Is Basic Word Order Universal?¹

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A fundamental assumption underlying much current work in syntactic typology is that all languages have some basic, syntactically defined constituent order. It is usually recognized that this order may be altered somewhat for pragmatic purposes, but the basic order is considered a primary characteristic from which other features of the language can be predicted. It is questionable, however, whether all languages actually have such a basic order. Discourse data from a number of genetically and areally distinct languages indicate that syntactic ordering and pragmatic reordering processes may not in fact be universal. In what follows, it will be shown that forcing such languages into the mold of any basic word order at all is at best descriptively unnecessary, and at worst an obstacle to the discovery of interesting universals.

For many languages, the basic order seems so obvious that criteria for determining it need not be specified. In languages where one order predominates statistically, and any rarer alternative orders are highly marked pragmatically, several reasonable criteria converge to indicate the same choice. For other languages, however, the process is more problematic, since various criteria can lead to conflicting results. Sometimes the decision is based on textual frequency (see Hawkins 1983; Dryer 1983). Sometimes it is whatever order permits the simplest overall syntactic description (McCawley 1970). Sometimes it is the order accompanied by the least morphological marking (Hawkins 1983). Finally, it may be the least pragmatically marked, or neutral order, although identifying pragmatically neutral sentences is itself problematic. In some of these cases, discourse-initial sentences are considered the most neutral because they presuppose no preced-
ing context (Pullum 1977: 266). In other cases, the preferred order for potentially ambiguous clauses has been judged the most neutral (Chomsky 1965: 127). In still others, “simple, declarative, active clauses with no complex verb or noun phrases” are assumed to exhibit neutral order (Chomsky 1957: 107; Greenberg 1966: 74; Pullum 1981). Hawkins, in his ambitious study of word order universals, states that of his three criteria (statistical textual frequency, frequency within the grammatical pattern, and grammatical markedness), simple statistical frequency usually provides a sufficiently sensitive basis for the identification of basic order (1983: 13-14). For many languages, however, grammarians note that nearly all logically possible constituent orders appear with sufficient regularity in main clauses to render identification of even a “preferred order” difficult.

The isolation of pragmatic effects on word order in various languages has also been somewhat problematic, due in part to the well known diversity of terminology and its usage in the analysis of discourse. Linguists associated with the Prague School have traditionally described pragmatic ordering in terms of the concepts “theme” and “rheme”. Mathesius (1939) defined the theme as “that which is known or at least obvious in the given situation, and from which the speaker proceeds” in his discourse (cited in Firbas 1964: 268). Firbas (1964, 1972) sought to refine the notion of theme in terms of “communicative dynamism”. “By the degree of communicative dynamism carried by a linguistic element, I understand the extent to which the element contributes to the development of the communication, to which, as it were, it ‘pushes the communication forward’” (1972: 78). That element carrying the lowest degree of communicative dynamism is called the “theme”, that carrying the highest, the “rheme”. The Prague School linguists and others (see, for example, Firbas 1964: 270; Greenberg 1966: 100; Lyons 1977: 508; Givón 1979: 296) have remarked that the normal pragmatic ordering of constituents seems to be theme-rheme, or topic-comment. In Firbas’ terms, the basic distribution of communicative dynamism is a gradual increase in degree from the beginning of the sentence to the end. Lyons notes that

Not surprisingly there is a very high correlation, not only in English, but in all languages, between occupying initial position in the utterance and being thematic, rather than rhematic . . . To many scholars it has seemed natural that the cognitive point of departure and the communicative point of departure should coincide. (1977: 507-8)
A number of facts indicate that the interaction between basic word order and pragmatic theme-rheme reordering principles is not constant from one language to the next. Following work initiated by Mathesius (1928), Thompson (1978) pointed out that languages can vary in the relative effects of syntactic, semantic, and pragmatic considerations on surface word order. In languages like English, the syntactic roles of constituents are the primary determinants of word order, while in languages like Russian and Czech, pragmatic considerations have a stronger effect. When pragmatic factors do play a role, furthermore, it is not clear that all languages follow the “natural” progression from theme to rhyme. Tomlin and Rhodes (this volume) point out that in Ojibwa, a VOS Algonquian language, the unmarked distribution of thematic information is reversed from the language-general tendency for thematic information to come earlier in a sentence or clause. Givón (1983: 145) reports that Ute, “a mature SOV language with a high degree of pragmatically-controlled word-order flexibility”, shows comment-topic order. Similarly, Biblical Hebrew “is rigidly VO but shows a pragmatically-controlled VS/SV variation” (Givón 1983: 28), also with the order comment-topic.

In the sections below, ordering principles will be examined in some of the languages that have posed problems for grammarians and syntactic typologists. It will be shown that for languages of this type, the assumption of any syntactically defined word order can be misleading, as is the assumption of theme-rheme pragmatic reordering. The existence of such languages has important consequences both for the reliability of standard strategies used in detecting basic word order, and for word order typologies.

1. Word order in some perplexing cases

In this section, the ordering of constituents will be examined in three such languages: Cayuga, Ngandi, and Coos. Although unrelated genetically and areally, the three show surprising parallelisms in their surface constituent orders.

1.1 The general character of the languages

Cayuga is an Iroquoian language spoken in Ontario. Each verb contains pronominal prefixes referring essentially to its agent and/or patient. Thus
a verb like -e- ‘go’ appears with an agent pronoun, while a verb like -nqhqktani ‘be sick’ appears with a patient pronoun. A verb like -kqhek- ‘hit’ appears with a transitive pronoun referring to a combination of agent and patient. The categories of agent and patient are semantically based in Cayuga, but they are fully grammaticized. Some participants may seem more agentive than others, but they are categorized equivalently by the grammar. Thus one who hits something may seem more agentive than one who sees something or likes something, but all are expressed by agentive pronouns.

Because of the presence of pronominal prefixes, single verbs can stand alone in Cayuga as predications in themselves, and often do.²

Cayuga

(1) Shakó-nqhqwe's.
  he/her-like-HAB
  ‘He likes her.’

One or both arguments of the verb may be further identified by a separate nominal. The pronominal prefixes remain unchanged.

Cayuga

(2) John shakónqhqwe's.
  John he/her-like-HAB
  ‘John likes her.’

(3) Mary shakó-nqhqwe's.
  Mary he/her-like-HAB
  ‘He likes Mary.’

Although speakers agree that it is perfectly grammatical to include both a separate agent noun phrase and a patient noun phrase within a single sentence, such full sentences occur relatively rarely in spontaneous discourse. It is easy enough to elicit them from bilingual speakers, however. When asked, speakers agree that all logically possible constituent orders are grammatical: SOV, SVO, VSO, VOS, OSV, and VSO.

Ngandi, an Australian aboriginal language of eastern Arnhem Land, is also polysynthetic with obligatory pronominal prefixes within the verb. As in Cayuga, the prefixes remain in the verb whether separate noun phrases further identify the core participants or not. All Ngandi data here come from texts recorded by Heath (1978).
Ngandi (Heath 1978:192)

(4) Barma-ma-ŋi.
3PL/MA-get-PAST.CONT
'They used to get it.'

(5) Ma-ŋatam-yuŋ barma-ma-ŋi.
MA-water.lily.fruit-ABS 3PL/MA-get-PAST.CONT
'They used to get water lily fruit.'

(6) Barma-ma-ŋi ba-ŋinʔ-ŋu-yuŋ.
3PL/MA-get-PAST.CONT PL-WOMAN-ERG-ABS
'The women used to get it.'

Ngandi nouns are classified into noun classes. The noun referring to the water lily fruit above is of the MA class and accordingly carries a prefix -ma-, while the noun referring to the women, of the BA class, carries a prefix -ba-. The pronominal prefixes within the verb refer to these classes. In addition, the case role of each noun is marked by a nominal suffix. The noun for ‘women’ above contains an ergative suffix -ŋu-. Absolutive nouns bear no overt case suffixes. (The suffixes glossed as ABS by Heath are not case markers.) Other case suffixes distinguish locative, allative, genitive/dative, originative, ablative, and pergressive nouns. As in Cayuga, clauses containing more than one noun phrase referring to a core argument, here an ergative and absolutive, are possible, but rare. When they do occur, any order is possible.

Coos, an Oregon language, is also polysynthetic with pronominal affixes. Arguments of intransitive verbs are referenced by “loosely prefixed” pronominal clitics on the verb. Arguments of transitive verbs are referenced by combinations of these and transitive verbal suffixes. All data here come from the Hanis Coos texts recorded by Frachtenberg in 1909 and published in 1913 and 1922.

Coos (Frachtenberg (1922: 351, 425)

(7) eE-la-á’mt.
you-take-I
'I take you along.'

(8) i’lxa-ts le ya’bas;
look.at-TRANS the maggot
'He looked at the maggots.'
Ergative nouns, like that for "maggots" above, are marked with the prefix x-, termed "discriminative" by Frachtenberg. As in Cayuga and Ngandi, clauses containing both a separate agent noun phrase and a separate patient noun phrase are relatively rare, and their word order is variable. As Frachtenberg noted,

The syntactic structure of the Coos sentence is very simple, and is characterized by the facility with which the different parts of speech may shift their position without changing in the least the meaning of the sentence.  

(1922: 319)

1.2 Strategies for determining basic word order

Since all word orders occur in all of these languages, the identification of a basic order is not as straightforward as in many other languages. Several strategies are possible.

