

SPECIAL VOLUME OF THE PHILOLOGICAL
SOCIETY

STUDIES IN
LINGUISTIC ANALYSIS

BASIL BLACKWELL
OXFORD
1957

1227.357.35

HARVARD
UNIVERSITY
LIBRARY
FEB 28 1958

CONTENTS

	PAGE
Introduction	v
A Synopsis of Linguistic Theory, 1930-1955 (J. R. FIRTH)	1
Zero in Linguistic Description (W. HAAS)	33
Some Aspects of Systematic Description and Comparison in Gram- matical Analysis (M. A. K. HALLIDAY)	54
Aspiration in the Hārauti Nominal (W. S. ALLEN)	68
Vowel Nasality in Sundanese. A Phonological and Grammatical Study (R. H. ROBINS)	87
Junction in Spoken Burmese (R. K. SPRIGG)	104
Gemination in Tigrinya (F. R. PALMER)	139
Gemination in Hausa (J. CARNOCHAN)	149
Long Consonants in Phonology and Phonetics (T. F. MITCHELL)	182

JUNCTION IN SPOKEN BURMESE

By R. K. SPRIGG

JUNCTION FEATURES IN EARLIER PHONETIC STUDIES

AN awareness of the problems presented by the phonetic features of intersyllabic junction in spoken Burmese makes its appearance in Burmese studies as early as the first European account of Burmese pronunciation, the *Alphabetum Barmenorum seu Regni Avenensis* (Rome, 1787). The *Alphabetum* is in the form of a phonetic interpretation of the Burmese script: it lists the symbols in that script, and gives the pronunciation appropriate to each. The relevance of the *Alphabetum* to the problems of junction lies in the fact that in the course of their study the authors note that to some symbols they are obliged to attribute more than one pronunciation: 'Mutant saepe in dicendo Barmani, . . . saepius vero t, p, aliasque fortes, duplicesve in d, b, et in alias simplices, seu tenues' (op. cit., p. 9). This comment may be illustrated from such examples as: ' . . . ကောင့်ကောင့် [sic] kaungaun . . . ' (p. 9; my italics), and by such further statements as: 'Post finales mutas ḥ, ḥ, ḥ, consonantes immediate, h.e. absque ulla pausula sequentes proferri solent tanquam duplices validaeque: sic ဝတ်ဝတ် pællæk, နတ်နတ် nazzō. Contra vero post ḥ et praesertim vero post =, aliasque primi generis syllabas, consonantes immediate sequentes, quae validae, seu durae sunt, ut ဝ, ဝ, ဝ, etc., pronunciantur tanquam ဝ, ဝ, ဝ, etc., sic တဝံပုံ [sic] taWambù, ပေးချစ်ပေးတော့ peghiñpedō etc., ac si semper esset တဝံပုံ, ငေးချစ်ပေးတော့, etc., paucae admodum exceptiones hac in re obtinent' (p. 39).

These are the first references to phonetic features in spoken Burmese that have engaged the attention of foreign grammarians from that time forth. The interest taken in them has probably been all the greater for the fact that these junction features are left unsymbolized in the Burmese script,¹ with the result that any attempt to read a text in that script can hardly fail to bring them to the reader's notice.

The concept of assimilation adopted in the *Alphabetum*, in the light of which the Burmans are said to change the pronunciation associated with a given Burmese symbol, under certain phonetic conditions, was followed in subsequent grammars until the last few years. The fullest of these accounts is perhaps that of Bridges²: 'Hard consonants are softened when they come in contact with vowels, nasal sounds, or other hard consonants . . . thus ကြီး

¹ The contemporary use of space in texts in the Burmese script to group syllables into units within the larger units closed by the ဝိုင်တံလေး and the ဝိုင် is a recent development. For examples of modern usage see Hla Pe: 'မေတ္တာစာ' (*The World of Books*, XXIV, Feb., 1938, pp. 38-43); 'Burmese Composite Word Mò Kwan' (*BSOAS*, 1950, pp. 430-1).

² J. E. Bridges: *The Burmese Manual* (1906), p. 184.

kyi, large and ကေးလဲ: kalé, small when joined to such words as လူ lu, man and မင်း min, king, ruler are pronounced as if they were written ကြီး gyi, and ကေးလဲ: but the writing remains the same.' It should be noted in passing that Bridges does not, however, make use of this alternation of voice and voicelessness, to delimit 'words' in the sentence. Others, including Stewart,¹ state these features in much the same way as Bridges, though not necessarily in terms of the Burmese script.

