CLS 25

Papers from the 25th Annual Regional Meeting of the Chicago Linguistic Society

Part One:
The General Session

Chicago Linguistic Society 1989

edited by
Caroline Wiltshire
Randolph Graczyk
Bradley Music

On Stress Placement and Metrical Structure

Morris Halle

Stress as a Reflex of Metrical Constituency

Research conducted in the last fifteen years has led to a major reconceptualization of the nature of stress. As a result many problems connected with stress now appear in a radically different light from that in which they have been traditionally viewed. In what follows I describe the new conception of stress, sketch a formal framework for dealing with stress and then illustrate how this framework illuminates certain accentual phenomena that have been discussed in the Indo-European literature.

The change in views on the nature of stress arose from the recognition of the fact that sequences of linguistic units of all kinds are not just simple concatenations of entities like beads on a string. Rather, in sequences of linguistic units we find that one unit is promoted to play a more prominent role than the rest, that of head, while the rest of the units -- those not so promoted --constitute its (the head's) domain. We find this type of organization in syntax, where a sentence such as

many arrows hit the explorers

is composed of the noun phrase many arrows, whose head is the noun arrows, and of the verb phrase hit the explorers, whose head is the verb hit. It is worth noting that what the two constituents have in common is that their heads are next to the constituent boundary: the noun phrase in the sentence above is right-headed, whereas the verb phrase is left-headed. We owe to Mark Liberman (1975) the suggestion that stresses be viewed as heads of metrical constituents. Under this proposal an English word such as autobiographic would be composed of the three left-headed metrical constituents shown in (2).

159

) / / / (auto)(bio)(graphic)

On this account, stress is no longer viewed as a phonetic feature on a par with such other phonetic features as lip rounding, nasalization or tenseness. Rather stress is a phonetic reflex of the organization of a word or phrase into metrical constituents, and languages may differ from one another in how they implement this.

(phonemes) in a string. In the most familiar cases only heads of syllables can be stress-bearing -- all other phonemes in a potential stress-bearers are marked on this plane in a linear out on a separate (metrical) plane and the sounds that are Halle and Vergnaud 1987 -- the computation of stress is carried stress-bearers, we must have a formal means to reflect this fact. In the theoretical framework that is utilized below -- that of phonemes other than syllable heads can be stress-bearing. Since sequences never bear stress -- but there are languages where of a metrical constituent. constructed. designated as line 0 -- that metrical constituents or feet are Liberman's idea I have represented each stressed unit as the head languages differ as to what units in the sequence are potential language, and those in (3a) are, of course, English. Following Stress characteristically is assigned only to certain sounds As illustrated in (3) it is on this line of marks --The examples in (3b) are from Winnebago, a Siouan

As noted, in a metrical constituent not all elements are equal. Rather, one is selected as head to which the rest are subordinated. Constituent heads are marked by placing an asterisk on the line immediately above it. There are severe constraints on the location of the head. In the unmarked cases -- the only ones to be discussed here -- the head must be next to the constituent boundary, and the only choice that the language can make is whether the constituent is left-headed or right-headed. In English -- i.e., in (3a) -- the constituents are all left-headed, whereas in Winnebago -- see (3b) -- they are right-headed. These constituent assignments reflect the differing types of stress patterns of English and Winnebago.

It is readily seen that if right-headed binary constituents are constructed from left to right, this procedure results in every even-numbered element being a head and therefore also being stressed. As illustrated in (3b), however, in Winnebago stress falls not on even-numbered moras, but on odd-numbered moras except for the first. This distribution of stresses would result if constituent construction began with the second, rather than with the first mora. We therefore need a device that allows us to skip the first element we encounter and to begin constituent construction with the second element. This skipping device has been named extra-metricality and we reflect it in the representations by enclosing the element in question in angled brackets. Thus, in Winnebago the left-most stress-bearing element in a word is marked extra-metrical, and right-headed constituents are then constructed from left to right.