1.2.1 Statistical frequency

A common diagnostic of basic order is statistical frequency (Dryer 1983). Whichever order appears the most often might be considered basic. The crucial constructions, however, clauses containing both separate agent/subject and separate patient/object noun phrases, are relatively rare in spontaneous discourse in all of the languages. Sample counts of clauses in texts indicate that in Cayuga, perhaps 1 - 2 percent of all clauses contain three major constituents; in Ngandi, approximately 2 percent; and in Coos, 2 - 3 percent. Even among these small sets of clauses, all orders are represented. Since such constructions appear so rarely, strong statistical evidence for any order is simply lacking.

1.2.2 The ambiguity test

Another frequently cited diagnostic is the word order preferred in potentially ambiguous sentences (Chomsky 1965). A Cayuga speaker was presented with the sentences below, constructed from shorter sentences he had produced in a narrative.
He remarked that they were all grammatical Cayuga sentences, but that in all cases, it was unclear who beat whom. He could not choose a preferred reading. Other similar sentences produced the same reaction. The overall rarity of such full sentences suggests that their very appearance is a marked phenomenon, so that none of them should be considered reliable models of unmarked constituent structure.

1.2.3 Relative order within pairs

Predicates do appear frequently in Cayuga with a single nominal constituent. This fact suggests that in order to discover the basic constituent order of Cayuga, one should determine the orders found between pairs of constituents, and then combine the results (i.e. SV and VO, then SVO). This is, of course, analogous to the usual strategy for determining the relative order of morphemes in a language when all of them could not possibly cooccur in a single word. While such a procedure should indicate the relative order of subjects and predicates, and of objects and predicates, it might not show the relative order of subjects and objects if these appear on the same side of the predicate (i.e. SV and OV, then what?) Cayuga has not grammaticized either a subject category or a direct object category (Mithun 1988), but for the sake of comparison, constituents will be labelled according to the roles they would serve if the language were accusative. The single arguments of intransitive clauses will all be labelled S and the patients of transitives O. Since their semantic roles do not enter directly into ordering processes, no distortion results.

Separate subject nominals of any kind are somewhat rare in Cayuga discourse, appearing in approximately 12 percent of the clauses. (All examples cited below were taken from spontaneous narratives or conversation unless otherwise specified.) Sometimes subjects appear before their predicates. The sentence in (11) is from a discussion of how severe the winter is likely to be. Whitemen have predicted a hard winter, but the speaker is not convinced.
Subjects can also appear after their predicates. The sentence below comes from a description of how to hunt rabbits.

Cayuga
(12) ... the' the'shatiy'é:ti: wa'ne:' hénq:kwe'tase'shó:'qó.'
not they.don't.know today young.men
'The young men of today do not seem to know how to do it.'

Direct object nominals often appear before their predicates.

Cayuga
(13) Ne:' ne' nè:kyé ne' kwa'y ó' kē:s akwa:to:wá:s
it.is the this the rabbit used.to we.hunted
tshike:ksá:'ah.
when.I.was.a.child
'This is how we used to hunt rabbits when I was a kid.'

Objects also appear after their predicates.

Cayuga
(14) Ne: s'ekē:s ne' swe'kē:ha henatēhni:nó kē:s ne' kwa'yo'.
it.is usually the long.ago they.sell usually the rabbit
'A long time ago, they used to sell rabbits.'

Time adverbials can occur on either side of the predicate.

Cayuga T
(15) Sōhē kyé:' nóne:' ka:tó teyo:nátawenyé'.
night this you.know I.say they.stir.themselves
'As I said, at night, they walk around.'

then usually contr there body.hangs very.early that
'Then usually the body will be hanging there in the morning.'
Locative constituents can appear on both sides of the predicate.

Cayuga L V
(17) K̓aːkóː  h̓əhsə:
in the bush there you will go
‘You will go out into the bush.’

V L
(18) Teyo:nawenyé se’ ne’ kyotkóː t ohn̓ékakoː:
they are stirring just it is always in the water
‘They are always moving around in the water.’

Manner adverbs can also precede or follow verbs.

Cayuga Adv V
(19) Skeːnoː’q ə she nəhsə:kweːni’ təhəsətəhəhək.
slow as so you will be able you will walk
‘Walk as slowly as you can.’

V Adv
(20) Ethsatwaːsə’ skemnó’ːqoh.
you will come around slow
‘You should come around carefully.’

Nearly any word order is possible. As can be seen from the examples above, even the predicates have no constant position.

Ngandi shows the same variation. Separate nominal subjects occur in only about 10 percent of the Ngandi clauses in Heath’s texts, but they can occur on either side of their predicates, whether these are transitive or not.

Ngandi (Heath 1978: 206) S V
(21) Načuwelen-uŋ gu-jark-yuŋ gu-ja-walk, ...
then-ABS GU-water-ABS GU-now-go-through
‘Then water passes through.’

Ngandi (Heath 1978: 206) V S
(22) Načuwelen-uŋ gu-ja-geyk-da-ni gu-jark-yuŋ niču?.
then-ABS GU-now-throw-ABS PR GU-water-ABS this way
‘Then the water rushes through.’

Objects also appear either before or after their predicates.
Ngandi (Heath 1978: 199)

O V

(23) \(N\)i-\(\eta\)a-na-yu\(\eta\) \(\hat{n}\)aru-ja-bol-kuba-na \(g\)amakun?, ...
\(n\)i-honey-ABS 1\{\(p\)lex/\(n\)i-now-go.out-CAUS-PR \} properly

V O
\(\hat{n}\)aru-gor\(\tau\)a-\(\eta\)i \(n\)i-gu\(\eta\)-yu\(\eta\), ...
1\{\(p\)lex/\(n\)i-put.in-\(f\)ast\.\(c\)ont \} ni-honey-ABS

"We take out the honey entirely. (We then put it entirely into the what's-it, the cooliman.) We used to put the honey in."

Oblique nominals can appear anywhere as well. Instrumentals appear either early or late in the clause.

Ngandi (Heath 1978: 197)

I V

(24) ma-\(\dd\)arpa\(\dd\)-\(\dd\)u-yu\(\dd\) \(\hat{n}\)ara-ja-\(\dd\)erp, ...
\(m\)a-string-INSTR-ABS 1\{\(p\)lex/\(a\)-now-attach

"We attach it (the spearhead) with string."

Ngandi (Heath 1978: 241)

V I

(25) barba-ja-poison'\(e\)m\(\dd\)-\(\dd\)-\(\dd\)u-\(\dd\)-\(\dd\)i \(m\)an\(g\)a?, ma-mawuya-\(\dd\),
\(b\)arba-ja-poison'\(e\)m\(\dd\)-\(\dd\)-\(\dd\)u-\(\dd\)-\(\dd\)i 3\{\(p\)\l/\(p\)l-now-poison-aug-\(p\)con \} maybe \(m\)a-poison-INSTR

"Maybe someone poisoned them, with magical poison."

Datives appear both early and late.

Ngandi (Heath 1978: 212)

Dat V

(26) \(n\)i-bot-gu \(\hat{n}\)aru-bak-\(w\)a\(n\)?,
\(n\)i-bee\(d\)-\(a\)t 1\{\(p\)lex/\(n\)i-ben-look

"We look for bees."

Ngandi (Heath 1978: 213)

V Dat

(27) yana\(\dd\)\(\dd\) \(\hat{n}\)ar-ja-ru\(\dd\)\(\dd\)u-\(\dd\)-\(\dd\)i gu-ga\(\dd\)al\(\dd\)\(\dd\)-gu,
longtime 1\{\(p\)lex\(n\)ow-go-pres gu-egg\(d\)-\(a\)t

"We go for a long time looking for eggs."

Allative noun phrases, indicating locative goals, can appear early or late.
Ngandi (Heath 1978: 197)

(28) A-murğiŋiŋ uy / ma-gami-giĉ / ṇara-yo-ŋana, / buluki?
A-shovelspear-abs / ma-spearshaft-all / 1PLEX/a-put.on-pr / also
V Allative
a-wilmur-yury / fiara-yo-Uanq / ma-gami-giĉ,
A-wirespear-abs / 1PLEX/a-put.on-pr / ma-shaft-all
'We put the shovel spearhead onto the spear shaft.
We also put the wire spear prongs onto their spear shaft.'

As in Cayuga, all constituent orders appear. Even the predicate can occupy almost any position within the clause.

Constituent ordering in Coos is as variable as it is in Cayuga and Ngandi. Subjects can appear either early or late in their clauses, whether transitive or intransitive.

Coos (Frachtenberg 1922: 426)

(29) X:owâ’yas hän dji'letec xal’Emats
snake his at.thighs it.wraps.around.him
...
L V S
Hän we’hel la” he’laq lE x:owâ’yas.
his.to waist that it.arrived the snake
'The snake coiled around his thigh. It crawled up to his waist.'

Objects can also appear either early or late.

Coos (Frachtenberg 1913: 7)

(30) Të kâ’wil hanl. is yô’qat.
that basket shall we two.split.it.in.two
'Let us split this basket in two!'

Coos (Frachtenberg 1913: 6)

(31) Ûx k:tlö’wit lE l/lä.
they two.saw.it that land
'They saw the land.'

The same mobility is characteristic of oblique nominals. Compare the position of the locative nominals in the sentences below.
Surely speakers would not randomly vary a cue as salient as word order. If order does not signal the syntactic or semantic roles of constituents, perhaps it has a pragmatic function.

