

African languages and linguistic typology

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1. Introduction

Starting with the seminal work of Joseph Greenberg in the 1960s, the study of linguistic typology has taken on increasing prominence within the academic linguistics community. Broadly speaking, typology can be understood as the comparative study of the different grammatical patterns that are found across the languages of the world. As such, it is an inherently cross-linguistic enterprise, though practitioners of typology place high value on the descriptions of individual languages since such descriptions are a prerequisite to their own work.

To take a classic example of the sort of phenomenon which is of interest to typologists, one can consider a language's basic sentential word order (see Dryer 2005a for a worldwide survey). The basic word order of an English sentence is subject-verb-object, typically abbreviated as SVO. This is also the basic word order of languages like Yoruba and Igbo. The basic word order Japanese, by contrast, is subject-object-verb (SOV)—a word order that is quite common cross-linguistically, but somewhat less common in West Africa, though it is found in languages like Ijo and Kanuri. In Modern Standard Arabic, the basic word order is verb-subject-object (VSO), a word order which is considerably less common than SVO or SOV word orders, but still not particularly rare. One finds this word order infrequently in West Africa, though there are a few cases, such as the Chadic language Lamang, spoken in northeast Nigeria. The three other logically possible orderings of subject, object, and verb—VOS, OVS, and OSV—are rather less common, but they are attested. Malagasy, spoken on the island of Madagascar, for example, has basic word order of VOS, and the Nilotic language Pāri, spoken in Sudan, is described with basic

word order OVS. No African language has been described as having a basic word order of OSV, though, of course, many African languages still await proper description. So, perhaps this word order will one day be found on the continent.

In examining a phenomenon like sentential word order, typologists are interested in a number of different questions including: (i) the range of attested types (in the case of basic sentential word order, all six logical possibilities are attested), (ii) how common or uncommon the different types are (SOV and SOV are quite common, OSV is quite uncommon), (iii) whether there are noteworthy geographic patterns in the distribution of the types (SVO predominates in Sub-Saharan Africa, while SOV predominates in Asia), and (iv) what correlations may hold across different linguistic types (e.g., SVO languages are much more likely to have prepositions than postpositions; see Dryer 2005b). More broadly, they are motivated by questions like, “What is the possible range of variation among the languages of the world?” and “Why do languages vary in just the ways observed and not in other logically possible ways?” While one also finds generative linguists interested in similar questions, what distinguishes them from typologists is that the former attempt to answer such questions via in-depth study of a few languages (e.g., English or French) while the latter attempt to answer those questions by broader study of as many languages as feasible.

In the rest of this chapter, I will elaborate on two broad themes. The first will be discussion of some of the results of typological investigation, highlighting those that appear to be of particular interest to African languages. The second will be on methodological issues in typology—in short, what typologists actually do when conducting their research. In discussing this latter theme, my aim is to familiarize descriptively-oriented linguists with the actual practice of typol-

ogy so that they will be able to better appreciate the results of typological investigation in ways that allow their own work to be usefully informed by them.

2. Describing and explaining linguistic universals

2.1. Universals and tendencies

The search for language *universals* is one of the primary motivating factors in the study of linguistic typology. Broadly speaking, one can divide language universals into two types: unrestricted and implicational. In addition, one can speak of cross-linguistic tendencies which, because of the presence of exceptions, cannot be considered universal but which, nevertheless, represent patterns that are too frequently accounted to be attributable to chance. These, too, can be unrestricted or implicational in nature. Finally, another kind of universal pattern, which is more abstract in nature, are those which can be expressed in terms of cross-linguistically operational grammatical hierarchies. I discuss each of these kinds of phenomena in turn.

Unrestricted universals are patterns that are supposed to hold across all of the languages of the world without exception. An example of such a universal would be *all languages have consonants and vowels*. A potentially more interesting example (since it is, in some sense, less obvious) is Greenberg's (1963[1966]:84) Universal #14: *In conditional statements, the conditional clause precedes the conclusion as the normal order in all languages*. Of course, any proposed unrestricted universal is only as strong as the language sample it is based on, and it may very well be that exceptions have either gone unnoticed or that a language which is an exception to the universal has yet to be described. For example, one can easily imagine a linguist from Europe several hundred years ago proposing a universal like *In no language are click sounds part of the core phonemic system*. Of course, clicks are part of the phonemic system of a large number of

Subsaharan African languages—so, such a statement is false. But, before such languages were described, the lack of any known click languages would have made it reasonable to claim that there was, indeed, such an unrestricted universal.

Implicational universals are universals that can be stated in a form like *If a language has property X, then it also has property Y*. As such, they state universal constraints on how logically independent grammatical parameters are allowed to vary with respect to each other. If absolute universals, in some sense, define the basic limitations on the properties of languages, then implicational universals can be understood as defining the possibilities for variation among languages within those limitations. Unlike unrestricted universals, implicational universals can necessarily only be discovered through cross-linguistic investigation since discovering them requires comparing languages with different properties in some domain. An example of an implicational universal is Hyman and Schuh’s (1974:89) claim that in a given language: *If tone spreading takes place from a mid tone into a following low, then tone spreading also takes place from a high tone into a following low tone*. We can represent this universal as in Table 1, which breaks it down into a statement about which of four logically possible language types are actually attested. A “✓” in the table means that the universal claims the relevant pattern is attested and a sequence like “M→L” represents spreading of one tone into another.

	M→L	No M→L
H→L	✓	✓
No H→L	—	✓

Table 1: *Representation of an implicational universal*

As illustrated by Table 1, the implicational universal given above predicts that, of four logically possible types of languages, (i) those with tone spread of both a mid tone and high tone to a low tone, (ii) those with spreading of a mid tone, but not a high tone, to a low tone, (iii) those with spreading of a high tone, but not a mid tone to a low tone, and (iv) those with neither kind of spreading, only three of those will be attested, with (iii) being the missing type. Of course, as with unrestricted universals, new data may prove a proposed implicational universal to be false—but this is an empirical matter, independent of the notion of the implicational universal itself.

Quite frequently, one finds strong tendencies across languages which have some exceptions, and therefore cannot be called “universals”, but which nevertheless are too common to be attributable to chance and, therefore, constitute typologically interesting generalizations. As with universals, these tendencies can be either unrestricted or implicational. An example of such an unrestricted tendency is Greenberg’s (1963[1966]:77) observation (called his Universal 1) that *In declarative sentences with nominal subject and object, the dominant order is almost always one in which the subject precedes the object*. Among other things, this “universal” suggests that languages with basic SOV, SVO, and VSO order should be more common than languages with OVS, VOS, and OSV word order, which is the case. However, since there are languages with those latter three orders, this cannot be considered a true universal but, rather, only a strong tendency. Nevertheless, it is noteworthy that, as found in Dryer’s (2005a) recent survey of basic sentential word order in 1228 languages, of the 1056 where there was a dominant order, well over ninety percent of languages showed one of three orders where the subject preceded the object. The pattern may not be a universal one, but its clear statistical dominance makes it quite interesting from a typological perspective.

An example of a strong tendency involving an implication is the fact that languages showing word orders where the object precedes the verb strongly tend to make use of postpositions and those where the object follows the verb strongly tend to make use of prepositions. According to Dryer’s (2005b) survey of this phenomena in 1033 languages, of 892 languages where the two factors could be examined, around ninety-five percent were consistent with the above generalization. Again, while this pattern is not universal, its statistical dominance is clearly noteworthy from a typological perspective. We can represent the relevant implication as in Table 2, where unlike Table 1, an “—” in a cell should be understood as meaning “rare” rather than “unattested”. A word order pattern like the one schematized in Table 2 is frequently referred to as *harmonic* since it describes a situation where two distinct areas of a language’s word order show parallel patterning. In this case, prepositional phrases are parallel to VO verb phrase word order since both are *head-initial* structures, and postpositional phrases are parallel to OV verb phrase word order since both are *head-final* structures.

	OV	VO
Prep	—	✓
Post	✓	—

Table 2: *Representation of an implicational tendency*

While the generalization expressed in Table 2 is weaker from the one in Table 1 in the sense that it is only a strong tendency and not a universal, it is stronger than the one Table 1 in another sense. The universal pattern represented in Table 1 expressed only a one-way implication and, consequently, only predicted that one of four logical types would be unattested. The tendency

expressed in Table 2, on the other hand, expresses a two-way implication, predicting that two of the four logical types will be uncommon. Thus, for example, if we know that a language makes use of postpositions, we can infer that its objects are likely to precede its verbs. Similarly, if we know that a language's objects precede its verbs, then we know it is likely to make use of postpositions. That is, each of these properties implies the other. By contrast, with respect to the tonal universal in table 1, we only know that if a language has spreading of a mid tone to a low tone, then it will have spreading of a high tone to a low tone. Knowing that a language has spreading from a high tone to a low tone, on the other hand, does not allow us to infer anything about the behavior of mid tones with respect to spreading in the language. Thus, two-way implications are stronger statements than one-way implications because they allow for a wider range of inferences.