In English words like solubility the situation is the mirror-image of that in Winnebago, stresses fall on alternating syllables beginning with the third syllable from the end of the word. We therefore postulate that in English the constituents are left-headed, that they are constructed from right to left, rather than from left to right, and that construction begins with the penultimate syllable rather than with the ultima. In English therefore the last syllable is marked extra-metrical, whereas in Winnebago it was the first mora that was extra-metrical. Moreover, in English extra-metricality is somewhat idiosyncratic suffixes such as -ic_ -id_ -ish are never extra-metrical -whereas in Winnebago initial extra-metricality admits of no exceptions to my knowledge.

In addition to constraints on stress placement within constituents there are also severe restrictions on constituent size. In the examples discussed to this point we have encountered only bounded -- i.e., binary -- constituents. In rare instances ternary constituents are found, but I shall have nothing to say

about these here. By contrast, metrical constituents that are unbounded as to length are quite common. We meet up with unbounded constituents as soon as we try to answer the question as not all stresses in a word are equal, rather one of the stresses is more prominent than the rest. In English it is the last stress in the word, whereas in Winnebago it is the first stress that is in the most prominent. An obvious way of expressing this in the notation used here is by organizing the stressed elements - those projected onto line 1 in (3) -- into an unbounded constituent is constituent. As shown in (4) this unbounded constituent is right-headed in English (4a) and left-headed in Winnebago (4b).

It is not the case that line 0 constituents are invariably binary and line 1 constituents are unbounded. Unbounded constituents on line 0 are found in languages such as Koya, Komi, Huasteco and Eastern Cheremis, but because of limitations on time I can do no more here than refer to the discussion of these stress systems in Halle and Vergnaud 1987.

Consider next the stress pattern in a language such as Macedonian, where in the great majority of words stress is assigned to the antepenultimate syllable as illustrated in (5a) (Data from Lunt 1952.)

vodenicar 'miller' vodenicari 'millers' vodenicari 'millers'

rs' vodenicarite 'the millers'

Formally this is captured by the rules in (6).

- (6) i. Mark the last syllable extrametrical.
- ${\tt ii.}$ On line 0 construct left-headed binary constituents from right to left and mark the heads on line 1.
- iii. On line 1 construct a right-headed unbounded constituent and mark its head on line $2\,\cdot$

 $% \mathbf{r}_{\mathbf{r}}$ illustrate the operation of these rules in (7).

Although the rules developed to this point assign the main stress correctly they also generate a number of subsidiary stresses. Macedonian however differs from English and Winnebago in that the word does not have subsidiary stresses. In languages like Macedonian we therefore assume that subsidiary stresses are removed by the operation of a special rule which we shall term the rule of Conflation.

. Stress in the Indo-European Proto-language

Consider next the stress patterns of modern Russian. As is well known, stress is one of the most difficult things to master in learning Russian. To the beginner it almost seems that every form of every word can take stress on any arbitrary syllable. In reality things are not quite as bad as this but they are of fair complexity, as illustrated in (8) with two of the half a dozen stress paradigms found in the Russian nominal declension.

nom. pl.	dat.	nom.	(8)
p1.	Sg.	S 09	
/w uzas-y	uzas-u	uzas	horror'
gorod-a	gorod-u	/ gorod	'town'
bolot-a	bolot-u	bolot-o	'swamp'
oblak-a	oblak-u	oblak-o	'cloud'

/v uzas-am gorod-am bolot-am oblak-am

dat. pl.

In each of the two declensions illustrated in (8) we have two patterns: one where the stress is fixed on a particular syllable in the stem, and one where the stress alternates between the case ending and the initial syllable of the word. In the latter two paradigms - those of gorod and oblak some desinences paradigms - those of gorod and oblak some desinences (case-suffixes) are always stressed - i.e., the nom. pl. /a/ and the dat. pl. /am/ - whereas the rest - i.e., the nom. sg. /o/, the dative sg. /u/ and nom. pl. /y/ -- are never stressed.

The stress patterns of the Russian declension were studied by Kiparsky and Halle 1978, and we concluded that in Russian, stress is a distinctive property of each morpheme; i.e. that in committing a morpheme to memory the speaker not only has to learn its phoneme composition but also whether or not it is stressed. It our examples (8) the stems /uzas/ 'horror' and /bolot/ 'swamp'. In our examples (8) the stems /uzas/ 'horror' and dat. pl. /am/ are as well as the desinences nom. pl. /a/ and dat. sg. /u/ and nom. stressed, whereas the nom. sg. /o/, the dat. sg. /u/ and nom. pl. /y/ as well as the noun stems /gorod/ 'town' and /oblak/ 'cloud' are without lexical stress.