1.3 Definiteness

As noted earlier, pragmatic ordering has most often been described as a tendency for thematic information, or topics, to appear before rhematic information, or comments. Unfortunately, themes, or topics, have been defined in a variety of ways. A major characteristic usually associated with themes is givenness, or predictability, while that associated with rhemes is newness, or unpredictability. Recall that Mathesius defined the theme as "that which is known or at least obvious in the given situation, and from which the speaker proceeds" (1939: 234, cited in Firbas 1964: 268). A comparison of the positions of definite and indefinite noun phrases might provide a key to the identification of pragmatic factors in word order, since definite nominals refer to entities that the speaker assumes the hearer can identify, either from general knowledge or specific context. Li and Thompson pointed out, for example, that the tendency in Mandarin and Russian to place indefinite nouns after the verb and definite nouns before the verb seems to be a manifestation of a general and widespread tendency among languages to put known information near the beginning of the sentence and new information near the end of the sentence (1976: 172).

None of the three languages described here marks definiteness obligatorily, but definiteness can be specified by means of certain nominalizing particles and demonstratives. Cayuga has a particle *ne' which
can optionally precede definite nominals, including proper and possessed nouns. When this definite particle is inserted into manufactured sentences containing both separate subject and object nominals, a relationship between definiteness and word order can be detected. The particle cannot grammatically precede a nominal early in the sentences below.

**Cayuga**

(34) a. *Ne' John shakoŋqhwé's Mary.*  (*ne'S-V-O*)  
the John he.likes.her Mary

b. *Ne' Mary shakoŋqhwé's John.*  (*ne'O-V-S*)  
the Mary he.likes.her John.

c. *John ne' Mary shakoŋqhwé's.*  (*S-ne'O-V*)  
John the Mary he.likes.her

d. *Mary ne' John shakoŋqhwé's.*  (*O-ne'S-V*)  
Mary ne' John he.likes.her

It can, however, precede a nominal near the end of a sentence, and is often added when full sentences are repeated by speakers. All of the (elicited) sentences below mean ‘John loves Mary’.

**Cayuga**

(35) a. John shakoŋqhwé's ne' Mary.  (*S-V-ne'O*)  
John he.likes.her the Mary

b. Mary shakoŋqhwé's ne' John.  (*O-V-ne'S*)  
Mary he.likes.her the John

c. Shakoŋqhwé's John ne' Mary.  (*V-S-ne'O*)  
he.likes.her John the Mary

d. Shakoŋqhwé's Mary ne' John.  (*V-O-ne'S*)  
he.likes.her Mary the John

e. Shakoŋqhwé's ne' Mary ne' John.  (*V-ne'O-ne'S*)  
he.likes.her the Mary the John

This ordering of indefinite before definite is the reverse of that found in Chinese, Russian, Czech, and many other familiar Indo-European languages for which pragmatic ordering has been described. (It should be emphasized that the sentences cited above were elicited with requests for the specific word orders given, not culled from narratives or conversation.) A survey of spontaneous Cayuga discourse indicates that indefinite nomi-
nals do tend to appear near the beginning of their clauses, while definite nominals tend to appear near the end.

Cayuga Indefinite V

(36) Katsihwá’ kihsa:s.
hammer I.seek
'I am looking for a hammer.' (said in a hardware store)

V Definite
To: ti’ nika:nq:’ nę:kyę katsihwá’?
how then so.it.costs this hammer
'How much does this hammer cost?'

The indefinite-definite order appears to be characteristic of Ngandi discourse as well. Note the translation of (21) above. When the water is first mentioned, it appears early in the clause and is translated with an indefinite noun. At the second mention, in (22), it appears late, and is translated with a definite noun. In the passage below, the narrator is describing how Aborigines used to get yams and roast and peel them. When the yams are introduced, they are indefinite and appear early. When the skin first appears in the second line, it is identifiable from the preceding context, so it appears late. In the third line, it is identifiable from previous mention, so it appears late again.

Ngandi (Heath 1978: 210-211)

Indefinite V

(37) buluki? ma-jalma barma-ma-ni, ...
also MA-yam.sp 3PL/MA-get-PRES

V Definite
ma-ja-bolk-đu-ni, ma-gulaʔ-nujai-yuŋ,
MA-now-appear-AUG-PRES MA-skin-its-ABS

V Definite
barma-geyk, barma-geyk ma-gulaʔ-yuŋ guniŋ,
3PL/MA-throw 3PL/MA-throw MA-skin-ABS that’s.all
'They get round yams (and roast them) ... Their skin comes off.
They throw the skin away, and that is that.'

The indefinite-first order is also characteristic of Coos. The identity of the child in the second line below is inferrable from the preceding line; as a definite nominal, it appears late. The person mentioned in the last line is new on the scene, indefinite, and clause initial.
Coos (Frachtenberg 1913: 11)

(38) Mā la" mitsilti'ye. Ta la" qanō'tca
nevertheless that (he).pregnant.became and that outside.to
V Definite V Definite
l'nuwit le a'la. Hats in qantc la" l'e'te la a'la.
(he).pulls the child just not way that go.out his child
Indefinite V
Tso mā ɨlt.
now person (he).sent.(it)
‘Nevertheless he became pregnant. The child was all the time
trying to come out, but could not do it. So they sent someone (to
the north).’

1.4 Old versus new information

Overt definite marking accounts for a significant proportion of constituent
ordering in all three languages, yet it does not account for all of it. A prin-
ципе must be found that correlates highly with definiteness versus indefinite-
ness, but explains the remaining cases as well. Consider the following
Cayuga passage. A dinner guest was asked whether he liked baked
potatoes. He replied that yes, he thought he probably did.

Cayuga

(39) Ne': kyē:'q thrēhs inó kyē:'q ɨ:ke:k. Ne': tshq: ne'
it.is I.guess too far I.guess I.will.eat it.is only the
Old Definite V
oa'wistā' the' ni:' t'e:ke:s. Kwiskwis kyē:' hne:' tshq:
peeling not I do.I.eat pig just contr just
V New Definite
ka:ti:s ne' oā'wista'.
ye they.eat the peeling
‘It’s just that I eat them so seldom. I just don’t eat the skins.
Only pigs eat the skins.’

In the second line, the skins appear before the verb, although they are defi-
inite, inferrable and thus identifiable from the previous mention of the
potatoes. However, the skins represent newer information than the verb
‘eat’, which had just appeared in the preceding sentence. In the third line,
the skins, now old information, appear late, while the pigs, completely new information, appear first.

The same pattern can be seen in Ngandi. In the passage below, the wood wulčum spears are generic. When first introduced, they appear early. After that, they appear late.

Ngandi (Heath 1978: 187)

New

(40) gu-wulčum balaka ŋaru-ga-ʔ-yaw-ɖu-ŋi,
GU-wood.spear before 1PLEX/3MASC:SG-SUB-DUR-spear-AUG-P

V

Old

a-jeĩ-ŋuŋ bara-ga-yaw-ɖu-ŋi, gu-wulčum-ɖu.
A-fish-ABS PL/A-SUB-spear-AUG-P GU-wood.spear-INST

‘We used to spear before (with) wulcum spears. They used to spear fish with wulcum spears.’

Coos exhibits the same pattern. New information tends to precede old information, as can be seen in the following passage. Both noun phrases referring to the mat are definite, but the first time the mat occurs, it appears at the beginning of the clause. The second time, it is at the end.

Coos (Frachtenberg 1913: 7)

New

(41) Te tc!l’cɪl yʊl ɪs yɑ’qat ...
that matting if we.two.split.it

‘Let us split this mat.’

(They did so, and went down to examine the earth. The earth was still not solid, even ...)  

V

Old

i lau tc!l ux hɪ’tɔ’ʊs hɛ tc!l’cɪl.
when that there they.two.put.it.down the matting after they had put down the mat.’

The principle of new information before old predicts the order of constituents in the majority of clauses. It is not surprising that this should correlate so often with the indefinite/definite distinction, since new entities are most often indefinite, and previously established entities are most often definite. There are still some constructions that cannot be explained purely in terms of a preference for new before old, however.
1.5 Newsworthiness

In some cases, both constituents are equally given or equally new. A Cayuga speaker telephoned his friend to announce that he had lost his wallet.

Cayuga            New V          New O
    just here there I.lost.it the my.wallet
    ‘Mind you, I lost my wallet.’

Both constituents are completely new, neither present nor alluded to in previous discourse (there was none), nor in extralinguistic context (also absent, since this was a telephone conversation). In this case, the new verb precedes the new object. Yet consider the utterance below. A man has just told his friend that he cut his foot with an axe. His friend, horrified, asks if he is badly hurt. He replies no, not really,

Cayuga          New O          New V
(43) threhs kyê:`ô to:kéhs wáhtahkw:tê:s te:wakê:sq:.
    because just.suppose really thick.shoes I.wear
    ‘I guess because I had really thick shoes on.’

Again, both the verb ‘wear’ and the object ‘thick shoes’ are completely new, neither mentioned in previous discourse, nor referred to subsequently. This time, however, the new object precedes the new verb.

A father, trying to make his daughter hurry in the morning, said,

Cayuga           New V          New S
(44) O:né kokhwáihse: sanó:ha`.
    now she.has.finished.the.food your.mother
    ‘Your mother has already finished cooking breakfast.’

Both elements are equally new, neither mentioned or alluded to in previous discourse, neither within view of the speaker or hearer, but equally identifiable. Neither is referred to again in subsequent discourse. The new predicate precedes the new subject.

The speaker cited below was describing his misadventures in the woods. No saplings or bushes had been mentioned previously, nor of course any grabbing, or even the coat. The saplings are not totally unexpected, since the setting is the woods; but the grabbing is also not totally unexpected, since the speaker’s clothing is torn. Neither is mentioned subsequently. Here the order is new subject before new predicate.
In each of the sentences above, the constituent conveying the principal information of the utterance appears first. The most important part of (42) is the loss, of (43) the thickness of the shoes, of (44) the finished state of the breakfast, and (45), the bushes. Since new information is usually more important than old information, the principle of new before old usually accounts for constituent order.