In some cases, the label *universal* is used to refer both to true universals as well as to strong tendencies. Thus, an expression like *word order universals* is often used as a cover term not only for word order patterns that hold without exception but also for statistically predominant patterns like the tendency for subjects to precede objects or for languages to show word order harmony with respect to adpositional phrases and verb phrases. This usage will of the term will be adopted at various points below and, when unqualified, the term *universal* should be intended to encompass both true universals and strong tendencies.

A different kind of universal is that expressed by a grammatical (or implicational) *hierarchy*. Grammatical hierarchies encode possible patterns of cross-linguistic variation at an abstract level, describing a range of patterns that are attested across all languages in a given grammatical domain without directly specifying exactly how those patterns will manifest themselves concretely in any particular language. A frequently cited grammatical hierarchy, given in Figure 1,

relates to the grammatical encoding of number distinctions. (The particular form of the hierarchy given here is drawn from Croft (1990:97).)

singular < plural < dual < trial/paucal

Figure 1: *An implicational hierarchy for grammatical number marking*

The hierarchy can be understood as a set of implicational universals stating that if a language grammatically encodes any of the categories to the right of a “<” symbol, then it will also grammatically encode all of the categories to the left of the “<”. The notion of grammatical encoding, for example with special nominal morphology like the English plural morpheme *-s*, is crucial here. The hierarchy is not a statement about whether or not speakers of any particular language can conceptualize concepts like singular or plural. Rather, it is a statement generalizing over grammatical strategies for number marking only (see section 2.2.2 for further discussion). Thus, for example, figure 1 predicts that any language with a reserved strategy for encoding nouns as dual will also have a strategy for encoding them as both singular and plural. In contrast, it also predicts, for example, that there will be no language with a reserved strategy for encoding nouns as paucal but not also have a strategy for marking them as dual. A language like English, which only encodes singular and plural nouns is compatible with the hierarchy in Figure 1. A language like Igbo, which lacks any number marking on nouns would also be compatible with the hierarchy. As with implicational universals, grammatical hierarchies can only be discovered via cross-linguistic investigation and cannot be uncovered via in-depth study of just a single language.

It is important to reiterate here that statements of linguistic universals represent verifiable, and potentially falsifiable, claims about what kinds of grammatical patterns will or will not be

found in the world's languages. They should not be interpreted as theoretical assumptions or incontrovertible axioms. While some of the claims one finds in the typological literature—in particular those relating to word order—are based on examination of a considerable proportion of the languages of the world for which data is available, no claims have been tested on all of the languages spoken on the world today, let alone all the languages that have been spoken over the course of human history. Thus, it is expected that some patterns which have been described as universals, or even strong tendencies, today will be shown not to be as descriptions of new languages become available. Thus, linguists working on undescribed or poorly described languages—which is true of the majority of languages of Africa—should keep in mind the fact that the language they work on may provide crucial evidence that a particular widely-held universal is simply incorrect.

By way of example, we can consider the number system of Bayso, a Cushitic language spoken in Ethiopia. As pointed out by Corbett (2000:39), Hayward (1979:102) describes the language as having a three-way number distinction on nouns: singular, plural, and paucal. The paucal is further described as being used in cases where between two to six individuals are being referred to. Thus, its function encompasses the semantic category associated with a dual. According to the hierarchy given in figure 1, any language with a paucal should also have a dual, but this is not the case for Bayso. Therefore, data from Bayso falsifies any claim that the grammatical hierarchy in figure 1 describes a true universal. This is not to say we should, then, ignore the hierarchy entirely—perhaps it can be reformulated to encompass the Bayso case or perhaps it expresses a strong tendency, if not a true universal. Nevertheless, the fact that Bayso contradicts the hierarchy should underscore the general point that universals represent hypotheses, not unquestionable truths.

2.2. Explanations for universals

A natural question to ask once a universal has been discovered is why languages show that pattern instead of other logically possible patterns. For example, why is it the the harmonic pattern of word order among adpositional phrases and verb phrases schematized in Table 2 that is found and not the opposite, disharmonic pattern? Broadly speaking, we can group possible explanations for universals into three broad classes: synchronic, diachronic, and external. I take up each of these in turn.

A synchronic explanation for a universal suggests that languages pattern in a particular way because of restrictions on the human cognitive capacity for language, often referred to as *universal grammar*. For example, a possible unrestricted true universal is that *all languages have nouns and verbs*. (However, as a true universal, this has not gone completely unchallenged. Gil (1994), for example, argues that Riau Indonesian does not make this distinction.) Generative linguists, among others, have typically suggested that, in one way or another, the distinction between nouns and verbs can be attributed to universal grammar (see, for example, Baker (2003) for a thorough treatment of the issue taking such a perspective). If this is the case, then the explanation for the universality of a noun-verb distinction is straightforward: Human cognition simply would not allow anything else. Such an account is synchronic in the sense that the explanation is grounded in a general model of possible synchronic patterns in language. In principle, synchronic explanations for universals are more straightforwardly applied to true universals than to grammatical tendencies, since it is *a priori* difficult to rectify the existence of exceptions to a pattern which is also supposed to be a part of universal grammar.

A diachronic explanation for a universal suggests that the existence of the relevant pattern is due to the nature of language change. More specifically, diachronic explanations claim that common processes of change may independently affect different languages in ways that cause their overall grammars to converge on common structures. A diachronic explanation has been proposed for the harmonic word order pattern depicted in Table 2. For example, at least since Givón (1974), it has been noted that an important historical source of prepositions are verbs in serial verb constructions (see section 2.1.3 for further discussion of serial verbs). Consider, for example, sentences in (1) from Ewe, a Kwa language of the Gbe group spoken in Ghana and Togo.

(1) a. *é-tsó* *Lomé*

3s-come.from Lome

‘She came from Lome.’

b. *Kofi* *mli kpé-á* *tsó* *tó-á* *dzí*

Kofi roll stone-DEF from hill-DEF on

“Kofi rolled the stone down [from on] the hill.” (Heine et al. 1991:234)

Heine et al. (1991:234) note that, when the word *tsó* is used as the main verb of a sentence, it has a meaning like ‘come from’, as in (1a). However, when it is used as the second verb in a serial verb construction, as in (1b), it takes on a prepositional function marking the source of movement much like the English preposition *from*. It is not clear that we want to go so far as saying that the word *tsó* in (1b) is a true preposition—among other things it can still be marked for some kinds of verbal inflection (Heine et al 1991:234–235)—and, as seen in (1b) it also cooccurs

with an apparent postpositional element *dzi*.¹ Rather, it appears to be of an intermediate category between verb and preposition, sometimes referred to as *verbid* or *co-verb*, illustrating how elements with adpositional function can derive from original verbs. (This kind of change is usually analyzed the rubric of *grammaticalization*, the process through which function words derive from content words—two overview texts on grammaticalization are Heine et al. (1991) and Hopper and Traugott (1993).) In fact, Heine et al. (1991:235) further note examples like (2) where the element *tsó* appears to be unambiguously a preposition due to its temporal (as opposed to spatial) semantics and its syntax where it appears at the beginning of a sentence rather than as the second verb in a serial verb construction.

- (2) *tsó é-pé aevíme m-é-té ηύ kpɔ-á nú o*
 from 3s-POSS childhood NEG-3s-be able see-HAB thing NEG
 ‘Since[=from] his childhood, he hasn’t been able to see.’

From the perspective of arriving at an explanation for harmonic word order patterns like those described in Table 2, understanding that adpositions may originally derive from verbs is highly relevant. An adposition with a verbal source should show the same relationship with respect to its object that the original verb did. That is, if an adposition derives from a verb in an OV language, we would expect it to follow its object and, therefore, develop into a postposition, while in a VO language, we would expect it to develop into a preposition. If, in a given language, the majority of adpositions developed from verbs in this way, the result would be word order harmony between verb phrases and adpositional phrases, and we would be able to explain the presence of this harmony diachronically—that is, by appealing to a well-attested pathway of lan-

¹ Complex adpositional structures involving one preposition-like element paired with a postpositional element can also be found in English constructions like *in his stead*—a somewhat archaic formulation with comparable meaning to the *instead of him*—which is a complex adpositional structure involving two prepositional elements.

guage whose end result is to produce languages conforming to a given universal. Diachronic explanations are well-suited, in particular, for grammatical tendencies—i.e., universals with exceptions—since they make no claim about what is or what is not cognitively possible but, rather, make claims about likely outcomes of change.