In the most recent published statements to deal with these junctional difficulties Cornyn,² and McDavid,³ to some extent depart from previous usage, and to some extent follow it. They depart from it by setting up three types of 'juncture', termed by McDavid 'close juncture, internal-open juncture, and external-open juncture' (op. cit., p. 6), and by Cornyn 'close' and 'open juncture', though in fact two types of juncture are described under the one term 'open' (op. cit., p. 9). It is questionable, however, whether they have exploited to the full the advantages to be gained from such a statement: what Bridges accounts for as the softening of a hard consonant, and Stewart as a change of Consonant, Cornyn and McDavid treat somewhat similarly as a change of consonant phoneme: 'When a syllable with an unvoiced initial consonant is preceded in close juncture by a syllable in tone I, II, or III, the unvoiced initial consonant is replaced [my italics] by a voiced consonant as follows: unvoiced stops, affricates, and normal sibilants are replaced by the voiced phoneme of the same position: louppá "do (it)"; lábá "come"; . . .' (Cornyn, op. cit., p. 10); and similarly McDavid: 'If the preceding syllable has Tones I, II, III, then fortis stops and postdental spirant, and clusters of stop or spirant plus /h/ . . . become [my italics] voiced (lenis) stops and spirants' (op. cit., p. 15).

JUNCTION AND THE PROSODIC APPROACH

The purpose of this article is to state the features of intersyllabic junction in accordance with the Prosodic Approach.⁴ The advantages that, it is claimed, accrue from the use of the Prosodic Approach are: I. that the Prosodic

¹ J. A. Stewart, C.I.E., M.C., LL.D., *An Introduction to Colloquial Burmese*, p. 4. Under the heading of 'Assimilation of Consonants within Words or Phrases': 'In 'pan' a flower and 'pan'o flower-pot, ṅ represents a mere nasalization of the preceding a. But before certain consonants, it changes to n, m, or ng (its sound as an initial). It may also cause changes in the consonants following it. Thus 'pan na asthma is pronounced 'pan na. 'Pan followed by tain, a post (flower post, winning-post) itself changes to 'pan and causes a change of the t of tain to d - 'pan dain.' Other similar examples are given 'where a glottal stop is involved', and under the heading 'Change of Voiceless to Voiced Consonants within Words and Phrases' (op. cit., p. 5).

² William Cornyn: 'Outline of Burmese Grammar,' *Language*, Vol. 20, No. 4, Supplement.

³ Raven I. McDavid, Jr.: 'Burmese Phonemics,' *Studies in Linguistics*, Vol. 3, No. 1, 1945.

⁴ For the promulgation of this theory see J. R. Firth: 'The Technique of Semantics,' *TPS*, 1935, and 'Sounds and Prosodies', *TPS*, 1948; for a bibliography of publications in which this theory has been used see R. K. Sprigg, 'The Tonal System of Tibetan (Lhasa Dialect),' *BSOAS*, XVII, Pt. 1, p. 134, note 2.

Approach disposes of the need to make use of the suspect concept of assimilation¹; II. that it further renders possible the symbolization of a given lexical item by a single phonological formula,² no small lexical and grammatical advantage³; III. that the resulting emphasis on the unity of the word suggests the possibility of stating tonal systems for the word rather than the syllable,⁴ and thus of bypassing the need to classify particles tonally.⁵

The Prosodic Approach is here applied to selected utterances in Spoken Burmese.⁶ Of the various levels of analysis⁷ that constitute the Prosodic Approach the situational, the lexical, and the collocational are implied in the acceptance of the Burmese examples by the informants: they were satisfied that each could be contextualized within the wider context of Burmese life. The levels with which this article deals explicitly are those of phonetics, phonology, and grammar.

At the grammatical level Stewart's three main grammatical categories, Noun, Verb, Particle (op. cit., p. i) have been accepted for the purposes of this article.⁸

At the phonological level the phonic data is dealt with in terms of the two orders of phonological abstraction, the prosodic and the phonematic. Only one prosodic system is here stated in detail—the prosodic system of Junction;

¹ For a criticism of 'assimilation' see W. S. Allen: 'Some Prosodic Aspects of Retroflexion and Aspiration in Sanskrit,' *BSOAS*, XIII, Pt. 4, pp. 939-40.

² cf. also A. E. Sharp, 'A Tonal Analysis of the Disyllabic Noun in the Machame Dialect of Chaga,' *BSOAS*, XVI, Pt. 1, p. 169.

³ The monosystemic Phoneme Theory requires the use of a number of orthographic forms for a single lexical item, and the arbitrary choice of one of them as the norm: 'Tone IV: . . . the glottal closure is replaced by a plain unvoiced stop of the same position (8) as the initial sound of the following syllable' (Cornyn, op. cit., p. 9); 'Tone IV: **θauppá** "drink"; **θaummé** "(he) will drink"; **θautté** "(he) drinks"; **maθauθθéibú** "(he) has not drunk yet"' (Cornyn, op. cit., p. 10); it should be noted that in the Burmese script the orthographic form corresponding to 'θaup-', 'θaum-', 'θaut-', etc., is invariable: သောက်.