The importance principle describes Ngandi equally well. In the passage below, the narrator is describing how Aborigines used to fish with a hook and line, in addition to the spears. (The verb root -woyk- is translated as ‘angling, fishing with line and hook’, but contains neither the noun root -jeñ- ‘fish’ nor the erb root ’ma- ‘get’.)

Ngandi (Heath 1978: 198)

(46) bulukiz-yury fiar-ga-woy, fiar-ja-woy-Qu-ni
also-abs 1lex-sub-angle 1lex-now-angle-aug-pres
a-jara-ju, o-mona4a-ku-yiñuñ ñar-ja-bak-woy
a-what’s.it?-instr a-white-gen-rel 1lex-now-ben-angle
ñar-ja-woy-Qu-ni ftara-ga-ma-ni a-jeñ-uñ,
1lex-sub-angle-aug-pr 1lex/a-sub-get-pr a-fish-abs
‘We also go angling. We go angling with what’s it? the thing belonging to Whites, we go angling then. We go angling and catch fish.’

In the last line, both the verb ‘get’ and the object ‘fish’ are inferrable old information, in the sense that the entire discussion has been about fishing. (Neither has been mentioned lexically.) Note that here, the old predicate precedes the old object. This is because the point of the discussion is the getting, the fact that when they use a hook and line, they still do catch fish.

The passage below is from a description of plum gathering.
Ngandi (Heath 1978: 195)

(47) ma-mala-galić-uŋ ňarma-ŋu-ni, ma-mala-galić-uŋ
MA-group-other-ABS 1PLEX/MA-eat-PAST.CONT MA-group-other-ABS
New V New Loc
ńarma-gulʔ-du-ŋi gu-jundu-gi
1PLEX/MA-pound-AUG-PC GU-stone-LOC
‘Some (of the plums) we ate (as they were), others we pounded
on a stone (so that they became soft).’

Both the predicate and the locative nominal are completely new. The locative follows the predicate. Compare the passage in (48).

Ngandi (Heath 1978: 211)

(48) a-ďanďiyaʔ-gi barma-ja-yo-ŋana,
A-mat-LOC 3PL/MA-now-put.in-PRES
‘We put (that food) on mats.’

Here again, both the locative nominal and the predicate are completely new. No previous mention had been made of mats or putting. In this case, however, the locative precedes the verb. The reason is clear. In (47), the pounding is more important than the rock; while in (48), the mats convey the most important information of the clause.

The same pattern can be seen in the Coos texts. The sentence below is near the beginning of a narrative. There has been no previous mention of any body of water nor of dryness or wetness.

Coos (Frachtenberg 1913: 14)

(49) In tɛlle’xem te lă’nik:
not.dry that.there river
‘There was no low tide.’

Here, the new predicate precedes the new subject. Compare the sentence below, however. Again, both the subject and predicate are new. Yet this time, the new subject precedes the new predicate.

Coos (Frachtenberg 1913: 9)

(50) Haqa’i tlaã’ya tse’tstic le’ax nhà’wis lita.
tracks go.to.it beach.on their ready land
‘Suddenly they saw tracks on the ocean beach.’
The main point of the clause in (49) is the lack of dryness (because Crow had no chance to get food), while the most important constituent in (50) is the tracks. Sentences like this one suggest a particular way in which constituents may be considered important in discourse.

1.6 Topic shift

The Cayuga passage below comes from the cosmology legend. A woman has fallen from the heavens through a hole in the sky, and as she falls, she wonders what will become of her. Suddenly she notices something.

Cayuga

(51) Ne' nê:kyê ne' nê eyÂ³tokyê' nêkwâ'
the this the then her.body.is.flying.along and.then
a'ôña:to:k thô:kyeh ne:' nóne:' ne:' tsi't'eshô:'qôh,
she.noticed.it there it.is you.know it.is birds
ha'tekatiy'atâ:ke: thô katkyenq:kyê's
many.bodies there they.are.flying.around
teya:q:q:qa:nê:nê eiê:shô: ne'kyê eyÁ³tokyêe'.
y they.are.looking.at.her where this her.body.is.flying
S
V
Ne': ne' o:nê ne'kyê tsi't'eshô:'q teyotia'towêhtô
it.is the now this birds they.are.thinking
atrakitya'to:q:q:qa:nê:nê eiê:shô: ne' nóne:' ne'kyê a:kenat'enyê:te' ...
they.thought the you.know this they.should.try
'And then, as she was falling, she noticed birds, all different kinds of them, flying around there, looking at her, as she fell. Now at this time, these birds were thinking that they should really try (to lessen her misfortune).'

Note the early position of the underlined tsi't'eshô:'q 'birds' in the second sentence. This noun is neither new information, since the birds were just mentioned in the previous clause, nor necessary for disambiguation, since the zoic plural pronoun in the verb 'they are thinking' clearly refers to the birds and not to the woman. It is prominent for another reason. It represents a new topic, a new point of view. The text continues to describe the birds' decisions and their resulting attempts to save the poor woman. A shift in topic can thus be considered sufficiently important to appear early in a sentence.
Not all new subjects appear clause-initially. A man and his wife had left a tape recorder running for a long time as they conversed about a wide range of different things, including what was scheduled at the longhouse that evening, who might be putting on a supper and how it would be done, a neighbor who was to get her fortune told, and when the husband was planning to return from his weekend trip. At that point a car was heard outside. The wife said:

Cayuga

(52) Kwé: sakáeyq', thó:kyeh.

well they.(FEM).arrived.again that

'Well, they're back.'

The husband answered:

Cayuga

(53) O:né ki' kyé:' sakáeyq', kasheháwkhsq'.

now just then they.returned your.daughters

'Yes, your daughters have returned.'

The daughters had not been mentioned at all up to this point, but the significant part of the message here was the return rather than the daughters, because it meant that the conversation was over. The daughters were not introduced as new topics.

The same importance of new topics can be seen in the Ngandi texts. The passage below is part of the narrator's reminiscences about his experiences as a police tracker. He and two others had captured a criminal and taken him to the government office, where they sat waiting. Finally,

Ngandi (Heath 1978: 250)

New Topic S V

(54) ni-Ted Ervin-yuŋ  ni-yúmi-ŋ-?  '...

MASC:SG-Ted Ervin-ABS 3MASC:SG-say-PPUNC-0

'Ted Ervin (a high-ranking government official) said, '...'"
Ngandi (Heath 1978: 192)

New Topic O V S

(55) ma-datam-yuŋ, barma-ga-ma-ŋi ba-ðiŋʔ-du-yuŋ,
MA-water.lily.fruit-ABS 3PL/MA-SUB-get-PC PL-woman-ERG-ABS
‘The women used to get water lily fruits (seed pods).’

Both the water lily fruit and the women are new information here, neither previously mentioned nor infrerrable. This discussion is about types of food, however, so the water lily fruit appears first. The narrator continues discussing the food: ‘We ate that food, we ate vegetable food’.

In a different narrative, the same speaker mentioned the same custom. This time, he had said, ‘Then we get up and leave. We are going now for vegetable food instead of meat, for water lily root corms, fruits, and stems — we eat that.’

Ngandi (Heath 1978: 210)

New Topic S V

(56) ba-ðiŋʔ yanači ba-ja-wulup, ba-ja-ðiŋʔ-gu
PL-woman all.along 3PL-now-bathe 3PL-now-woman-DAT
mangaʔ ma-guyk barma-ma-ni, ...
maybe MA-water.lily.species 3PL/MASC-get-PRES
‘The women go into the water, (that work) is for women. Maybe they get guyk, ...’

Both the women and going into the water are completely new here, as before, but this time the women appear first in the clause instead of last. This passage is about women and women’s work. The women remain the topic of the next several clauses.

The same prominence of new topics can be seen in the Coos texts. The narrative cited below begins with a description of Crow and his habits. Then a new character is introduced.

Coos (Frachtenberg 1913: 15)

New Topic S V

(57) Xyl’xei da’mil la’ha’lqait. La’a
one man (to).that.one (he).came.to.him that.one
xwândj i’l’t ...
that.way (he).told.it.to.him
‘Once a man came to Crow, and said, ...’

The narrative continues with the man’s suggestions.
1.7 Contrast

Important contrasts are not limited to new topics. Any constituent representing a focus of contrast is generally considered sufficiently important to occur early in the clause, whether it is indefinite or definite, new or old, a topic or not. These constituents represent a focus of contrast.

The following (elicited) Cayuga sentences illustrate the positions of contrasting constituents.

Cayuga \ V \ S
(60) Thę’ t’a:ke:ká’s ohya’, kehswahéhs ni:’.
not do.I.like.it fruit I hate.it I
‘I don’t like fruit, I hate it.’

Cayuga \ S \ V
(59) Thę’ ni:’ t’a:ke:ká’s ohya’, Pête hne:’ hō:ka’s.
not I do.I.like.it fruit Pete contr he.likes.it
‘I don’t like fruit, Pete does.’

The use of the separate pronoun ni:’ ‘I, myself’ in the last sentence above is interesting. Languages with pronominal affixes usually contain separate pronouns as well, although they appear much less frequently in discourse than free pronouns in languages without the affixes. Grammarians of such languages often note that the separate pronouns seem to appear near the beginning of clauses unusually often. This is no accident. In polysynthetic languages, separate pronouns have a special function; they generally indicate special emphasis or contrast. The contrastive force of the independent pronouns can be seen in the Cayuga sentence below. The speaker was provided with a context and asked to translate the English sentence ‘I’m the one who broke it.’