A third possible type of explanation for a linguistic universal is one that refers neither to the synchronic models of a possible human language nor known diachronic pathways of change but, rather, to factors external to language itself. One factor that has been discussed in this regard is the frequency in which a particular kind of meaning is expressed. For example, possessed nouns (e.g., *my book*) are more likely to be definite when referred to since speakers tend to have a particular item in mind when they modify it with a possessor. That is, one is more likely to talk about a definite *book* when talking about a book someone owns than an indefinite one. Of course, there are cases where one may want to talk about an item that is indefinite and possessed. In English, however, one cannot use a prenominal possessive pronoun for this since expressions like *my book* or *his car* always refer to things which are definite. That is, *my book*, for example, must refer to a specific book that I own and have in mind, not any book that I happen to own. To express this latter sense in English, one must use the longer expression *a book of mine*. Note further that in English one cannot say **a my book* or **the my book* in order to express definiteness or indefiniteness of a possessed item. Before a noun, it is not possible to have both an article and a possessive pronoun in English, and, in any event, **the my book* would be redundant since *my book* already must be interpreted as definite.

Patterns like this are not limited to English, as discussed by Haspelmath (1999). For example, something comparable is found in Vai, a Mande language spoken in Liberia and Sierra Leone, as

seen in (3), as discussed by Haspelmath (1999:229), based on data originally found in Welmers (1976:43–44).

(3) a. *bǎ-ǎ*

goat-DEF

“the goat”

b. *kàí-ě fǎ*

man-DEF father

“the man's father”

c.* *kàí-ě fǎ-ǎ*

man-DEF father

“the man's father”

d. *kàí-ě á kέη-ě*

man-DEF LNK house

“the man's house”

The data in (3a) shows how a definite noun is expressed in Vai with a suffix (whose form changes depending on a rule of vowel harmony). In (3b) a possessive construction is used with a definite possessor and a possessed noun that is also interpreted as definite, and (3c) shows that an attempt to explicitly mark the possessor found in (3b) for definiteness is somewhat unusual (though it does not, in fact, appear to be strictly ungrammatical). In the Vai case, unlike, English however, this restriction is only in effect for a certain class of possessed nouns, namely those which exhibit *inalienable* possession—that is, possession which cannot be transferred. Keeping (3b) in mind, for example, one cannot change who one's father is. Typical kinds of inalienably

possessed nouns are kinship terms like *mother* and *father* as well as body parts like *head* and *leg*. Inalienable possession can be opposed to *alienable* possession, which is possession that can be transferred. For example, a house can be alienably possessed because it can be sold to someone else who will then become its owner. An instance of the expression of such possession in Vai is given in (3d). As can be seen, the possessed element can be independently marked for definiteness without problem. (In addition, in (3d) an explicit element, with the form *á*, is required to mark possession of such a noun.)

While it is not an absolute universal, both Vai and English exemplify an apparent cross-linguistic tendency wherein possessed nouns are typically definite when referred to and, therefore, explicitly marking of them as definite is restricted in some way. In English, no possessed noun in a *possessor-possessed* construction can be marked as definite. In Vai, this restriction only holds for inalienably possessed nouns. We will turn to the issue as to why this might be the case below. In languages showing a restriction like English, indefinite possessed nouns must be expressed using some strategy distinct from the basic possessive strategy. In English, constructions like *a book of mine* can be used to express such semantics, for example.

An explanation for restrictions on definiteness marking in possessive marking like what is seen in Vai and English has been proposed by Haspelmath (1999). He argues that, since possessed nouns are more frequently definite than indefinite in language use, in some languages the basic possessive construction has come to code definiteness inherently so that speakers can be more economical, only using a possessive marker rather than both a possessive marker and a definite marker to express the semantics of definiteness and possession.

Importantly, the fact that possessed nouns are more often used to refer to definite items is a fact about the way people speak, not about the general nature of language. In the abstract, there is

nothing intrinsically “better” about definite possessed nouns than indefinite possessed nouns, from a grammatical perspective. Rather, because of the way humans structure the world, they tend refer to definite possessed nouns more often than indefinite ones independent of the languages they speak, and the grammars of some languages seem to be shaped by this extragrammatical preference. On this view, grammars are understood to have properties which make them more efficient vehicles of communication than they might otherwise be. This kind of explanation can even be used to explain the difference between the restrictions on the marking of possessed nouns in Vai and English. Note that in Vai, the set of nouns which are not marked independently for definiteness—i.e., inalienably possessed nouns—are those that are most likely to be definite in the real world. For example, an expression like *my father*, referring to a particular man, is much more typical of the way humans speak than an expression like *a father of mine*, which is somewhat strange pragmatically. What we see, then, is different manifestations of the same basic phenomena in Vai and English, but the restriction against definite marking in Vai is limited to a smaller class of nouns than in English and, in particular, a class that is more likely to be definite. This is reminiscent of the hierarchy of plural marking see in Figure 1, but, here, instead, there is a hierarchy of definiteness. If this way of thinking about the difference between Vai and English is correct, we would predict that languages which are the opposite of Vai—where an alienably possessed noun would not normally be marked for definiteness but an inalienably possessed noun would—should either be unattested or, at least, rare.

The three categories of explanations for universals used here, *synchronic*, *diachronic*, and *external*, are meant to give some sense of the different kinds of principles we might use to explain a given universal pattern or cross-linguistic tendency. Of course, these classes explanations should not be understood to be mutually exclusive. Some patterns may require us to consider

multiple explanatory factors. Also, the examples given above should be understood as illustrative rather than definitive. For instance, the idea that **the my book* may be ungrammatical due to an effect of frequency is controversial. As discussed by Haspelmath (1999), an alternative synchronic alternative explanation has been proposed suggesting that syntax only makes available a single determiner position in a noun phrase and an expression like **the my book* is ungrammatical because two different words, *the* and *my* are competing for this single position.

3. African languages in a typological perspective

3.1. Introduction

In this section, a range of typologically noteworthy features of African languages will be discussed. The discussion will not attempt to systematically cover everything that is interesting typologically about African languages—that would scarcely be possible in a book let alone a chapter. Furthermore, we must keep in mind that perhaps a quarter to a third of all the world’s languages are spoken in Africa, and most of these have not been properly studied, making it dangerous to generalize about “African” languages in the first place. Nevertheless, there are a number of grammatical features of African languages that have captured the attention of typologists, as well as formal linguists, and some of those will be introduced here. While only morphosyntactic features will be discussed, it would be remiss not to point out that, in terms of phonology, African languages have had an enormous impact on both phonological typology and formal typological theory. To take just two examples, it is from African languages—in particular those of the Khoisan group—that we know that clicks can be part of the phonological system of a language, and, of course, tone in African languages has also played an important role in our understanding of tone systems, as well (see Hyman (2003:153–155) for detailed discussion).

In this section, the following grammatical features of African languages will be discussed: adjectives, cross-linguistically unusual word order patterns, applicative and double object constructions, serial verb constructions, and, finally, the issue of a “missing” grammatical feature in Africa. The goal of the discussion is not to fully cover the nuances of each of these topics. Rather, it is intended to impart some sense of the kinds of grammatical phenomena found in Africa that have proven interesting to typologically-oriented linguists (including some formal linguists) over the years. That being said, it is important to point out that, given the overall lack of study of African languages, it seems likely that many new typologically interesting phenomena will emerge from the continent in the future as we obtain a better understanding of its languages.

3.2. Adjectives

One of the most basic introductory linguistic concepts is the notion of parts of speech, and it is commonly assumed that the words of all languages can be divided into categories like *noun*, *verb*, *adjective*, *adverb*, etc. However, in many languages, there is either very little evidence for a distinct class of adjectives, or the class of true adjectives is so small that it appears to be a closed lexical class rather than an open one. We need to distinguish clearly here between the notion of *adjective* as a distinct part of speech—that is, as a lexical class with morphosyntactic properties different from other lexical classes in a language—and the semantic notion of *property concept*, which adjectives typically express. While there is often a correlation between lexical classes like *noun*, *verb*, and *adjective* and semantic classes of words like *thing*, *action*, and *property*, there is always some “leakage” where a word’s lexical and semantic class do not correspond on the expected way. For example, the English words *strong* and *strength* both refer to the property of being strong. However, only *strong* is an adjective, as can be seen by the fact that it has morpho-

logical comparative and superlative forms *stronger* and *strongest*. The word *strength*, on the other hand, is clearly a noun, as can be seen the fact that it can pluralized as *strengths*. Nevertheless, their similar semantics will mean that phrases like *a strong man* and *a man of strength* have largely comparable meaning.

A famous example in the typological literature of a language with very few adjectives is Igbo, as described by Welmers and Welmers (1969:321). They describe only eight adjectives for Igbo, given in (4).