⁴ For the stating of Tonal systems for the word rather than for the syllable see R. K. Sprigg: 'Verbal Phrases in Lhasa Tibetan—I,' *BSOAS*, XVI, Pt. 1, pp. 150-4; 'The Tonal System of Tibetan (Lhasa Dialect) and the Nominal Phrase,' *BSOAS*, XVII, Pt. 1, pp. 134-54; J. Burton-Page: 'Two Studies in Gurung-kura: I. Tone; II. Rhotacization and Retroflexion,' *BSOAS*, XVII, Pt. 1, pp. 111-16.

⁵ cf. R. K. Sprigg, 'The Tonal System,' op. cit., p. 152.

⁶ The examples are selected sentences either taken from, or based on, *An Introduction to Colloquial Burmese* (J. A. Stewart, Rangoon, 1936), as spoken by U Tin Maung, of Sagaing, Upper Burma, but with the exception of the examples in (a) the section dealing with \overline{sr} Junction in relation to the disyllabic and the trisyllabic Noun (pp. 111-16), for which I am indebted in the first place to U Than Tun, and also to Dr. Hla Pe and U Tin Hla for further examples arising out of a discussion of the original material; and (b) the section dealing with the four-term Tonal system (p. 128), for which I am indebted to U Tin Hla.

The texts are three passages from the same book, as spoken by Professor U. E. Maung, Professor of Burmese in the University of Rangoon, from the Bassein area of Lower Burma. Professor U. E. Maung kindly consented to edit and record these passages during a visit to this country in 1949. Although all the examples were in fact read from a written text, the style of pronunciation used was not the Reading Style.

⁷ For levels of analysis see J. R. Firth: 'Technique of Semantics,' *TPS*, 1935, pp. 61-4.

⁸ Cornyn also is in substantial agreement with these main categories, op. cit., p. 11.

but it has been found necessary to refer briefly to other prosodic systems: those of Tempo (p. 107), Stress (pp. 110-11), Quantity (p. 127), n/\bar{n} ('n', non-'n'; p. 128), $n/\bar{n}/g$ ('n', non-'n', 'g'; p. 127-8), h/\bar{h} ('h', non-'h'; p. 112), y/\bar{y} ('y', non-'y'; p. 129), w/\bar{w} ('w', non-'w'; p. 129), $Y/W/\bar{\Delta}$ ('front', 'back', 'neutral'; p. 109 n. 3), and d/\bar{d} ('d', non-'d'; p. 112).

With one exception these various systems are considered below in such detail as their relevance to the statement of junction warrants. The Tempo system, however, is made use of in the immediately following section; and it is therefore desirable at least to illustrate the phonetic criteria by which the terms of this system are identified. The Tempo system recognized here is a system of two terms statable for the phrase: Fast Tempo (ft), Slow Tempo (st). The criteria may be briefly illustrated as follows; they relate to features characterizing the phonematic units C- and -C:

st :	θautt̄:	məθaupphu:	kaunn̄:	la:ba:de:
ft :	θaut̄:	məθauphu:	kaun̄:	la:βa:re:
	သောက်သည်	မသောက်ဘူး	တောင်းသည်	လါပါသည်

In the following section, in which phonetic criteria are given for Intraverbal and Interpersonal Junction, certain criteria are specified as appropriate to either Fast Tempo, hence labelled ft, or Slow Tempo (st). Criteria left unlabelled may be taken as statable for either term of the Tempo system.

As far as the complementary order of abstraction at the phonological level is concerned—the phonematic order, in terms of which systems are stated for the generalized elements of syllable and word structure 'C' and 'V' within the appropriate prosodic contexts previously stated—it is not in fact necessary for the purpose of stating the phonetic criteria of Intra- and Interpersonal Junction to go beyond those generalized elements; the structures recognized for the syllable in Spoken Burmese comprise CV, CVC.¹

Since all abstractions at the phonological level, whether prosodic or phonematic, are stated through the medium of *ad hoc* systems,² and the value of each term in a system is in proportion to the total number of terms in that system; it is clear that phonological symbols are purely formulaic, and in themselves without precise articulatory implications. In order therefore to secure 'renewal of connection' with utterances, it becomes necessary to cite abstractions at another level of analysis, the Phonetic level: abstractions at the Phonetic level are stated as criteria for setting up the phonological categories concerned, and as exponents of phonological categories and terms.