Cayuga
(60) I:’ atkriht.
I I.broke.it
‘I’m the one who broke it.’

Pronominal contrasts are not automatically the most important elements of their clauses, as can be seen in (58) above. They may also be used to set up a double contrast. Offered a platter of chicken, the dinner guest said:
Cayuga

(61) *Ohsì:ná’ ki’ ni’ ę:ke:k.
   leg  just  I  I.will.eat.it
   ‘I’ll have a leg, myself.’

This reply contrasts two entities: the drumstick as opposed to other pieces, and the speaker as opposed to the other diners. Here the drumstick contrast took precedence over the diner.

The other languages exhibit similar ordering of contrastive information. In each Ngandi clause below, the initial constituent represents the focus of some contrast.

Ngandi (Heath 1978: 201)

(62) gu-dawal-ʔnirayi-gi-yuŋ ma-gami-bugiʔ ńar-ga-jal-du-ʔni,
    gu-country-our-LOC-ABS MA-spear-only 1PLEX-SUB-hunt.kangaroo
    gu-niʔ-yaŋ gu-dawal-yuŋ ba-wan-gu, ńer-yuŋ
    gu-this-Ø-ABS gu-country-ABS PL-PRO-GEN we-ABS
    gu-naʔ ńuri,
    gu-that-Ø north
   ‘In our country we used to hunt kangaroos with spears only. This country belongs to someone else. As for us, (we were) there to the north.’

Before the Coos sentence below, the narrator described a bargain suggested by Crow. Crow wants to exchange his lightning for the evening low tide. The bargain is accepted, and Crow obtains the tide.

Coos (Frachtenberg 1913: 18)

(63) *Halt! xä’ka he lō’wakʷa ɬäa.
    now he the lightning has.as.booty
   ‘while the other man came into possession of the lightning’

The contrastive pronoun xä’ka ‘he’ occurs near the beginning of the clause. The second focus of contrast, the lightning, follows.

Any kind of constituent, pronominal, nominal, or verbal, can be the focus of a contrast. In all cases the ordering is the same. If the contrast is the main point of the predication, and thus the most important, the focus of the contrast will appear initially.
1.8 The determination of word order in Cayuga, Ngandi, and Coos

1.8.1 The newsworthiness principle

Word order in these languages is thus based on pragmatic considerations, on the relative newsworthiness of the constituents to the discourse. An element may be newsworthy because it represents significant new information, because it introduces a new topic, or because it points out a significant contrast.

A test for the “most newsworthy first” principle is provided by questions and answers. Presumably in normal conversation, the most important constituent of an answer is that which corresponds to the interrogative word of the question. In Cayuga, this word appears initially, whether it functions as an agent, patient, time, location, or anything else.

Cayuga S-V
(64) Q. Sq: ęsne:’?
who you two will go
‘Who are you going with?’
A. Sam ęyá:khne:’.
Sam we two will go
‘I’m going with Sam.’

O-V
(65) Q. Tę’ ho’te’ a:yę:’ ihse: a:shni:noq’?
what it seems you think you would buy
‘What do you think you’d like to buy?’
A. O:, akyaitawi’thrą’ ki’ a:yę:’ kḥsa:s a:khni:noq’.
Oh dress just seems I seek I would buy
‘Well, I am just looking for a dress.’

T-V
(66) Q. To: ti’ n’aonishé’ tho hekae’s?
how then so it lasted there they two were there
‘So how long were they there?’
A. Tekhni: akyaatokéthé’ konáhtękyp’.
two weeks they two were away
‘They were away for two weeks.’
L-V
(67) Q. Kaę ti’ hęswę:’?
where then you.all.will.go.there
‘Where are you all going then?’
A. O:, othow’ekë heyá:kwe:’.
Oh at.the.cold we.will.go.there
‘Oh, we’ll go up north.’

Q-V
(68) Q. To: ti’ nika:nɕ:’?
How then so.it.costs
‘So how much does it cost then?’
A. Kéi n’ate’wénya:wé: sikwa:ti:ählt nika:nǫ:’:
four so.hundreds a.bit.beyond so.it.costs
‘It costs a little more than four hundred dollars.’

Answers to alternative questions yield the same evidence. The constituent
that provides the most important information, the one whose information
answers the question, appears first.

Cayuga S-V
(69) Q. Atisńihtáę’ kēh, John, Mary k’ishęh?
you.two.talked ? John Mary or
‘Did you talk to John or Mary?’
A. Mary ki’ akyakńiňihtáę’
Mary just we two.talked
‘I talked to Mary.’

OV
(70) Q. Otı’, kēh, kha:fi nikę:q ehsnekęha’?
tea ? coffee either you.will.drink
‘Will you have tea or coffee?’
A. Otı: eľknękęha’.
tea I.will.drink
‘I’ll have tea.’

Answers to yes-no questions provide the same evidence again.
Cayuga L-V
(71) Q. Kahowakó: kēh ha’kāqtahk?
    in.boat    ? they.went.there
‘Did they go by boat?’
A. Thē’. Tekatēhnē ha’kāqtahk.
    no    in.it.flies they.went.there
‘No. They went by airplane.’

Poss-V
(72) Q. I:s kēh satshe:nē’ thō:kye so:wa:s?
    you    ? your.pet that dog
‘Is that your dog?’
A. Ehè’, i’ ake:tshe:nē’.
    yes    I my.pet
‘Yes, it’s mine.’

The same ordering characterizes Ngandi answers. The constituent that
answers the question appears first.

Ngandi (Heath 1978: 250)
(73) Q. ri-ni miri? ni-ni?-yuŋ?
    MASC:SG-who    MASC:SG-this-0-ABS
‘Who is this?’
A. Ni-wacinhuy ni-na-ri-yuŋ
    MASC:SG-Wacinhuy MASC:SG-that-IMM-ABS
‘That is Wacinhuy.’

Coos questions and answers show the same pattern.

Coos (Frachtenberg 1913: 10)
(74) Q. Extc’tcū  mā?
    thou.what.sort person.(are)
‘Who are you?’
A. Niloxqai’nis mā  il.
    I.medicine person.(am) surely
‘I am a medicine man.’

This newsworthy-first principle appears to be the same as that first
described by Firbas in terms of communicative dynamism (‘the degree to
which a sentence element contributes to the development of the communi-
cation’), but in reverse. Do Cayuga, Ngandi, and Coos exhibit essentially
the same type of ordering as a language like Czech, but backwards? If they do, and if it is assumed that a progression from theme to rheme is inherently more natural cognitively, are Cayuga, Ngandi, and Coos somehow less natural or logical?

1.8.2 The naturalness issue

Themes, or topics, as noted earlier, have been variously defined as the elements carrying the lowest degree of communicative dynamism or oldest information, as the starting point of an utterance (Mathesius 1939), and as the focus of the speaker’s empathy (Kuno 1976). Themes establish an orientation and a perspective, so they typically appear first in a sentence (Halliday 1967). If themes do indeed provide such a point of departure, how can Cayuga, Ngandi, and Coos speakers leave them until the end?

An examination of discourse shows that these speakers do not save orienting material until the end any more than English speakers do. Narratives typically open with an establishment of the general topic of discussion. This is usually sufficiently significant to fill an entire sentence or intonation unit. (See Chafe 1980.) Other orienting devices, such as time and perhaps location, are set early as well. The following passages open narratives.

Cayuga

(75) Ta: ahi:' ne:' a:kathro:wi' šę niyohtq̱̓hné:' ne'
now I.thought this I.would.tell how it.used.to.be the
swé:'keh.
long.ago
‘Now I thought I would talk about how things used to be a long
time ago.’

Ngandi (Heath 1978: 229)

(76) walkundu-yuŋ naki? walkundu baru-ga-maka-na,
Walkundu-ABS there Walkundu 3PL/BU-SUB-call-PRES
ni-ruŋu-ŋi ni-yul-yu::ŋ
3MASC:SG-go-PAST.CONT MASC:SG-MAN-ABS
‘There at Walkundu (a place south of the Roper River), they call
that place Walkundu, a man was going along there.’

Coos (Frachtenberg 1922: 419)

(77) Ěx sla’tcni.
they.two.cousins.(were).mutually
‘Once upon a time there were two cousins.’
If new themes appear early, what of the most common themes, those already established and present in the mind of the speaker? Speakers typically establish a topic and stay with it for a certain length of time. In the absence of counterindications, hearers normally expect the topic to remain constant. Since it is expected, a continuing topic need not occupy a prominent position in the clause. Reference to it within the pronominal prefixes on the verb confirms its continuation without unduly distracting the hearer. The hearer is not actually waiting in suspense until the verb appears with its pronominal markers, since a topic shift would normally be signalled early in the clause.

Word order in Cayuga, Ngandi, and Coos, is thus not simply a mirror image of that in a language like Czech. The overall principle is somewhat similar, in that items are arranged according to their newsworthiness, but the mirror image model is inappropriate in two ways. For one, elements that establish a significant orientation for the first time, whether it be the point of view of the topic, the time, the location, or the reliability of the statement, occur early, just as they do in Czech. For another, items that signal the continuation of such orientation, such as an unchanged topic, time, or location, often do not appear as separate constituents at all, but rather as bound affixes.