- (4) a. *ómá* ‘good’ b. *ójó’ó* ‘bad’
 c. *úkwú* ‘large’ d. *ítà* ‘small’
 e. *ójí’í* ‘black, dark’ f. *ó cá* ‘white, light’
 g. *óhú’rú* ‘new’ g. *ócyè* ‘old’

The examples in (5) show how these adjectives in Igbo contrast in behavior with nouns. Specifically, they illustrate the tones for the words when spoken in isolation on the left and the tones when the two words appear combined into a single phrase on the right. The phrases in (5a), (5b), and (5c) are all instances of the so-called associative construction (similar to the *X of Y* construction in English) and, as can be seen, show tonal differences between the isolation word tones and the tones when they words are joined together. In (5d) there is no comparable tonal alternation. The alternation in (5a) involves the addition of a downstep between the first and second high tones of the second word. The tonal alternation in (5b) and (5c) involves raising of a final tone of the first word of the phrase.

- (5) a. *ánú* *éwú* → *ánú é’wú*
 meat goat

- “goat meat” (Welmers and Welmers 1969:316)
- b. *àlà ìgbò* → *àlá ìgbò*
 land Igbo
- “Igboland” (Welmers and Welmers 1969:316)
- c. *ńkpìsì ùdò* → *ńkpìsì ùdò*
 short rope
- “a short length of rope” (Welmers and Welmers 1969:319)
- d. *éfére úkwú* → *éfére úkwú*
 plate large
- “a large plate” (Welmers and Welmers 1969:320)

The phrases in (5a) and (5b) illustrate clearly that when two nouns are combined in a single associative phrase, tonal alternations can occur. The phrase in (5c) in fact illustrates the same thing. What is surprising is that one might expect the first word of the phrase, *ńkpìsì* ‘short’, to be an adjective, based on semantics, but it nevertheless behaves just like the first word in (5b) in how its tones alternate, indicating that in Igbo it is treated as a noun. We might, thus, want to translate it into English as ‘shortness’ rather than ‘short’ to indicate that it is a noun in Igbo. By contrast, in (5d), the word *úkwú* ‘large’, which we would also expect to be an adjective on semantic grounds, behaves differently from the nouns in the other phrases in two noteworthy ways. First, given the tonal alternation in (5a) involving downstep, we would expect *úkwú*, if it were a noun, to have the form *úkw’ú* since, otherwise, the tonal environments in (5a) and (5d) are largely the same. Second, unlike in (5c), where the property word precedes the noun it modifies, in (5d) it follows the noun. Thus, we seem to have two distinct classes of words expressing properties:

some, like *ḡkpìsì* ‘short’, that behave like nouns, and others like *úkwú* ‘large’ that behave differently. This latter class, which consists only of the eight elements in (4), has generally been treated as the class of true adjectives in Igbo. This makes Igbo like English in the sense that both languages have a distinct class of adjectives. Unlike English, however, Igbo has only a closed class of eight adjectives, whereas the class of adjectives in English is open, containing many, many words and also allowing the creation of new adjectives using derivational morphology (e.g., *computer/computery*).

There is great diversity among African languages regarding the presence of adjectives (Creisels et al. 2008:125–126). So, this is not an area where we can talk about specific “African” patterns. Nevertheless, data from adjectives has stimulated typological research into this topic. The Igbo data just discussed, in particular, has been used to support an approach to adjectives suggesting the certain semantic categories, like dimension (i.e. *large* vs. *small*) and age (i.e., *old* vs. *new*) are more likely to be adjectives in languages with a small adjective class than other categories (e.g., words denoting speeds like *fast* or *slow*) (Dixon 2006:3–5).

3.3. Word order

Word order patterns have been particularly prominent in typological studies, and, in fact, one of the most famous results of typology is the fact that there are significant skewings in the kinds of basic word orders found in languages for sentences containing subjects, objects, and verbs. According to Dryer’s (2005a) survey of 1,228 languages, SOV and SVO word orders are by far the most frequently attested, covering about 76% of the world’s languages. VSO order is also relatively common, found in about 7% of the world’s languages. It is also fairly frequently the case for a language to have no dominant basic word order—that is, its word order is so free as to

make it difficult, if not impossible, to assign it to a type like SOV or SVO—and this pattern is found in about 14% of the world’s languages. The other three logical word order possibilities—VOS, OVS, and OSV—are combined found in only around 3% of the world’s languages, a strikingly asymmetrical distribution.

The study of word order patterns, of course, need not be limited to basic sentential word order. Word order of elements within noun phrases has also been widely studied. Dryer (2005c), for example, reports the results of a survey of 1,213 languages of the relative order of nouns and adjectives, finding that slightly less than two thirds of the world’s languages show basic noun-adjective order—French is an example of such a language—while slightly less than one third show basic adjective-noun order, like what is found in English. (The survey also reports that about 8% of the world’s languages show no dominant order for nouns and adjectives.) Within Nigeria, noun-adjective order predominates, and is found languages like Yoruba and Igbo, but there are also languages like Hausa and the Kolokuma dialect of Ijo which show adjective-noun order.

Returning to basic sentential word order, a noteworthy feature of Sub-Saharan Africa is the predominance of SVO word order. Furthermore, many of the African languages that a typologist would classify as SOV, in particular languages of the Mande family, are atypical SOV languages in that only one argument appears before the verb instead of all arguments. Consider the contrast between the sentence from Japanese given in (6a) and the sentence from Bambara, a Mande language spoken primarily Mali, given in (6b).

(6) a. *Taroo ga Hanako ni sono hon o yatta.*

Taroo NOM Hanako DAT that book ACC give.PST

“Taroo gave that book to Hanako.”

(Shibatani 2001:260)

b. *ù bènà fántà dí à mà mùsò 'yé*

3p PM Fanta give 3s POSTP wife POSTP

“They will give him Fanta as a wife.” (Creissels 2006:37)

As can be seen in (6a) when a verb meaning ‘give’ is used in Japanese both the theme and recipient argument appear before the verb. This is the usual pattern with languages described as SOV. In the Bambara example in (6b), however, only one argument, the theme *fántà*, appears before the verb, while the recipient appears after, yielding a pattern commonly abbreviated as SOVX, which can be contrasted against the SOXV pattern of Japanese, where X represents any argument other than the direct object. (The element in *bènà* (6b) is a so-called predicative marker, which plays a role in tense-mood-aspect language in Bambara.) Creissels (2006) discusses this crosslinguistically atypical word order pattern in more detail. The Mande case illustrates that one must be careful not to assume that all languages assigned to a common typologically category, like SOV, will behave the same way throughout their grammar (see also section 4.1), in addition to illustrating a way in which African languages have contributed to our understanding of variations in word order typology.

Another interesting word order pattern found in African languages involves the marking of negation. Specifically, many languages, particularly in central Africa, mark negation using a VONeg pattern. That is, in a VO language, a negative marker appears after both the verb and the object. An example from the South Atlantic language Kisi, spoken in Liberia and Sierra Leone, is given in (7a). This example is contrasted with the marking of negation in written French, as seen in (7b), which also shows a postverbal negative marker (in addition to a preverbal one), but unlike Kisi, this marker is immediately postverbal—that is, it does not follow the object but precedes it.

(7) a. *à cìsú ndí lé*

3p cure 3s NEG

“They did not cure him.”

(Childs 2003:130)

b. *Je ne vois pas la maison.*

1s NEG see NEG the.FEM house

“I do not see the house.”

As discussed by Dryer (to appear) (see also Güldemann 2008:163–165), postverbal negation is generally less common than preverbal negation in VO languages like Kisi and French. Thus, in English, for example, the negative word *not* precedes the main verb as in *I have not seen the house*. So, in this regard, both French and Kisi are typological outliers. However, this worldwide tendency is much more weakly present in Africa than elsewhere. Furthermore, the VONeg version of this pattern is especially “African”—that is, it relatively common in Africa but otherwise poorly attested elsewhere.

3.4. Applicatives and double object constructions

The languages of the Bantu family have been especially prominent in work on the typology of grammatical relations (i.e., concepts like *subject* and *object*), particularly with regard to the typology of double object constructions. Double object constructions are sentential structures wherein two objects follow the verb. Such constructions are quite frequently found in Bantu languages due to the fact that languages in the family often productively employ applicative suffixes which allow verbs which would normally only take a single object to, instead, take two. An example of the use of an applicative in a Bantu language is given in (8), using data from Chichewa, a language of Malawi.