Since stress is distinctive for every Russian morpheme, a Russian word can in principle have as many lexically assigned stresses as it has constituent morphemes, or as few as none. On the surface, however, the word invariably appears with a single stressed syllable. To account for this fact Kiparsky and Halle 1978 proposed the Basic Accentuation Principle, which locates the surface stress on the left-most stressed syllable, or, in the absence of a stressed syllable, on the word-initial syllable. Formally this stress distribution -- left-most stressed, or left-most -- is implemented by the rule (9a). I have illustrated the effects of this rule in (9b).

(9) a. Construct a left-headed unbounded constituent on line 1 and mark its head on line 2.

b. *... * ... * * ... line 2
(#.#) (.#.) (...#) (....) line 1

*** * * * * * * * * * * line 0

/ w
uzas-am bolot-u gorod-am oblak-o

In (9b) I have indicated lexical stresses by means of the

cross-hatch, whereas stresses assigned by rule (9a) are represented by an asterisk; syllables not projected upward are marked by dots.

to eliminate the secondary stresses that our rules would generate e.g., on the desinence of the dat. pl. /uzasám/ we shall assume that have no lexically supplied stresses like, e.g., $\underline{oblak-o}$ cited last in (10b). As pointed out in Halle and Vergnaud 1987, forms which eliminates all but the main stress of the word. obvious that this procedure results in the correct assignment of grid. In the case of oblako this means that we construct a constructed over the asterisks on the next lowest line in the is no asterisk on a line in the metrical grid, the constituent is metrical grid. This special convention stipulates that if there where a constituent is constructed on an empty line in the of this type require a special convention to deal with the case stress patterns are generated now in all cases except for forms that Russian like Macedonian is subject to the rule of Conflation left-headed constituent over the asterisks of line 0. It is stress to the word initial sylable. Like Macedonian Russian has no secondary stresses. The correct

Russian has a number of additional stress patterns of which the so-called oxytone pattern, where stress invariably falls on the post-stem syllable, has attracted considerable interest in the last thirty years because of important discoveries due to Stang, Illic-Svityc and Dybo, which unfortunately can only be mentioned, but not discussed here.

In (10) and (11) I have illustrated the stress patterns in the declensional paradigms of Lithuanian and Sanskrit respectively. These are essentially similar to that of Russian (8) in that they are generated by distinctively stressed morphemes subject to the Basic Accentuation Principle of IE, i.e. rule (9a).

i. pl. n. pl. d. sg. (10)vaasar-ai vaasar-oos vaasar-oomis vaasar-ooje 'summer' doovan-ai 'gift' doovan-oomis doovan-ooje doovan-oos masin-ai masin-oos machine' masin-oomis zin,-oomis masin-ooje v zin,-ooje 'news, report' zin, -ai zin,-oos

II, which are inherently stressed, vs. III, IV, which are Just like Russian Lithuanian has two major classes of stems: I, Lithuanian two classes of suffixes: d. sg. and n. pl. inherently unstressed. And just like in Russian, there are in are inherently inherently stressed. The same rule as in Russian are inherently stressless, vs. loc. sg. and instr. pl., which -- i.e., (9a) -- assigns the correct surface stress in the cases

Russian. In Russian only syllable heads can bear stress, in under discussion. nonheads, rather than heads, are stress-bearing -- these are Lithuanian there is a special class of long syllables where called circumflex in the literature and are marked by a special stem stress of the words vadsarai vs. doovan-ai in (10). head is stress bearing. diacritic. In all other syllables of the language the syllable There are two basic differences between Lithuanian and This distinction is exemplified in the

of de Saussure's Law, which accounts for the different stress only stem syllable is either short or circumflex. When by the paradigms between classes I and II, on the one hand, and III and basic Indo-European stress rule (9a) stress would be assigned to IV, on the other (Saussure 1896). In classes II and IV the last or the stress is advanced to the latter syllable by de Saussure's or short -- and the following syllable is long but not circumflex, this syllable -- i.e., to a stem final syllable that is circumflex This prosodic distinction between syllables lies at the base

pattern is literally identical with that of Russian. and the effects of de Saussure's Law -- the Lithuanian stress -- i.e., the distinction between circumflex and other syllables Once we abstract away these special Lithuanian developments The Sanskrit nominal accentuation parallels that of Russian

and Lithuanian, as illustrated in (11).