1.8.3 The markedness of pragmatic ordering

These are not the only differences between languages like Cayuga, Ngandi, and Coos, and those like Czech. As mentioned above, members of the Prague School and, more recently, Thompson (1978), have noted that languages can vary considerably in the extent to which surface word order is controlled by syntactic or pragmatic considerations. In languages like English, order is determined primarily by the syntactic functions of constituents. In languages like Czech, their pragmatic functions play a greater role. Cayuga, Ngandi, and Coos, would appear more similar to Czech in this respect.

They are not the same, however. Recall that when presented with sentences containing alternative word orders, Cayuga speakers will not even choose a preferred order out of context. Marta Roth informs me that Czech speakers, on the other hand, are very conscious of “normal” word order. Alternate orders apparently do occur more frequently in Czech than in English. Yet when presented with these orders out of context, speakers are strongly aware of their marked status.
As asked to translate transitive sentences like ‘Daniel quickly drank the milk’ out of context, this Czech speaker consistently supplied SVO versions like that below.

Czech S V O

(78) Daniel rychle vypil mléko.
Daniel quickly drank milk
‘Daniel quickly drank the milk.’

(Vanessa Flashner informs me that among her spoken Polish texts, approximately 87 percent of the clauses show SVO or VO order.)

As asked for an appropriate full answer to subject questions like ‘Who drank the milk?’, the Czech speaker simply added heavy stress to the subject, rather than altering word order. (As in English, one-word answers like ‘Daniel’ are perfectly appropriate. Transitive sentences with full subject and object noun phrases are probably no more frequent in natural Czech discourse than in English.) Verb-initial orders were interpreted as questions, and object-initial orders as fragments of relative clauses. When presented with the alternative order SOV, the speaker agreed that this was grammatical, but would require some obvious reason for the added emphasis on the verb and adverb, such as the added clause below.

Czech S O V V

(79) Daniel mléko rychle vypil a odešel.
Daniel milk quickly drank and left
‘Daniel quickly drank up the milk and left.’

These responses do not contradict the work of the Prague School linguists. Firbas states, for example, “Even in Czech, of course, the possibility of freely changing the order of words is limited” (1964: 278 note 17). Pragmatic considerations apparently do in fact enter into surface word ordering in Czech more freely than in English, perhaps due in part to the case suffixes on nouns. It is still a very different process from that operating in languages like Cayuga, Ngandi, and Coos, however. Pragmatic reordering in Czech results in relatively marked structures sometimes described as “archaic” or “overly literary”, whereas Cayuga speakers seem less inclined to find any order more marked than the others.

Does this mean that languages like Cayuga, Ngandi, and Coos have no mechanisms for highlighting unusual pragmatic situations? Not surprisingly, they all do have constructions exactly for this purpose, and these construc-
tions are used somewhat more frequently than devices such as clefting and pseudo clefting or topicalization in English.

In Ngandi, such constructions involve the prefix -ga-, which sometimes functions as a weak subordinator, although it occurs freely on main verbs. Heath (1978: 122-3) describes the construction as follows.

The usual way to focus a constituent is to put it at the beginning of the clause, followed by a subordinated verb [with] -ga-. There appear to be no significant restrictions on the type of constituent which may be focused in this way, and examples are attested of NPs in virtually all surface cases (except perhaps the genitive) and of various kinds of adverbs occurring in focused position. Ngandi focus constructions may be literally translated with English topicalised or cleft sentences, but it should be emphasised that the Ngandi constructions are much more common than these English types.

He then provides examples of focused constituents of all types. Here are a few.

Ngandi (Heath 1978: 123)

(80) ni-Conklin, nyaya, ni-jambulaŋa, ŋar-ga-rid-i.
MASC:SG-Conklin I MASC:SG-Wallace 1PLEX-SUB-GO-PPUN
‘Conklin, I, and Wallace were the ones who went.’

(81) jipac guŋukuwić ŋar-ga-ŋawk-ɖu-ŋ.
later tomorrow 1PLEX-SUB-speak-AUG-FUT
‘Tomorrow is when we will talk.’

Coos shows similar constructions.

Coos (Frachtenberg 1913: 17)

(82) Tsáyá’na’tc wix:i’lts lela²
small.(pl).in.the.manner.of food that.is.the.one
qalá alex:i’we.
it.begins.to.flop.back.and.forth.
‘All kinds of food (fishes) began to flop around.’

Cayuga also makes frequent use of such devices.

Cayuga

(83) Ha’te:yò: ki’ ase’shò:’qh, né:’ thó:kye teyéhsnye’.
all.kinds just new.ones it.is that one.cares.for.it
‘All kinds of vegetables, that is what they’re growing.’
Cayuga, Ngandi, and Coos, have devices for accomplishing the same grammatical and pragmatic functions as languages like English and Czech, but these devices are distributed differently over various areas of the grammar. One result of this is a radical difference in the degree of markedness of alternative word orders.

2. Standard strategies for detecting basic order and pragmatically based languages

As noted earlier, the usual criteria for establishing the basic word order of a language include statistical frequency, descriptive simplicity, and pragmatic neutrality. What do these criteria indicate when there is no arbitrarily defined basic order, that is, when all ordering is the result of pragmatic considerations?

2.1 Statistical frequency

Does the fact that word order is pragmatically based mean that all possible orders appear with equal frequency? In fact it does not. On the relatively rare occasions when a single clause contains both a separate subject nominal and an object nominal, the order OVS appears slightly more often than the other logical possibilities. Does this mean that OVS should be considered the basic order after all? Establishing a fundamental order on the basis of a slight statistical advantage in a comparatively rare construction seems unnecessary, unless it can provide some significant descriptive or typological advantage. In fact, the assumption of an arbitrary basis could cut off fruitful exploration prematurely. The inequalities in occurring orders in languages like Cayuga, Ngandi, and Coos, reflect interesting facts about the actual workings of language. The fact that subjects appear near the end of clauses more often than at the beginning in a pragmatically based system indicates that subjects are typically the least newsworthy. This finding is not unrelated to Givón's statistical studies of definiteness. As he notes, "in human language in context, the subject is overwhelmingly definite" (1979: 51). The fact that separate objects appear more often near the beginning of clauses indicates that objects are more often used to convey newsworthy information. Although Givón found that in general, direct objects are roughly 50 percent indefinite and 50 percent definite in English texts, "the
50 percent indefinites are the bulk of the indefinite nouns in the text . . . The accusative or direct object position is thus the major avenue for introducing new referential arguments into discourse, at least in English.” (1979: 52).

2.2 Descriptive simplicity

A major justification for assuming the existence of an arbitrary, syntactically determined constituent order in the description of a language would be its power as a descriptive device. For languages with relatively rigid, syntactically defined surface word order, the establishment of this order at the outset has obvious utility. The description of rarer, morphologically and pragmatically marked alternative orders as the result of the movement of constituents out of their normal position is mechanically simple. For languages like Cayuga, Ngandi, and Coos, however, it is not at all clear that arbitrarily selecting one order as basic, then scrambling this order a large proportion of the time, is simple, revealing, or realistic. Since alternative orders are unaccompanied by additional morphological material, there is also no formal motivation for one choice over another.

2.3 Pragmatic neutrality

A third criterion for determining the basic constituent order of a language is the selection of the least pragmatically marked order, that order which presupposes the least. As noted earlier, it has been suggested that the most pragmatically neutral sentences of all must be discourse-initial, since there is no preceding linguistic context to establish information. Pullum (1977: 266) remarks, “where a discourse environment could not be present, i.e. discourse-initially, . . . the basic order would be expected.” In fact, as mentioned above, the beginnings of narratives generally represent an especially highly marked situation. Topics must be established before anything else can be attended to. Confining a study of word order to initial utterances would limit the investigation to a highly specialized corpus of utterances with a relatively unusual function, that of establishing referents and point of view.

Most discourse does not even open with “main, declarative, affirmative, active clauses”. Conversations often begin with questions. In fact, of 30 recorded Cayuga conversations, 21 began with questions. (Greetings were not counted as initial sentences.) Another 2 opened with commands.
The relatively rare declarative conversation openers provide little indication of a basic constituent order, since they consist almost solely of verbs and particles.

Cayuga

(84) Akö:kę’ sq:te’ syę́thwáhsq.łh.
I.saw.you last.night you.were.planting
‘I saw you planting last night.’

(85) Kwé’, tętwą’énąę’ akę’ ęyó:he’.
Well, we’re.playing.snowsnake it.seems tomorrow
‘Well, it seems we’re playing snowsnake tomorrow.’

(86) A:yę’’ s’atrehálték’ęse’.
it.seems your.car.got.bad.on.you
‘You seem to be having car trouble.’

Narrative openers present the same problem. The two sentences below open long narratives, the first highly formal, the second more informal.

Cayuga

(87) Eke:ka:tq.Ł’ şę́ nikiyąqwetsąxhkyö ne:’ tshíhua’hé
I.will.tell.it how so.the.earth.originated it.is when.first
 tsha’qhwę́tsą:tę́h.
when.the.earth.began
‘I will tell how the earth originated; when the earth first began.’

(88) Nę.: ki’ kye: thó:kę ne’ a:sanits’oqa:tó:wa:t
it.is just this that the you.would.hunt.fish
‘This is how you hunt fish.’

All of these opening sentences are characterized by their small number of major constituents. This is due in part to the high productivity of noun incorporation in Cayuga. (See Mithun 1984). Most of the verbs in the examples above contain an incorporated noun stem (‘pole’, ‘car’, ‘earth’, ‘fish’). These nouns are incorporated for a reason. Cayuga speakers normally introduce one new concept at a time, not unlike speakers of other languages. The single verb represents a single, complex, but unified concept.