(8) a. *Chitsîru chi-na-gúl-á mphátso.*

7.fool 7-PST-buy-FV 9.gift

“The fool bought a gift.”

b. *Chitsîru chi-na-gúl-ír-á atsíkána mphátso.*

7.fool 7-PST-buy-APPL-FV 2.girl 9.gift

“The fool bought a gift for the girls.” (Alsina and Mchombo 1993:18)

In (8a) the verb *-gul-* ‘buy’ appears without an applicative suffix, and it takes only one object *mphátso* ‘gift’ argument with the semantic role of theme. In (8b) an applicative suffix *-ir-* is found on the verb, which allows it to be followed by two objects, the “original” theme object plus a benefactive argument *atsíkána* ‘girls’. In languages lacking applicative constructions, double object constructions are rarer since there is no productive strategy for allowing a verb to take on an additional object argument. Instead, additional arguments must be introduced some other way, for example, via adpositional phrases, as in the English translation of (8b).²

Linguists working on the typology of grammatical relations have looked at structures from Bantu languages like the one seen in (8b) in some detail in order to discover if there are any differences in the overall syntactic behavior of the two arguments in these double object constructions. Consider, for example, the data from Chaga, a language of Tanzania in (9) and further data from Chichewa in (10).

² It should be noted here that English is somewhat unusual in that it allows many verbs to take extra arguments with benefactive semantics without applicative marking on the verb (since English has no applicative affixes) or use of a preposition. For example, (8b) could also have been translated as *The fool bought the girls a gift*. While I am not aware of any cross-linguistic study on the topic, this appears to be a typologically unusual feature of English. Thus, some of the discussion here about general cross-linguistic tendencies may not apply to English. This illustrates the important point that we must be careful not to consider grammatical patterns of English to be what is “normal” without appropriate crosslinguistic investigation to see if this is the case. In many cases, ways in which African languages diverge from English will reflect unusual properties of English rather than unusual properties of languages of Africa.

(9) a. *N-ǎ-ĩ-lyì-í-à* *mkà kélyà.*

FOC-3s-PRS-eat-APPL-FV 1.wife 7.food

“He is eating food for/on his wife.”

b. *N-ǎ-ĩ-m̄-lyì-í-à* *kélyà.*

FOC-3s-PRS-**3s.OBJ**-eat-APPL-FV 7.food

“He is eating food for/on her.”

c. *N-ǎ-ĩ-kì-lyì-í-à* *mkà.*

FOC-3s-PRS-**7**-eat-APPL-FV 1.wife

“He is eating it for/on his wife.” (Bresnan and Moshi 1993:50–51)

(10) a. *Chitsîru chi-na-gúl-ír-á atsíkána mphâtso.*

7.fool 7-PST-buy-APPL-FV 2.girl 9.gift

“The fool bought a gift for the girls.”

b. *Chitsîru chi-na-wá-gúl-ír-á mphâtso.*

7.fool 7-PST-3s.OBJ-buy-APPL-FV 9.gift

“The fool bought a gift for them.”

c.* *Chitsîru chi-na-í-gúl-ír-á atsíkána.*

7.fool 7-PST-9-buy-APPL-FV 2.girl

Intended: “The fool bought it for the girls.” (Alsina and Mchombo 1993:18–22)

While nominal objects in most Bantu languages usually follow the verb, pronominal objects in many languages of the family typically precede the verb root, appearing as prefixes within a larger prefix cluster. In examining the data in (9), we can see that in Chaga, both objects in a double object construction can be realized as prefixes. In Chichewa, on the other hand, as seen in

(10), only the benefactive object can be realized this way. When one attempts to realize the theme as prefix, the sentence is ungrammatical for the intended reading. The pattern found in the Chaga data is referred to as a *symmetrical* pattern since both objects in the double object construction behave the same way with respect to the object prefix construction. By contrast, the Chichewa pattern is given the label *asymmetrical*.

The status of double object constructions with regard to symmetries and asymmetries—not just with respect to the realization of pronominal objects but across other parameters as well, like passivizability—has been the subject of an extensive literature, particularly in typologically-oriented work in formal syntax. While it is no longer actively practiced, data on Bantu double object construction was important in work on Relational Grammar (see Farrell 2005:112–134 for an overview of this framework), as evidenced by work like Gary and Keenan (1977), Perlmutter and Postal (1983:109–126), and Dryer (1983). More recently, Bresnan and Moshi (1993) have suggested modifications to the framework of Lexical Functional Grammar on the basis of data involving object symmetries and asymmetries. Work in Relational Grammar had significant influence on typological work on grammatical relations generally (see, Peterson 2007:68). Thus, this is a case where data from African languages has had a significant impact in typology. At least one reason for this is that the grammars of Bantu languages, by virtue of making use of productive applicative constructions, allowed double object constructions to be studied more readily than in European languages where applicatives are scarcely attested. This illustrates the general point that, from a typologist's perspective, it is important to gather data on as many of the world's languages as possible since one never knows in advance when some undescribed language will yield grammatical patterns which may prove crucial to developing good typological models of a phenomenon.

3.5. Serial verb constructions

A typical feature of many West African languages is the presence of serial verb constructions. These are constructions wherein a series of verbs or verb phrases are joined together in a single sentence to create a single complex predicate. An example of a serial verb construction from Edo, a Benue-Congo language of Nigeria, is given in (11), and an example of such a construction from Yoruba is given in (12).

(11) *Àbié!yúwa hìín èrhán kpàán àlímó*

Abieyuwa climb tree pluck orange

“Abieyuwa climbed the tree and plucked an orange.” (Stewart 1998:2)

(12) *o mú ìwé wá fún ẹ*

I take book come give you

“I brought you a book.” (Stahlke 1970:63)

In (11) we see two verb phrases, *hìín èrhán* ‘climb tree’ and *kpàán àlímó* ‘pluck orange’, brought together into one larger predicate in order to describe a sequence of interrelated actions. Something similar is seen in (12), with the interesting additional feature that the object of the verb first verb *mú* ‘take’, *ìwé* ‘book’, is understood to also be an object of the final verb *fún* ‘give’, even though it does not also appear after that verb. Such a phenomenon is sometimes termed *object sharing*.

Serial verb constructions have longed posed problems for formal theories of grammar (e.g., most transformationalist frameworks) which were devised primarily by consideration of data from European languages, where serial verb constructions are fairly marginal phenomena. This is

because such models are generally based on the assumption that sentential structures will be headed by only a single verb. It is thus not straightforward how one should analyze multiverbal serial constructions within such models, though attempts have been made. From the perspective of typology, the questions posed by serial verb constructions are somewhat different, revolving around such issues as understanding the conditions under which argument sharing of the sort seen in (12) is possible, examining possibilities for the individual verbs in serial verb constructions to be independently negated and have distinct tenses and aspects from each other, and determining the factors influencing the kinds of verbs that can be combined in serial verb constructions. Such topics have provided rich ground for typologizing both distinct serial verb constructions both within individual languages as well as across languages. (See Aikhenvald (2006) for a recent typological overview of serial verb constructions.)

Serial verb constructions are hardly limited to Africa, being common as well in parts of Southeast Asia and Oceania, and they are also found in some indigenous languages of the Americas. They are, thus, a feature in West African languages that sets them apart from European languages, but not necessarily the rest of the world.

3.6. A “missing” feature in Africa

When we look at languages from a worldwide perspective, we can characterize them not only by virtue of the features they have but also the features they lack. For example, when we look at the languages of Europe, we find that it is quite typical for languages of Western Europe to make use of definite articles like *the*. By comparison, Slavic languages of Eastern Europe like Polish and Russian can be characterized by their lack of definite articles. (However, some Slavic languages, for example, Bulgarian, do have a definite article.)

In a recent survey of the morphosyntactic features of African languages, Creissels et al. (2008:149–150), note several grammatical features that seem to be much less common within Africa than on a worldwide level. For purposes of illustration, I will discuss one of these here.

Case marking on subjects and objects appears to be less common on Africa than in the rest of the world, and case systems of the ergative type are especially rare. (See König 2008 for a recent overview of case systems in Africa.) Lack of case marking is especially notable in Niger-Congo languages. Of course, many languages of the world, including English, lack case marking (or, in the case of English, have only very marginal case marking). And, contrary to unjustified prejudices that used to be held by many Western scholars that classical languages like Latin and Greek, with rich case systems, were in some sense “superior” to languages lacking case, there is nothing intrinsically positive or negative about the presence or absence of case in a language, language family, or linguistic area. What is interesting are asymmetries in the distribution of grammatical features across the world, and, ultimately, typologists would like to be able to explain why case marking is less common in Africa than elsewhere. At the same time, they would also want to explain why, for example, tone marking is so common Africa but relatively rare in Europe, and, perhaps more surprisingly, completely absent in the indigenous languages of Australia.

4. The discipline of typology

4.1. Introduction

In this section, the focus of the discussion will be shifted from the way the world’s languages pattern typologically—that is, from the phenomena of interest to typology—to the things that typologists actually do during the course of their work—that is, to the academic discipline of ty-

pology. Four topics will be covered: (i) how typological variables are devised and used, (ii) the importance of sampling, (iii) some contrasts between the typological approach and the generative approach, and (iv) the relationship between the typologist and the descriptive linguist. As with much of the discussion above, these topics are all complex and can only be introduced here. Nevertheless, they should give the student some idea of the issues faced during the day-to-day work of the typologist.