	voc. sg.	acc. sg.	loc. sg.	(11)
'wind'	marut	marut-am	marut-i	_
'horse'	asv-a	asv-a-m	asv-e < asv-a-i	// #, ##
'daughter'	duhitar	duhitar-am	duhitr-i	,
'god'	dev-a	dev-a-m	OEA-6 < GeA-6 -	/ # #

Here again we find the familiar contrast between stressed and

stressless stems -- marut, asva vs. duhitar, deva -- and between stressed and stressless suffixes. The special features of stressless case suffixes assign stress to the preceding syllable: Sanskrit are the following. In the Sanskrit noun declension, as a consequence we find initial stress in all four examples cited Secondly, in the vocative, noun stems lose their inherent stress; we therefore get duhita ram in place of the expected du hitaram.

several other IE languages -- e.g., Pashto, Serbo-Croatian, Slovenian. Moreover, when cognate morphemes in these languages morphemes with lexically supplied stresses. by the same means, i.e. by rule (9a) operating on sequences of marked for stress. stress was governed by rule (9a) and that morphemes were lexically basic evidence for the proposition that in the IE proto-language, or absence of lexically assigned stress. These facts provide the are compared, a significant proportion also agree in the presence In Russian, Lithuanian, and Sanskrit stress is thus assigned The same is true of

and was at one time also true of Polish, it is true of Latvian as well as of the Zemaitian dialects of Lithuanian (see Lacjute when no stresses are supplied in the lexicon there will also be no between stressed and stressless morphemes, initial stress is the stress would invariably be assigned to the initial syllable of the Indo-European stress rule (9a) were still operative at this point, Moreover, as pointed out to me by Donca Steriade, if the have metrical grids like the Russian word oblako in (9b). stressed syllables in underlying representations; all words will in its lexical representation of morphemes. It is obvious that Indo-European stress rule (9a) suppresses all stress indications supposedly also in early Latin. 1979). Initial stress was also the rule in Old Irish and rule. This is true of Germanic, it is true of Czech and Slovak, Indo-European languages that have lost the historical contrast We now inquire what happens if a language subject to the In view of this it is worth noting that in many

resulted in initial stress. In the light of the theory that has geographically and temporarily. Thus, this development could not Indo-European languages that are widely separated both What is especially interesting is that initial stress developed in one that the greatest number of daughter language have opted for. in which Indo-European stress has evolved, initial stress is the been presented here this is perfectly plausible. here is several independent developments each of which has plausibly be attributed to a single source; rather what we have While initial stress is, of course, not the only direction

witnessing here the loss of lexically supplied stress in a number of languages where stress is governed by the Indo-European stress rule (9a). This loss happened at different times in the different languages. The theory we have developed here predicts that if nothing else changes at this point the result will be initial stress on all words. And this prediction is well supported by the evidence.

3. Stress and Cyclic Rule Application

Unlike in Macedonian words, stress in English words does not invariably fall on the antepenult. Instead in a large fraction of the English vocabulary stress falls on the penult when this is "heavy"; i.e., has a branching rime; and only when the penult is not "heavy", does stress fall on the antepenult. Examples are given in (12).

(12) javelin American original

Arizona museum anecdotal

In order to capture formally both the similarities and the differences between English and Macedonian we can assume as a first approximation that English has the same stress rules as Macedonian -- i.e., those in (6) -- but that these are supplemented by the addition of the rule (13).

 Λ (13) Assign stress -- line asterisks -- to syllables with "heavy" rimes"

This rule is ordered between rules (6-i) and (6-ii). Hence at the point where (6-ii) applies the representations are of the form illustrated in (14a), and the effects of applying the stress rules (6-ii, iii) to the representations (14a) are shown in (14b).

