticeship, they don't have the appropriate understanding of how languages work or the ability to distinguish between reliable and unreliable grammars. They consult grammars, and make an essay at typological generalisations; but their results are frequently naive and unenlightening.

Ph.D. candidates in linguistics and Linguistic Anthropology undertake a descriptive study of an undocumented or only minimally documented language as a dissertation topic.' Young linguists must seek out departments that have experienced descriptive linguists who can supervise their field work and grammatical analysis. Indeed, if every linguistics student (and faculty member) in the world today worked on just one language that is in need of study, the prospects for full documentation of endangered languages (before they fade away) would be rosy. I doubt if one linguist in twenty is doing this.

There are other errors of attitude. One is that linguistic theorising should be largely deductive. Someone suggests a 'general property of language' (based on their knowledge of, say, English, German and Italian) and then publishes it as a theoretical advance. They then spend years trying to explain away why other languages do not fit easily into the idea. In fact, the most profitable theoretical work is inductive.[13] One studies a certain feature or correlation of features across a wide selection of languages (from every family and every linguistic area) and sees what patterns emerge. These can form the basis for a hypothesis, which should be thoroughly verified across a further selection of languages (chosen on the grounds that they have critical properties with respect to the hypothesis),[14] before being elevated to the status of a theoretical postulate.

[13] Bloomfield (1933: 20) remarked: 'The only useful generalizations about language are inductive generalizations. Features which we think ought to be universal may be absent from the very next language that becomes accessible . . . The fact that some features are, at any rate, widespread, is worthy of notice and calls for an explanation; when we have adequate data about many languages, we shall have to return to the problem of general grammar and to explain these similarities and divergences, but this study, when it comes, will not be speculative but inductive.'

[14] For example, the correlations described in §9.1 – between head/dependent marking and types of adjective class – are based on an examination of the grammars of about 300 languages (I actually looked at over 500 grammars, but they did not all include the relevant information). There was no 'sampling technique' involved; I simply consulted *every* available grammar in the libraries I had access to.

There are 2,000 or 3,000 languages, for which we have no decent description, that will pass into disuse within the next few generations. Trained linguists are urgently needed to document them. In some cases native speakers can be trained as linguists but in many instances an outsider is required. All this costs money. If one can hire a properly trained linguist – someone who has already written a grammar as a Ph.D. dissertation and has a thorough grounding in Basic Theory – they will need salary for themselves and for their language consultants; travel funds; equipment; facilities for writing up the description, producing a dictionary and volume of texts; and so on. At least 3 years is needed to do a good job; the total cost will be (at 1997 values) around $US200,000.

If this work is not done soon it can never be done. Future generations will then look back at the people who call themselves 'linguists' at the close of the twentieth and beginning of the twenty-first century, with bewilderment and disdain.

As already stated, good descriptive work is a prerequisite for comparative linguistics. Work is urgently needed to distinguish between types of linguistic similarity that are indicative of genetic relationships, and those likely to be due to diffusion. We need to study diffusion areas that evolved during past periods of equilibrium, and look for indicators of the past relationships between – and origins of – different peoples.

10 Summary and prospects

10.1 The punctuated equilibrium model

The hypothesis put forward here is that, during most of the 100,000 years or more that language has been in existence, there has been an equilibrium situation within each geographical area. A number of small political groups, each with its own language or dialect, lived in a stable situation, in relative harmony with each other. There was no large-scale hierarchical organisation and no one group or language or dialect was accorded prestige over more than a local area (or for more than a limited time).

Things were never static. Languages and political groupings are always in a state of shift. There is a steady ebb and flow. Some languages would fall out of use and others might split into two; but this would happen on a modest scale.

In each area, linguistic features of all kinds would diffuse. The languages in the area, and in regions within the area, would become more like each other in phonological systems, grammatical categories, perhaps also in lexemes and, at a slower rate, in grammatical forms. They would converge towards a linguistic prototype for the area.

Then the state of equilibrium was punctuated. This could be due to a natural happening, or to some material innovation (most notably, the introduction of agriculture), or to the emergence of an aggressive political leader or an aggressive religion. Or to the movement of a language group away from its original area into a new and unpopulated region.

A period of punctuation is typically accompanied by expansion and split. The 'family tree' model of linguistic relationship