4.2. Devising typological variables

One of the most difficult issues faced by typologists is how to devise an appropriate set of typological variables with which to categorize diverse languages. In fact, one of the most frequent criticisms one hears from descriptive linguists at conferences when typological work is presented is that the typologist categorized this or that language in the “wrong” way. In fact, more often than not, it is the case that the typologist categorized the language in a way that was consistent with the overall study they were performing and the categorization was not so much “wrong” as counterintuitive to the descriptive linguist for one reason or another.

To make the discussion clearer, it will be useful to employ a concrete example. Returning again the word order typology, recall that, in the domain of basic sentential word order, seven distinct categories are generally recognized: SOV, SVO, VSO, VOS, OVS, OSV, along with “no dominant order”. It is important to understand that, while these labels may seem quite intuitive and easy to understand, at first, they abstract away from what can often be very complicated patterns in individual languages. In example (6) in section 3.3, for example, the nature of SOV word order in Japanese and Bambara was contrasted. We saw that, in some sense, both Japanese and

Bambara could be classified as SOV, but that they were both different kinds of SOV languages, where Japanese was something like SOXV and Bambara was SOVX.

In conducting a typological study on word order, then, the contrast between Japanese and Bambara poses a dilemma: If we look only at the order of S, O, and V, they each seem to be SOV languages, but, if we put them both into this single category, we mask important distinctions in the overall sentential syntax of these languages. Is there a general solution to this dilemma? The short answer is, no. Rather, it is important to keep in mind what the goals are of a particular study. If we look, for example, at Dryer (2005a), a worldwide survey of over a thousand languages, it seems clear that good amount of “lumping” of distinct patterns into more general abstract patterns like SOV and SVO was required. Otherwise, there could have been an explosion of word order categories—too many for his study to keep track of. At the same time, if we accept that this lumping was due to a kind of methodological necessity, we must also accept that it imposes important limitations on the kinds of conclusions we can make from such work. For example, one must realize that SOV as a label as used in Dryer (2005a) does not tell us anything about what happens when there are more arguments than just S or O. If we want to know what happens in a given language, for example, when a verb with a subject, theme, and recipient is used, we must look elsewhere.

The problem just discussed is one where two distinct languages would be assigned to the same category even though there are still significant distinctions in their grammatical behavior which may also justify putting them into different categories. An even more difficult problem arises when there is variation within a single language that makes it hard to decide how to categorize it across some grammatical feature. Consider, for example, the data in (13) from the Benue-Congo language Leggbó, spoken in Nigeria.

(13) a. *Wàdum s'é edzi lídzil.*

man the 3s.eat food

“The man ate food.”

b. *Wàdum s'é lídzil eèdzi.*

man the food 3s.NEG.eat

“The man didn’t eat food.”

In affirmative clauses in Leggbó, the basic word order appears to be SVO as in (13a). However, in negative clauses it appears to be SOV, as in (13b). So, is Leggbó an SVO or an SOV language? Most typologists would probably classify it as SVO, following a principle that affirmative clauses are, in some sense, more “basic”, or typical, than negative ones. While this logic seems sound, it means that, at least for Leggbó, when we say it is an SVO language, we only mean it is SVO in a subset of all sentences. So, again, we must be careful to infer too much from any typological classification of a given language. Not only does such classification mask important interlanguage variation, it can also mask important intralanguage variation. We can easily see why, now, a descriptive linguist at a conference might object to a typologist’s classification. To use Leggbó as an example, a typologist may decide to classify it as SVO, and the descriptive linguist would object saying it is both SVO and SOV. Who’s correct? Both are. If your goal is to do a worldwide survey of basic word order types, then the SVO characterization is probably best. If your goal is to make a complete description of the language, then you need to classify it as sometimes SVO and sometimes SOV.

What we must keep in mind, here, is that, by virtue of its goal of looking at grammatical patterns across the world’s languages, typologists will inevitably have to try to reduce the incredible diversity they encounter to a relatively small set of types which they can work with manageably,

and this will inevitably result distortions in the data they use. Fortunately, with computers, typologists can now manage much more data—and data categories—than they could previously, leading to fewer such distortions, but, nevertheless, some level of “simplification” and “lumping” is inherent to the basic goals of typology. For some descriptive linguistics, this simplification may be sufficiently troubling that they will decide they do not want to practice large-scale typology, which is not unreasonable. However, this should not lead them to ignore the results of typological study, which may be very helpful for their own work, as will be discussed in section 4.5. Rather, typological studies must always be put into proper context: They are not intended to be the final word on the world’s languages but one of many tools we can use to understand their properties better.

Before moving on, one final point about how typologists decide how to classify languages is worth mentioning here: Their work is, in general, limited by available language descriptions. Occasionally, they may have access to a native-speaker or an expert descriptive linguist, but, generally, this is not the case. This limitation affects typological studies in two crucial ways. First, it may always be the case that the *described* languages of the world are not representative of the *actual* languages of the world. This point is especially relevant in the African context since the majority of African languages are poorly described. It could be the case that, if all the languages of Africa were well-described, our conclusions about what is “usual” or “unusual” about the world’s languages would be significantly different. For this reason, typologists are generally eager for new descriptions to be produced so that they can add information about more languages to their studies and, hopefully, arrive at more reliable results. The second way in which this limitation affects typological studies is that their typological classifications can only be accurate if the grammars and other descriptive works they refer to are also accurate. Sometimes a typologist

will wrongly classify a language because the description they referred to was either itself incorrect in some crucial respect or, more often, because it was incomplete in a way that made the description difficult to interpret reliably.

4.3. Sampling

Depending on the goals of a given typological study, an important issue that the typologist may need to consider is whether or not the sample of languages they study is sufficiently representative of the world's grammatical diversity. Of course, there are some factors the typologists has no control over: For example, thousands of languages have gone extinct over the course of human history without leaving any record. Perhaps one of these languages possessed a grammatical feature that linguists today would deem to be "impossible". When we consider that many linguists might have deemed it impossible for clicks to be used linguistically if we did not have examples of click languages in Africa, this issue is of obvious concern. Unfortunately, though, it is also an issue outside of our control.

However, there are some variables that the typologist can try to control for. For example, all things being equal, it would be expected that languages which are known to be closely related (e.g., English and German or Swahili and Zulu) would be grammatically more similar than languages which are completely unrelated (e.g., Yoruba and Hausa) by virtue of having inherited many features of their grammars from a common parent. Therefore, if a typological study sampled five Germanic languages but only one Benue-Congo language, its results may not be representative of the world's languages because the data from Germanic languages might skew the study to make the world's languages look more "Germanic" than they really are. To take an analogy in matters of race, if one wanted to know what the racial composition was of the world's

peoples and five Europeans and only one Nigerian were selected for examination, one would get the impression that whites vastly outnumber blacks. But, this would not actually be a fact about the world but, rather, the sample.

To deal with this problem, for certain kinds of studies, typologists strive to create genetically-balanced samples. For example, in a study including data from 100 languages, they may take one Germanic language, one Romance language, one Bantu language, one Mande language, one Chadic language, etc. Of course, sampling in this way does not guarantee that the languages they choose to examine will be representative of the world's languages—this is an inherent problem in sampling of any kind (not just in linguistics, but in all fields of inquiry). Nevertheless, the use of genetically-balanced samples at the very least mitigates problems associated with the fact that some grammatical patterns may appear to be prevalent or rare simply because of the historical changes affecting any one particular family.

These things being said, we must keep in mind that the ability for a typologist to create a genetically-balanced sample is directly dependent on the quality of our reconstructions of the world's language families. For some language families, like Indo-European, the relationships among its daughter languages are relatively well-established. For others, like Nilo-Saharan, some scholars have seriously questioned whether it is a true language family or rather more of a “wastebasket” classification of languages without any particular relationship to each other beyond the fact that they do not appear to be Niger-Congo or Afro-Asiatic. The consequences of these different analyses for the typologist are potentially quite profound. If Nilo-Saharan is a real family, then perhaps only one Nilo-Saharan language would be chosen in a sample that attempts to be genetically balanced. If, on the other hand, it is really a collection of small, unrelated families which have been unjustifiably lumped together, the typologist should be sampling one language from

each of those families—potentially changing the representation of African languages significantly. Scholars of African languages should keep this in mind as they devise classifications for the languages of the continent. Not only do typologists, but also historians, archaeologists, and geneticists, make use of language classifications in doing their work, and it is clearly important for them to have access to accurate information about the classification of the continent’s languages. Even if the most accurate statement one can make is, “We don’t know if these languages are related”, this is still better than giving the false impression that two languages are clearly related even when the evidence for the relationship is very weak. In the opinion of the author of this chapter, African languages, at the present time, are likely to, if anything, be underrepresented in typological studies which aim for genetically-balanced samples due a tendency for Africanist linguists to be “lumpers” rather than “splitters” when proposing language families.