* * *<*>
Arizona

b. line 2 **
line 1 (* *)
line 0 (*)(* *)<*>
A meri ca

(*)(*)<*>
u tensil

(* *)(*)<*>
Ari zo na

binary left-headed constituents, in these cases the first -- i.e., utensil, Arizona. Although rule (6-ii) ordinarily constructs procedure. Significant for the present discussion is the manner in which constituents were constructed by rule (6-11) in the words eliminate the extra secondary stresses generated by this This procedure places main stress correctly. Additional rules unary constituent. Once such a constituent has been constructed, extra-metrical, rule (6-ii) has no alternative but to construct a word. Since the construction proceeds from right to left and since the last syllable is excluded because it is marked this convention, rule (6-11) had to construct a constituent so previously assigned stresses and metrical structure. (See the for this is that all rules of constituent construction respect the right-most -- constituent constructed is unary. The reason rule (6-ii). is constructed. In the word Arizona the rest of the string is bi-syllabic; hence a bi-syllabic constituent is constructed by string consists of a single syllable, a second unary constituent constituents there. Since in the case of utensil the rest of the rule (6-ii) moves to the rest of the string and constructs that its head would be the stressed penultimate syllable of the Faithfulness Condition in Halle and Vergnaud 1987). Because of

Consider next the different locations of main stress in the words in (15a) and (15b).

(15) a. origin-al-ity

univers-al-ity

/ organ-iz-at-ion-al

un-reason-able-ness mean-ing-less-ness express-ion-less-ness

In (15a) placement of the main stress is determined by outermost suffix; whereas in (15b) stress falls on the innermost stem. It is generally accepted that the basis for this difference are the suffixes. Suffixes such as -ness, -able, ful are said to be "stress-neutral", whereas suffixes such -all -ity, -ion are "stress-sensitive". Our next task is to spell out how these classes of suffixes generate the different placements of main stress illustrated in (15). The account presented below is a somewhat modified version of the one given in Halle and Vergnaud

1007

1987.

It is proposed there that the rules of the word phonology are organized into two blocks or <u>strata</u>. In English the stress are organized there -- i.e., those of (6) -- are assigned to rule; of interest here -- i.e., those of (6) -- are assigned to Stratum 1 exclusively, and no stress rules figure in Stratum 2. It is moreover postulated that

(16) a. The rules of Stratum 1 apply in cyclic fashion beginning with the innermost morphological constituent and ending with the entire word.

b. The application of the (cyclic) rules of Stratum 1 is subject to special constraints of which the most important here is that they are not triggered by "stress-neutral" suffixes.

c. On each pass through the rules of Stratum 1 all previously assigned metrical structure and stresses are erased.

These principles insure that the outermost "stress-sensitive" suffix will determine where the main stress is placed, because by virtue of (16c) all metrical structure and stresses assigned will be erased at the beginning of the last pass through the rules of

After the rules of Stratum 1 have thus applied to each constituent of the word, the entire word is subjected once to the rules of Stratum 2. Since the stress erasure convention (16c) is not applicable in Stratum 2, "stress-neutral" suffixes have no not applicable in Stratum 2, "stress: the metrical constituent effect on the placement of main stress: the metrical constituent structure assigned by the rules of Stratum 1 remains intact.

An important result of studies of phonological rules An important result of studies of phonological rules are organized into strata is that a given rule may be assigned to more organized into stratum. In particular, it was shown by Halle and than one stratum. In particular, it was shown by Halle and than one stratum. It is necessary to assign the IE stress rule Mohanan 1985 that it is necessary to assign the IE stress rule (8a) to both the cyclic Stratum 1 and noncyclic Stratum 2 in order to account properly for the different stress effects of "dominant" to account properly for the different stress effects of "dominant" and "recessive" suffixes in Sanskrit that had been noted by

Kiparsky 1982.

As the Sanskrit facts have been discussed by Halle and As the Sanskrit facts them here, instead I want to Mohanan 1985 I shall not discuss them here, instead I want to Mohanan 1985 I shall not discuss them here, instead I want to inquire at this point as to how stress is assigned in a language that differs from English in that its stress rules figure not only that differs from English in that its stress rules figure not only in Stratum 1, but are assigned to both Stratum 1 and 2.