As can be seen in (76) and (77) above, narrative openings in Ngandi and Coos generally illustrate the same characteristic of few major constituents, because their function is to introduce one new idea at a time.
The one-idea-at-a-time tendency is also reflected in the so-called “afterthought constructions” which appear frequently throughout texts in all of these languages. Often when a full nominal appears, it is not an integral part of the intonation unit containing its predicate. During the description of how to hunt rabbits, for example, the Cayuga speaker said:

Cayuga
(89) Onatat:nyó’ s’ekyé:, ne’ kwa’yq’.
they have roads you know the rabbit
‘They have roads, you know, rabbits.’

The intonation break between s’ekyé: ‘you know’ and ne’ kwa’yq’ ‘the rabbit(s)’ is more a change in pitch than a pause. Final nominals like the rabbits above are pronounced with significantly lower pitch and often somewhat softer volume than the preceding constituents. Such nominals are not literally “afterthoughts”, in the sense that the speaker simply forgot to mention them earlier. They are provided as insurance that the hearer will be able to keep reference straight. Often they repeat a referent which has not been mentioned for a while, like the rabbits in (89). In other cases, they are used to clarify the identity of a referent, as below. The verb ‘to fish’ in (90) does not contain any overt mention of ‘fish’, so when the speaker said ‘that is what we will live on’, he felt it necessary to clarify what ‘that’ referred to.

Cayuga
(90) Eyókwatah:nyo:’k. Ne:’ ki’ tsho: kwáhs
we will put hook in water it is just only all
eyakyonhéhk:oh:’k, otsq’tá’ kanyo’sho:’q ne’ kye:’ó hni’
we will live on it fish wild animals the I guess too
tè’ ho’tè’ eyakwatshé:’i’.
what we will find
‘We will fish. That is mainly what we will live on, fish, game, too, I guess, whatever we find.’

Such constructions are not equivalent to regular subject or object noun phrases in languages like English, in that they are not as tightly bound to their predicates intonationally. Because of the pronominal prefixes, they are never necessary for grammaticality. Their lower and softer pronunciation mirrors their function as backgrounded appositives.

Ngandi and Coos also frequently exhibit such constructions. Heath (1978: 53) mentions “the “afterthought” construction so common to lan-
guages in this area, where a core nuclear clause is pronounced and then one or more constituents giving more precise specification of arguments in the clause are added after a pause." During his description of life in the old days, a Ngandi speaker was discussing various tools. He said:

Ngandi (Heath 1978: 190)

(91) a-jeler bara-ma-ŋi, ba-jawuʔ-jawulpa-ŋu-yuŋ,
A-stone.axe 3PL/a-get-pcont pl-rdp-old man-erg-abs
'The old people used to get stone axes.'

The final noun phrase serves simply to remind us of the continuing topic. The Coos narrator cited in (92) had just mentioned that all kinds of food began to flop around. Hearing the noise, Crow decided to open his eyes, but someone yelled at him. After a while, Crow was permitted to open his eyes.

Coos (Frachtenberg 1913: 18)

(92) Tsö k:lo'wit hr wIx:i'lis,
now (he).saw.it the food
'He saw the different kinds of food.'

The final noun phrase serves to ensure that we remember what was there to be seen.

Such constructions also provide a device for keeping heavy information from blocking the flow of discourse. When a constituent is so heavy that its early appearance would interfere with the presentation of information, it may be represented early in the clause by a deictic particle, then filled in later by the "afterthought."

Coos (Frachtenberg 1913: 16)

(93) M̥l̥ halt! e̥ne xe̥'l̥tc e̥L̥l̥ts te̥ŋ
please now thou with.it.with thou.speak this.my
xL̥L̥e̥'yis.
with.language
'Now try my language.'

The usual devices for discovering basic constituent order thus provide little clear evidence for any underlying order in these languages. The statistically more frequent orders are no more pragmatically neutral than any others. Discourse-initial sentences do not provide good models of neutral order, since their pragmatic function is to establish the initial theme of the
discourse. They are, furthermore, frequently non-declarative, and in any case rarely contain enough constituents to shed any light on basic order at all.

3. **Word order typology and pragmatically based ordering**

Another justification for assuming the existence of an arbitrary, syntactically defined constituent order underlying every language would be its utility as a basis from which to predict other structural features. Discovering correlations among different constituent orders has been a major goal of word order typologists since the pioneering work of Greenberg (1966). Greenberg and many others, such as Lehmann (1973, 1974), Venneman (1974, 1975), and Hawkins (1979, 1980, 1983), have uncovered strong patterns among the types of word orders that occur within languages. At the same time, their work has revealed the complexity of ordering relations. Many statements must include provisos like "with overwhelmingly greater than chance frequency" or "usually", etc. The formulation of such principles as tendencies rather than absolute universals does not render them invalid, but, rather points up the number of factors involved. Hawkins has carefully excluded from his work those languages in which the determination of underlying order is problematic, so that the strength of his conclusions is not compromised by inaccurate starting points. This exclusion has of course been both appropriate and necessary in initial investigations. It would now seem, however, that an understanding of the applicability of word order universals to languages exhibiting little evidence of basic word order should be a useful part of the formulation of such universals.

Greenberg’s first universal involves the relative order of subjects and objects:

1. In declarative sentences with nominal subject and object, the dominant order is almost always one in which the subject precedes the object. (1966: 110)

If the dominant order is assumed to be the most frequent, then Cayuga, Ngandi, and Coos are clearly exceptions to this first principle, since the order OVS shows a small statistical advantage. Greenberg included the word “almost” for a reason explained in a note:

5. Siuslaw and Coos, which are Penutian languages of Oregon, and Coeur d’Alene, a Salishan language, are exceptions. (1966: 105)
Other universals posited by Greenberg involve ordering relations between verbs and their auxiliaries, adpositions and their objects, and between nouns and modifiers such as adjectives, relative clauses, numbers, and demonstratives. As noted earlier, a salient characteristic of languages like Cayuga, Ngandi, and Coos, is their high polysynthesis. What other languages express in several words, these languages often express in one. This fact has a significant effect on questions of ordering.

In some cases, there is no basic word order simply because a concept is expressed in a single word. The relative positions of verbs and auxiliaries in Cayuga and Ngandi are such a case. Like a number of the languages in Greenberg's original survey, these languages have no separate auxiliaries. Tense, aspect, and mode are expressed by combinations of verbal prefixes and suffixes. (Coos has several separate particles with temporal meanings such as 'about to', 'shall/will', 'intend', and 'usually/frequently/ habitually'. Each of these can either precede or follow the verb (Frachtenberg 1922: 383-4).)

In Cayuga, Ngandi and Coos, the functions performed by prepositions or postpositions in other languages are often accomplished by affixes on nouns.

Cayuga

(94) Kanyata:-ke ha'he'.  
lake-loc there.he.went  
'He went to the lake.'

Ngandi (Heath 1978: 189)

(95) ba-ga-ruďu-nį gu-ďawal-gič-ųn,  
3PL-SUB-GO-PCONT GU-COUNTRY-ALL-ABS  
'They went to (their) country.'

Coos (Frachtenberg 1922: 323)

(96) x-kwile'1-ětc n-dji  
from-sweathouse-in 1-came  
'I came from the sweat-house.'

Mixing discussions of the relative orders of roots and affixes with those of the orders of words would seriously interfere with an understanding of universal syntactic principles.
Some locations are expressed by separate words in these languages. A Cayuga speaker was asked to translate the English sentences given here as glosses. The sentences were thus not spontaneous responses to actual situations; so, although technically grammatical, they may be somewhat unnatural pragmatically. In the first sentence, ohna'ke: 'behind' might appear to function like a preposition.

(97) a. Ohna'kê: shê kanqhsö:t ha'ëtakse:'
behind where house.stands there.she.ran
'She ran behind the house.'

A few moments later, the sentence below was given. This time, ohnd'ke: might appear to function like a postposition.

(97) b. Shê kanqhsö:t ohna'kë: ha'ëtakse:'
where house.stands behind there.she.ran
'She ran behind the house.'

According to the speaker, both are equally grammatical. In fact, an examination of the use of ohna'ke: in spontaneous discourse indicates that it is not an adposition at all, but, rather, a deictic particle, used appositionally in the sentences above. Hawkins (1983: 16) has suggested that prepositions and postpositions are better and more general type indicators than constituent orders VSO and SOV. Languages like Cayuga, Ngandi, and Coos, do not provide counterexamples to this hypothesis, but neither does the hypothesis provide a motivation for choosing an arbitrary constituent order.

Other ordering relations first investigated by Greenberg involve nouns and their modifiers, such as adjectives, relative clauses, and genitives. In languages like Cayuga, Ngandi, and Coos, adjectival words tend to be predications. Heath notes:

Noun-phrases which have more than one constituent are typically formed by apposition ... By using the term 'apposition' I am trying to indicate that the various constituents are often formally independent of each other; they often each have a complete set of affixes and may be separated from each other by pauses and even by other constituents such as a verb. (1978: 52)

This of course reflects the one-idea-at-a-time tendency. It is extremely difficult to find single noun phrases containing both an adjectival constituent and a separate noun in spontaneous discourse. Instead, the modifier is normally a separate predication, as in the Cayuga, Ngandi, and Coos passages below.
Cayuga

(98) Ne` ki` he` hne:` wakyes`aké ne` a:sató:wa:t.
   it.is just also contr it.is.easy the you.would.hunt
   ‘Also, it’s an easy way to hunt, as well.’