Another factor that needs to be taken into account when sampling is geography. It is well-known that certain geographic areas will often share linguistic features regardless as to whether or not the languages of those areas are genetically related. A good example of such a phenomenon involves labiovelar consonants like *kp* and *gb*. Such consonants are, on a worldwide level, almost completely limited in their distribution to within an east-west band within central Africa, ranging roughly from Sierra Leone to Uganda (see Güldemann 2008:156–158 or Maddieson 2005). These consonants are not restricted to any one particular language group within this area, being found in languages classified as Niger-Congo, Afro-Asiatic, and Nilo-Saharan. If a typological sample contained too many languages—even languages not at all believed to be related—from this part of Africa, it might lead to the erroneous conclusion that labiovelars are more cross-linguistically common across the world than they really are. We saw something similar in section 3.3, where it turned out that negative marking in Africa diverged in some ways from the

worldwide pattern. We can see, therefore, that creating balanced sample may require the the typologist to consider both language family relationships and linguistic areas.

Does this mean that every typological study need to be balanced genetically and geographically? While this might seem to be an obvious conclusion, it is not necessarily the case. If the goal of a typological study is to be able to present an accurate picture of how languages pattern on a worldwide level, then creating a properly-balanced sample would seem to be a necessity. However, sometimes there are different goals in typological investigation. For example, for phenomena that are not well-studied, it often makes sense to do an exploratory typological study on a small set of languages (for example, around twenty) to get an initial impression of the kinds of variation seen across the world's languages within that domain but without coming to definitive conclusions regarding worldwide patterns. For such studies, it often makes sense to use what is sometimes called a *convenience* sample. That is, the typologist will simply look at languages which, for one reason or another, are easy to gather data on. Often, studies involving convenience samples will not be seen as the endpoint of a typological study but, rather, as a precursor to a study involving a larger number of languages which are selected to achieve genetic and geographic balance. All this is to say is that, as with many areas of research, the methods through which you gather data cannot always be described via a fixed set of rules. Rather, it depends on what your goals are. Some kinds of typological studies may require carefully-balanced samples, while others may not. It depends on the kinds of questions a study seeks to answer.

4.4. The typological approach compared to the generative approach

While many of the results of typological studies in recent decades have been well-received, the field of typology has, at least in the United States and Europe, been overall less prominent than

research within generative linguistics. While the interests of researchers in both domains do not completely overlap, they both share one core concern: The discovery of linguistic universals. However, their approaches to discovering universals are strikingly different. We will touch upon the issues briefly here, and the interested reader is referred to chapter 1 of Comrie (1989) for further discussion.

Typologists typically search for universals by examining data from as many languages as possible, whereas generative linguistics typically search for universals by examining a small subset of languages in great detail. While, at first glance, the methodology of the typologist seems better suited to the discovery of universals than that of the generative linguist, the reality is, in fact, somewhat more subtle. A typological study may achieve greater representation of the world's languages than a generative study, but it does so at the expense of being based on a relatively shallow examination of each language and, therefore, may miss crucial connections holding among the grammatical patterns of a given language. By contrast, what a generative study loses in cross-linguistic coverage it can make up for with its in-depth account of the languages it does cover.

In principle, these two different ways of pursuing research into universals should be able to complement each other. The typologist would uncover broad patterns in need of explanation, and the generative linguist would study how those broad patterns play out in detail in particular grammars, possibly discovering new kinds of patterns for the typologist to examine. In practice, at least in the last thirty years or so, the nature of typological investigations and generative investigations, on the whole, have diverged in ways which make it difficult for them to cooperate as much as one might hope. In particular, the rapidity with which theoretical devices evolve within transformationalist approaches to syntax makes it difficult for typologists to maintain a sufficient

understanding of them to make good use of the analyses of specific languages done by many generative linguists. The problem is less acute in some non-transformationalist frameworks as opposed to transformationalist ones, in particular, Lexical Functional Grammar (see Bresnan 2001 for an overview), which has had a relatively productive interchange with typology over the years. In addition, while not a generative framework, the formal syntactic framework of Role and Reference Grammar (see Van Valin and Lapolla 1997) has been heavily influenced by the results of typological investigation and, in turn, its ideas have also proven useful in some typologically-oriented studies.

4.5. The relationship between the typologist and the descriptive linguist

In recent decades, there has been a highly productive exchange between typologists and descriptive linguists. From the typologist's perspective, the descriptive linguist provides them with the data they need to conduct typological studies. From the descriptive linguist's perspective, results from typology help them understand how the features of the languages they work compare to what is found in the world's languages generally, allowing them both to give some context to their descriptions as well as to understand what kinds of grammatical phenomena they should be looking for in the languages they study. For example, a descriptive linguist who is looking for advice on how to elicit data on tense-mood-aspect systems could turn to the Dahl's (1985) typological study of such systems and even make direct use of the the questionnaire he provides (Dahl 1985:198–206).

In order for typologists to make full use of descriptive work, it is particularly useful if any description provides clear examples substantiating the descriptive claims made, explicitly defines any technical terms used to describe the language under examination, avoids idiosyncratic uses

of terminology, and refrains from making use of formal devices without a long history, which may quickly become obsolete and hinder interpretation of the description in the future. Of course, most typologists are aware of how difficult descriptive work can be—in fact many of them are or have been descriptive linguists themselves. So, such pieces of advice should be construed as comments on the ideal practice, with the full acknowledgement that it may not always be possible for a descriptive linguist to follow them at all times.

5. Conclusion

The discussion here only provides an introduction to typology in the context of African languages, and the interested student will want to seek out additional sources. Textbooks and introductory monographs on typology include Comrie (1989), Croft (1990), Whaley (1997), and Song (2001). More advanced discussion of a wide range of topics in typology can be found in a series of three volumes edited by Timothy Shopen, whose first edition was published in 1985 and with a second edition published in 2007. A typologically-informed guide to the description of morphosyntax can be found in Payne (1997). Childs' (2003) introductory textbook on African languages contains a good deal of discussion relevant to typology from an Africanist perspective, and Creissels (2000) is an introductory chapter on the typology of African languages. The recent volume on the linguistic geography of Africa edited by Heine and Nurse (2008) also contains much information on African languages of typological interest. Some of these books, unfortunately, may be too inexpensive, or otherwise inaccessible, for use by students in Africa. However, portions of some of them can be viewed free online using services like Google Books and Amazon's book preview. In addition, there are a number of free online resources for linguists interested in typology. Two that stand out in particular are *The Universals Archive* based at the

University of Konstanz which “aims to be a comprehensive documentation of the linguistic universals on record” and the online version of *The world atlas of language structures* (WALS), which was originally published as Haspelmath, Dryer, Gil, and Comrie (2005) but is now freely available at <http://wals.info>. WALS contains data on thousands of languages across a wide range of typological features and makes use of interactive maps allowing geographic visualization of the distribution of the grammatical characteristics of the world’s languages. It is particularly useful for identifying what kinds of grammatical features may be typical or unusual for a particular part of the world or within a language family.

Glossing abbreviations

1,2,3S,P	singular/plural person
1,7,9	noun class
A	in-focus noun form
ACC	accusative
AGR	agreement
APPL	applicative
B	out-of-focus noun form
DAT	dative
DEF	definite
DPST	distant past
FEM	feminine
FOC	focus
FV	final vowel

HAB	habitual
NEG	negative
NOM	nominative
OBJ	object marker
PM	predicative marker
POSS	possessive
POSTP	postposition
PRS	present
PST	past
SM	subject marker

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Online resources

The Universals Archive. Universität Konstanz. <<http://typo.uni-konstanz.de/archive/>>

The World Atlas of Language Structures Online. Max Planck Institute for Evolutionary Anthropology and the Max Planck Digital Library. <<http://wals.info/>>

Exercises

1. *Examining word order variation*

Translate the following English sentences into your native language or some other language you speak well.

- a. *The man died.*
- b. *The man killed the woman.*
- c. *The man gave the woman a gift.*
- d. *The man went to the market.*
- e. *The man put the book on the table.*
- f. *the heavy book*
- g. *one book*
- h. *one heavy book*

Based on your translations, consider how the word order in your language differs from the word order in the English sentences. In particular focus on the relationships holding among: subjects and verbs; objects and verbs; subjects, objects, and verbs; themes and recipients; adpositions and

nouns; nouns and determiners; nouns and adjectives; and nouns and numerals. In what ways is your language like English with respect to word order? In what ways is it different? Are there any cases where the grammar of your language and English are so different as to make it difficult to compare the languages in the ways asked for here? Feel free to include additional examples beyond the phrases you are asked to translate if you think they are relevant for the comparison.