Specifically I shall assume the stratum assignment of the rules in Specifically I shall assume the stratum.

(17) Stratum 1 (cyclic)

Stratum 2 (noncyclic)

i. Extrametricality (6-i)

i. Extrametricality (6-i)

"Heavy" syllable stress (13)
 "Heavy" syllable stress (13)

iii. Line 0 stress (6-ii)

iii. Line 0 stress (6-ii)

iv. Line 1 stress (6-iii)

I shall assume that the hypothetical language has both "stress-sensitive" class I suffixes -- the counterparts of the English <u>-ity, -al, -ion</u> -- and stress-neutral" class II suffixes -- the counterparts of <u>-ness, -ing, -ful</u>. We now investigate how the rule system (17) assigns stress to the hypothetical words in (18).

(18) a. Stem +I+I+I b. Stem +I+I+I+II

To simplify matters I shall assume that the words are composed exclusively of light monosyllabic morphemes. As a consequence, there is no occasion to apply the "heavy" syllable rule (13). Since, as noted, class I suffixes are cyclic and therefore erase all stresses and metrical structure erected on earlier cycles, the rules of Stratum 1 will generate the metrical structure in (19a). Since none of this structure is erased in Stratum 2, the only effect of applying the rules of Stratum 2 is to construct the line I constituent which determines the location of the main stress in the word, as shown in (19b).

In the derivatin of the example (18b) the input to the rules of Stratum II will be as shown in (20a).

assigned on the first cycle, but the stresses and metrical extra-metricality rule renders the word final syllable invisible structure generated by the rules of Stratum 1 will remain intact. The presence of the Class II suffix removes extra-metricality only element in (19a) to which (6-ii) can apply is the asterisk above the last class I suffix. Rule (6-ii) therefore constructs a unary constituent on that single asterisk. Rule (6-iii) then The rules of Stratum 2 will now apply: first, the constituents must respect metrical structure already in place, the stress rule (6-ii). Since rules constructing metrical "heavy" syllable rule (13) to apply. Next in order is the line $\boldsymbol{0}$ to the stress rules. As noted, there will be no occasion for the assigns main stress to this syllable. The answer to the question raised above is therefore that in a language where stress rules of rules of Stratum 1 applied. because this syllable was extra-metrical at the point where the class II suffix will have main stress on the prefinal syllable, type (6) are assigned to both Stratum 1 and 2, words ending with a

A language that has stress behavior very much like that just A language that has stress behavior very much like that just discussed is classic Latin. As illustrated in (21), in Latin discussed is classic Latin. As illustrated in (21), in Latin discussed is classic Latin. As illustrated in (21), in Latin words without enclitics, stress falls on the antepenult if the penult is "light", and on the penult, if it is "heavy".

(21) opprimit opprimunt opprimitur opprimuntur oppo:nuntur oppo:nuntur

Stress in Latin is therefore assigned by rule (6-ii) interacting with the extra-metricality rule (6-i) and the "heavy" syllable rule (13). The patterns illustrated in (21) do not exhaust all rule fact reported by the Latin grammarians that before to the fact reported by the Latin grammarians that before enclitics stress falls on the last syllable of the orthotonic (uncliticized) word. She quotes the Latin grammarian Servius, who wrote: "For the moria -- i.e., the small particles such as que, ve, wrote: "For themoria -- i.e., the small particles such as que, ve, one, ce -- whenever they are joined to other forms, place the

accent before them (on) whatever syllable may precede them, whether short or long." Some of the examples given by Steriade are reproduced in (22).

(22) li:mina 'thresholds' li:mina-que 'and thresholds . . . '

Mu:sa 'the muse' Mu:sa-ne 'whether the muse . . '

alter 'other' alter-uter 'one of two'

ubi 'where' ubi-libet 'wherever'

In the examples (22) stress is assigned in exactly in the same way as in the hypothetical example (20). We conclude therefore that the Latin stress rules are essentially identical with those in (17); i.e., that in Latin the stress rules are assigned both to Stratum 1 and Stratum 2.