Ngandi (Heath 1978: 268)

(99) ni-wolo ni-yul-yug, ni-warjak,
   ‘That man is a bad man.’

Coos (Frachtenberg 1922: 424)

(100) L/a'nēx yeṅne" kwā'sis.
    new.is thy ball
   ‘Your ball is new.’

Since these are predicate adjectives rather than attributive adjectives, the prediction does not apply.

In Cayuga and Ngandi, adjectival verbs may incorporate the nouns they modify to form a single constituent. The resulting complex verb can then function either as a predication or as a nominal.

Cayuga

(101) akya`tawi`thr-i:yō:
    (it-)-dress-nice
   ‘a/the dress is nice’ or ‘a/the nice dress’

Ngandi (Heath 1978: 262)

(102) ni-yuq buluki`? gu-đawal-wiripu-gi ŋa-ga-ŋ-i; ...
    I-ABS also GU-country-other-LOC 1SG-SUB-sit-PC
   ‘I was staying in a different country, ...’

Again, since such expressions consist of single words, the relative orders of their constituent morphemes cannot be compared to the relative orders of nouns and adjectives in languages like English or French.

Because words corresponding to adjectives in languages like English are full predications in Cayuga, Ngandi, and Coos, the distinction between adjectives and relative clauses is not a sharp one. As in the case of adjectives, material translated into English relative clauses may simply be a separate sentence, as in the Coos example below.
Coos (Frachtenberg 1913: 6)

(103) Ûx kwîna‘èwat he hemkwî’tîs. Hats
they two.look.at.it.frequently the heavy.waves just
yî’qa xwändj wët.lä’nî le xâ’a.p.
continually in this.manner goes over.back.and.forth the water
‘They looked frequently at the waves, that rolled back and forth continually.’

Alternatively, material corresponding to English relative clauses and their heads may be incorporated into single words, as in the Cayuga example below.

Cayuga

(104) A’awëṭhë’ ne’ akë'tîhró:ni’.
The tea I made really got strong.

On the extremely rare occasions when separate constituents appear comparable to adjectives or relative clauses in other languages, the modifiers and heads can appear in either order. Example (105) was elicited as a translation.

Cayuga Modifier N

‘My white cat has fleas.’

N Modifier

(106) Thó it’ ni:yōht në:kyë ne’ akî:kwë kowïyaëtatre’.
‘That’s the way it is with this woman who is expecting a child.’

Ngandi (Heath 1978: 230) Modifier N

(107) a-ja-bolk-ɖ-i a-ɖarpal a-jara a-ŋalk,
A-now-appear-aug-pp A-big A-what’s.it A-rain
‘A big rain appeared then.’

N Modifier

(108) ba-wanʔ-ɖu-ni gu-jark gu-wanar
3pl.look-aug-pr gu-water gu-huge
‘They see a huge body of water.’
Coos (Frachtenberg 1913: 14) Modifier N

(109) Ḥēkwा'㏌ le' yǐ xkwí'na'tc le'ux hái'wis l'ilā.
very good appearance their ready land
‘The appearance of the world which they had created was very good.’

Coos (Frachtenberg 1913: 13) N Modifier

(110) Tsō a'yu úx kwína'ẽwat le'ux
now surely they two look at them frequently their two
mi'laq si'l'nei.
arrows joined together
‘They shook the joined arrows.’

Nominal-genitive orders show the same variation. A noun identifying a possessor may appear on either side of the possessed noun. Both of the genitive constructions below were taken from the Cayuga cosmology legend.

Cayuga

(111) ne' tho nę:kyę aethwę' nę:kyę k'anów'ake
the there this we would put it this on its back
Genitive N
shęnḥö: niyakota:teq, kanyahęko:wa k'anów'ake.
where so she remains great turtle on its back
‘We would put this (dirt) there on his back where she is sitting, on the big turtle’s back.’

Cayuga N Genitive

(112) akoti'skhwąę' nę:kyę k'anów'ake nę:kyę kanyahętkó:wa
they set her this on its back this great turtle
‘they set her on the back of this great turtle’

Compare the two Coos genitive constructions below.

Coos (Frachtenberg 1913: 8) Genitive N

(113) ...úx lemi'yat le mexä'ye ā kwá'xu.
they two to stand up caused it the eagle his feathers
‘Then they stuck into the ground the feathers of an eagle.’

(Frachtenberg 1913: 15) N Genitive

(114) Halt! xà là ā l'le'yís he tsn'na.
now he his his language the thunder
‘The other man received Thunder’s language.’
Finally, several constructions do exist in which the order of constituents is constant. Numbers tend to precede the nominals they quantify, but this is of course consistent with the newsworthiness principle. The relative order of determiners and nominals is generally invariable. Definiteness is not obligatorily marked in Cayuga, and no indefinite article is used. As noted earlier, an optional particle ne’ may precede definite nominals, including proper and possessed nouns. When it appears, it precedes the nominal it modifies. This position is, of course, functional. In Cayuga, morphological verbs, like any clauses, can function as syntactic nominals. They need carry no overt markers of nominalization. The result is that normal discourse can consist largely of verbs. The particle ne’ is most often used to indicate that what follows is functioning syntactically as a nominal.

Cayuga
(115) akagnihnatok ne’ nóne’ ne’kye ne’ kowiyáëtatre’. they noticed the you know this the she is getting a baby ‘... they noticed that she was expecting.’

The Coos article lE/hE is similar. Frachtenberg notes, “the article has a general nominalizing function, and when prefixed to adverbs, adjectives, etc., gives them the force of nouns.” (1922: 320)

Coos (Frachtenberg 1913: 50)
(116) N’ne ite le eEdówáyéxtá’is qa’wa’ I (am) EMPH the you wanted night
‘I am the one (whom) you wanted last night.’

If these particles floated throughout sentences, their function as cues to the roles of following constituents would be compromised.

Except for Greenberg’s first syntactic universal, Cayuga, Ngandi, and Coos provide strong evidence neither for nor against the most discussed word order universals. Most of the universals simply do not apply, because they are defined over rigid word orders. Positing a basic, syntactically defined constituent order for such languages provides little predictive power. The recognition of pragmatically based languages is crucial to serious work on syntactic topology, however, not only because they represent a significant proportion of the world’s languages, but also because of the obvious danger of misclassifying them. As many of the elicited examples cited earlier demonstrate, it is only too easy to force a language into an inappropriate syntactic model on the basis of data elicited or analyzed out of context.
4. The pragmatically based type

Against a backdrop of Indo-European languages, the Cayuga, Ngandi, and Coos pragmatic ordering of constituents from highest to lowest communicative dynamism seems unusual. Yet this phenomenon is actually not as rare as might be assumed. It is especially common among languages that also share another morphological characteristic: a full set of substantive bound pronouns referring to all core arguments. Many languages contain bound pronouns for only first and second persons, like Lakhota or Parengi (Aze and Aze 1973), or for only first, second, and some third persons, like Caddo. Such languages more often exhibit a basic syntactically defined constituent order; Lakhota, Parengi, and Caddo are basically verb-final.

A crucial feature of purely pragmatically ordering languages may be the nature of the grammatical relationships between the verb and associated constituents. In languages like Cayuga, Ngandi, and Coos, the pronouns bear the primary case relations to the verb. The associated noun phrases function grammatically more as appositives to the pronominal affixes, rather than directly as verbal arguments themselves.

5. Conclusion

An assumption upon which much current descriptive and typological theory is based, namely, that all languages have some basic, syntactically defined, word order, is thus not universally valid. In a number of languages, the order of constituents does not reflect their syntactic functions at all, but rather their pragmatic functions: their relative newsworthiness within the discourse at hand. Constituents may be newsworthy because they introduce pertinent, new information, present new topics, or indicate a contrast.

These pragmatically based languages differ in several important ways from some of the more familiar, syntactically based languages that exhibit "pragmatic reordering" such as right and left dislocation. First, in syntactically based languages, pragmatic reordering is highly marked. Deviation from the basic, syntactically defined word order indicates an unusual situation. In pragmatically based languages, on the other hand, all ordering reflects pragmatic considerations. Unusual situations are marked by other means. Second, in syntactically based languages, pragmatic reordering is usually assumed to result in a theme-rheme order, with elements of lower
communicative dynamism at the beginning of clauses, followed by increasingly more important or newsworthy elements. In the pragmatically based languages examined here, the order is nearly the reverse. Constituents appear in descending order of newsworthiness. This does not result in a simple rheme-theme order, however. New themes, newsworthy in their own right, appear early, as do other orienting elements like time and location. Continuing themes, as well as continuing times and locations, usually do not appear as separate constituents at all. Since pragmatically based languages are typically highly polysynthetic, such information is often referenced morphologically within the verb.

Languages of this type often share another structural feature: full sets of obligatory bound pronouns. It is actually these pronouns that bear the primary grammatical relations to their verbs. In pragmatically ordered languages, separate noun phrases can function somewhat differently than in languages without bound pronouns. They typically serve more as appositives to the bound pronouns than as primary arguments themselves.

Pragmatically based languages do not provide strong evidence against most word order typologies. Most of the implicational universals that come out of such typologies are simply inapplicable. It is only too easy, however, to misclassify languages of this type on the basis of the criteria usually employed to determine basic order; such misclassification could have serious consequences for any typology purporting to be exhaustive.

Notes

1. This paper was originally written in 1983 and presented at the conference on Coherence and Grounding in Discourse held at the University of Oregon in the spring of 1984. The Proceedings of the conference did not appear until 1987.

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References


IS BASIC WORD ORDER UNIVERSAL?