2. *Categorizing the basic word order of a language*

Consider the data in (i) from Aghem, a Bantoid language of Northwest Cameroon (data drawn from Watters 1979), and the data in (ii) from Ibibio, a Lower Cross language of Nigeria (data drawn from Urua 1997). Based on this data, how would you classify the basic word order of each of these languages? Does the data present any difficulties for this classification?

(i) Aghem

a. *éna? m̀ ñ́éŋ ǹô*

Inah DPST run FOC

“Inah ran.”

b. *á m̀ ñ́éŋ ndúgh̀*

SM DPST run who

“Who ran?”

c. *á m̀ ñ́éŋ éna?*

SM DPST run Inah

“*Inah ran?*” (Answer to above.)

d. *fíl á m̀ zí kíbé*
friends.B SM DPST eat fufu.A

“The friends ate fufu.”

e. *á m̀ zí ndúghò bé-!kó*
SM DPST eat who fufu.B

“Who ate the fufu?”

e. *á m̀ zí á-fín bé-!kó*
SM DPST eat friends.A fufu.B

“The friends ate the fufu.” (Answer to above.)

(ii) **Ibibio**

a. *Òkôn à dèp ébót.*
Okon AGR buy goat

“Okon is buying a goat.”

b. *Àmì ú yèm fîn.*
1s AGR look.for 2s

“I am looking for you.”

c. *Áátìm à nâm ñídídía.*
Atim AGR cook meal

“Atim is cooking a meal.”

d. *Úbók á m̀ biák.*
hand AGR 1s be.painful

“My hand hurts.”

e. *Ábíǒḡ* *á* *ń* *'dǒḡ*.

hunger AGR 1s crave

“I am hungry.”

3. *Generalizations of noun phrase order*

Consider the data below from Noni, a Bantoid language of Northwest Cameroon (data drawn from Hyman 1981). Based on this data, devise a descriptive statement regarding word order within the Noni noun phrase and compare Noni noun phrase word order with English noun phrase word order.

- | | | |
|----|--------------------------|-----------------------|
| a. | <i>bǒḡwà bēm</i> | “my books” |
| b. | <i>bǒḡwà ban</i> | “these books” |
| c. | <i>bǒḡwà bǒḡ</i> | “new books” |
| d. | <i>bǒḡwà bǒḡtètè</i> | “three books” |
| e. | <i>bǒḡwà bēm ban</i> | “these books of mine” |
| f. | <i>bǒḡwà bēm bǒḡ</i> | “my new books” |
| g. | <i>bǒḡwà bēm bǒḡtètè</i> | “my three books” |
| h. | <i>bǒḡwà ban bǒḡ</i> | “these new books” |
| i. | <i>bǒḡwà ban bǒḡtètè</i> | “these three books” |

- j. *b̀̀h̀̀wà b̀̀f̀̀e b̀̀t̀̀t̀̀è* “three new books”
- k. *b̀̀h̀̀wà b̀̀t̀̀t̀̀è b̀̀f̀̀e* “three new books”
- l. *b̀̀h̀̀wà b̀̀m̀̀ ban b̀̀f̀̀e b̀̀t̀̀t̀̀è* “these three new books of mine”
- m. *b̀̀h̀̀wà b̀̀m̀̀ ban b̀̀t̀̀t̀̀è b̀̀f̀̀e* “these three new books of mine”

Glossary

Absolute universal: A linguistic universal that holds without any kind of qualification. True absolute universals are relatively rare and very general in nature consisting of statements like *Every language has consonants and vowels*.

Adposition: A cover term for *prepositions* and *postpositions* as well as the less frequent categories of inpositions and circumpositions which are the adpositional analogs of infixes and circumfixes.

Alienable possession: Possession of an item which can be transferred. Possession of a car would be alienable since a car’s owner can sell it or give it away. Alienable possession contrasts with *inalienable* possession.

Applicative: A grammatical construction in which overt verbal marking (e.g., in the form of a suffix) allows a verb to appear with an object it would not be able to appear with otherwise.

Asymmetrical double object construction: A *double object construction* where each object exhibits distinct morphosyntactic behavior. Such constructions contrast with *symmetrical* double object constructions.

Basic word order: The most typical word order found within a particular constituent type in a given language. The concept is most frequently applied to the order of sentential arguments with respect to each other and to the verb. Thus, one often refers to *subject, object, verb* order and abbreviates descriptions of a language's basic word order with labels like *SVO, SOV, VSO*, etc.

Balanced sample: A language sample used in a typological investigation which attempts to be representative of the world's languages across some important set of parameters, most typically the parameters of genetic relatedness and areal distribution.

Convenience sample: A language sample used in a typological investigation which does not attempt to be balanced. Rather, a set of languages is chosen for study because they can be examined relatively easily by the investigator.

Cross-linguistic generalization: A generalization one can make about a typical pattern found in the world's languages which, for one reason or another, does not have the status of being a true universal but otherwise seems noteworthy.

Double object construction: A syntactic construction wherein a verb appears with two (unmarked) objects. Such a construction is perhaps most typically found for the verb 'give' across languages.

Dual: A kind of grammatical coding specifically indicating that two instances of some kind of entity are being referred to. It is therefore similar to a *plural*, but more semantically restrictive.

Grammaticalization: A phenomenon wherein content words develop into words with specialized grammatical functions.

Harmonic ordering: A word order pattern wherein the internal word orders of different classes of constituent types in a given language parallel each other with respect to the relative placement of heads and dependents. A language with both OV word order and postpositional phrases would show harmonic word order, whereas a language with OV word order and prepositional phrases would be disharmonic.

Head-initial: A language where syntactic heads are most typically at the beginning of their phrase. A VO language with prepositions would show head-initial characteristics. English is generally described as a head-initial language.

Head-final: A language where syntactic heads are most typically at the end of their phrase. An OV language with postpositions would show head-final characteristics. Ijo is generally described as a head-final language.

Grammatical hierarchy: An abstract statement of possible patterns of cross-linguistic variation in a given grammatical domain in terms of an implicational hierarchy. A grammatical hierarchy may be manifested in different ways across languages and, therefore, does not give a direct description of any given language. Rather, it delimits the kinds of variation we may see across languages. An example of a grammatical hierarchy involves the grammatical encoding of number, where, for example, it is apparently the case that, if a language has dedicated dual marking it also will have dedicated plural marking.

Implicational universal: A universal of the form *If a language has property X, it also has property Y*. An important property of implicational universals is that they can only be discovered via cross-linguistic investigation.

Inalienable possession: Possession of a kind which cannot be transferred. Things that one typically has as an inalienable relationship with are body parts and relatives. Inalienable possession contrasts with *alienable* possession.

Paucal: A kind of grammatical coding specifically indicating that a small number of instances of some kind of entity are being referred, typically around three to six. It is therefore similar to a *plural*, but more semantically restrictive.

Plural: A kind of grammatical coding specifically indicating that more than one instance of some kind of entity is being referred to. It is therefore similar to a *dual* and *paucal*, but less semantically restrictive.

Postposition: An adposition that appears after its noun phrase object. English primarily makes use of *prepositions*, but it does have a few postpositions, for example the word *ago* in a phrase like *ten years ago*.

Preposition: An adposition that appears before the noun phrase it stands in relationship to. English primarily makes use of prepositions. An example is the word *for* in a phrase like *for my father*.

Recipient: A semantic role referring to an entity that receives something. An example is *John* in *They gave the letter to John*.

Serial verb construction: A construction wherein a series of verbs or verb phrases are joined together in a single sentence to create a single complex predicate. Serial verb constructions are not typical of European languages but are found in many West African languages.

Singular: A kind of grammatical coding specifically indicating that one instance of some kind of entity is being referred. In English, the singular is not associated with an overt affix, but the use of a bare noun is generally interpreted as singular. Thus, a word like *dog* is interpreted as referring to just one dog and cannot also refer to more than one dog, in which case the plural form *dogs* is required.

Symmetrical double object construction: A *double object construction* where the objects do not exhibit distinct morphosyntactic behavior from each other. Such constructions contrast with *asymmetrical* double object constructions.

Theme: A semantic role referring to something which is affected by an action without any change to its internal state. An example is *the letter* in *They gave the letter to John*.

Trial: A kind of grammatical coding specifically indicating that three instances of some kind of entity are being referred. It is therefore similar to a *plural*, but more semantically restrictive.

Typology: The study of the different grammatical patterns that are found across the languages of the world

Universal: When used in its strict sense, a statement of a grammatical pattern that is true across all the world's languages, whether it is an *absolute* or *implicational* universal. The term is sometimes also used more loosely to refer to a *cross-linguistic generalization*.

Universal grammar: A hypothesized set of restrictions which all languages are supposed to be subject to by virtue of the nature of the human cognitive capacity for language.