Latin is by no means the only language that exhibits this type of alternation between orthotonic and enclitic stress. In Halle (in press) I have shown that Manam, an Austronesian language, exhibits essentially the same stress behavior as Latin Moreover, Steriade 1988 shows that enclitic stress in Greek also involves stress assignment to previously extra-metrical syllables.

questioned by some scholars. Allen 1973, e.g., characterized the about what possible stress systems are like. In the light of what Latin grammarians incredible because of his a priori assumptions not based on any factual evidence. He finds the statements of the about the enclitic stresses reported by the Latin grammarians is shall not discuss it here except to remark that Allen's skepticism As I have analyzed Allen's argumentation in Halle (in press) I type of clitic stress exemplified in (22) did not exist in Latin. rule of the classical grammarians as "simply another example of reported by the Latin grammarians are not at all outlandish, but has been learned in the last fifteen years about stress -- a statements of the Latin grammarians of classical antiquity anymore above. There are therefore no cogent reasons for doubting the are actually to be expected for reasons that have been outlined fraction of which I have attempted to sketch here -- the facts than there are grounds for doubting the facts reported about The reality of the enclitic stresses in (22) has been

the Eighth East Coast Indo-European Conference at Harvard presentation at the 25th meeting of the CLS cannot be printed 1. Because of prior publishing commitments the text of my issues as my Chicago talk. I am grateful to Donca Steriade for advice in the preparation of this lecture. University on June 16, 1989, which dealt with many of the same In its stead I am offering the text of a lecture given at

terminology mora-counting, whereas the majority of languages are stress-bearing units. Winnebago thus is, in Trubetzkoy's 2. For example, in Winnebago long vowels consist of two Baltic languages -- Latvian and Lithuanian -- where a given syllable-counting. Even more interesting is the situation in the syllables it is the non-head rather than the head that is element need not be the head: in the so-called circumflex syllable can have only one stress bearing element, but this stress-bearing. found in sec. 2 below. Some brief remarks about Lithuanian are to be

are enclosed in braces. The Winnebago data are from Hale and removed by rules not discussed here, these nonsurfacing stresses 3. In the Winnebago examples stress on certain syllables is White Eagle (1980) and from K. Hale p.c.

Bibliography

Allen, W. Sidney: 1973, Accent and Rhythm Cambridge : Cambridge University Press.

Dybo, Vladimir A.: 1981, Slavjanskaja akcentologija Moscow:

Account of Winnebago Accent," International Journal of American Linguistics 46, 117-132. Hale, Kenneth and J. White Eagle: 1980, "A Preliminary

Halle, Morris : in press "Respecting Metrical Structure,"

of Modern English," <u>Linguistic Inquiry</u> 16, 57-116.

Halle, Morris and Jean-Roger Vergnaud: 1987, An Essay on Natural Language and Linguistic Theory.

Halle, Morris and K. P. Mohanan: 1985 "Segmental Phonology

Stress Cambridge: MIT Press.

Illich-Svitich, Vladislav M.: 1979 Nominal Accentuation in

Baltic and Slavic Cambridge: MIT Press.

Kiparsky, Paul: 1982 "The Lexical Phonology of Vedic

Accent, " ms. MIT, Cambridge, Massachusetts.

Reconstruction of the Indo-European Accent," Southern California Occasional Papers in Linguistics 4, 209-238. Kiparsky, Paul and Morris Halle : 1978 "Towards a

D. Kacnel'son, ed., <u>Issledovanija v oblasti sravnitel'noj</u> akcentologii indo-evropejskix jazykov Leningrad : Nauka, pp. suščestvitel'nyx v žemajtskom dialekte litovskogo jazyka," in S Lacjute, IU. A.: 1979 "Akcentuacionnye osobennosti imen

PhD dissertation, Cambridge : MIT. Liberman, Mark Y.: 1975 The Intonational System of English

Skopje. Saussure, Ferdinand de : 1896 "L'accentuation lituannienne" Lunt, Horace G.: 1952 A Grammar of the Macedonian Language

Indogermanische Forschungen 6 Anzeiger, 157-165

Stang, C.: 1957 Slavonic Accentuation Oslo.

Structure" Linguistic Inquiry 19, 271-314. Steriade, Donca: 1988 "Greek Accent: A Case for Preserving