¹ These two types of syllable structure are exemplified in the initial syllable of the following words:

CV :	ma:de:, sa:de:, teide:, ga:za:de:, səje:, ade:, jade: မှာသည်။ စားသည်။ ကြည့်သည်။ ကစားသည်။ စာရေး။ အသည်။ ရသည်။
CVC :	mande:, phande:, mjunde:, θautde:, gəz̄:, wot̄de:, jeinde:. မုန့်သည်။ ဖမ်းသည်။ မြင့်သည်။ သောက်သည်။ ကန်စင်း။ ဝတ်သည်။ ယိမ်းသည်။

The Non-stressed syllables (CV : **gə-, sə-**; CVC : **gə-**) are discussed at p. 110 below.

² For the term 'system' see W. S. Allen: 'Retroflexion in Sanskrit,' *BSOAS*, 1954, Vol. XVI, pt. 3, p. 556, note 2.

The Phonetic categories of abstraction differ from the *ad hoc* categories of Phonology in being a corpus of types of articulation, e.g. plosion, voicelessness, labiality.¹ These categories are, however, thus far without a recognized symbolization: the symbols used by Sweet² for his phonetic categories, which correspond to those of the Phonetic level in the Prosodic Approach, are no longer in use; and no others have since been devised. In the phonetic transcriptions given below it has therefore been necessary to have recourse to the internationally recognized symbols of the International Phonetic Alphabet (I.P.A.),³ in spite of the fact that the I.P.A. is designed for an altogether different purpose: the symbolization not of types of articulation but of typical speech sounds. The I.P.A. contains no independent symbols for such categories of articulation as those referred to above (plosion, voicelessness, labiality) but only cumulate symbols for more than one articulation, e.g. friction + dentality + voicelessness [θ], plosion + labiality + voice [b]. The I.P.A. symbols are thus often more detailed than is relevant to the point at issue: it is impossible to symbolize e.g. nasality without being simultaneously committed I. to labiality [m/ɱ], alveolarity [n/ɳ], velarity [ŋ/ʝ], etc.; and II. to voice [m/n/ɳ] or voicelessness [ɱ/ɳ/ʝ].

Certain phonetic features have been excluded from all except a very few of the phonetic transcriptions; these are: I. pitch features, II. voice-quality features. Symbolizing these features would have added considerably to the complexity of the phonetic transcriptions with no corresponding gain to the present thesis.

TWO-TERM JUNCTION SYSTEM: INTRAVERBAL, INTERVERBAL

In this article the techniques of the three levels of analysis described above, Phonetic, Phonological, and Grammatical, have been applied to selected utterances in the Spoken Style⁴ of Burmese with the object of setting up a two-term prosodic system of Junction. The two terms of the Junction system are named Intraverbal and Inter-verbal because the two terms may be used for the delimiting of the 'word unit' within clause and phrase.⁵ Inter-verbal Junction refers to the junctional relations of syllables at word boundaries, and therefore also at clause and sentence boundaries: Intraverbal Junction refers to the junctional relations of syllables when not at word boundaries. Characteristically word-initial and word-final phonetic features are dealt with

¹ On the lack of recognized phonetic categories with an agreed terminology see W. S. Allen: 'Retroflexion in Sanskrit,' op. cit., p. 557, note 3.

² For Sweet's phonetic categories and the symbols allotted to them see Henry Sweet: *A Primer of Phonetics*, especially pp. 24-5, 41.

³ Since certain of the I.P.A. symbols have been allotted more than one phonetic category, it becomes necessary to distinguish **t**, **th**, **d**, **n** as alveolar; the symbols **te**, **teh**, **dz** have been used for alveolar affricates with dorsal contact.

⁴ For the Spoken Style see above, p. 106, note 6.

⁵ An identical systemic statement may be made for the junction of syllables in the Lhasa dialect of Spoken Tibetan. Not only is it also possible to state for Spoken Lhasa Tibetan a two-term junction system but there is even a similarity in the phonetic criteria. See R. K. Sprigg: 'The Tonal System,' op. cit., pp. 135-9.

as criteria of Inter-verbal Junction: characteristically non-word-initial and non-word-final features are dealt with as criteria of Intra-verbal Junction.

It must be admitted that the word in Burmese is not a phonetic entity¹: it cannot be delimited solely by appeal to phonetic criteria. In those instances of junction in which phonetic criteria for assigning the instance to either Intra- or Inter-verbal Junction are lacking, it is necessary to fall back on convenience of grammatical statement; but how far it is possible to go towards delimiting the word without an appeal to the grammatical level of analysis will appear from the examples given below.

In this article Inter-verbal Junction is symbolized by space, and Intra-verbal Junction by absence of space.²

The phonetic criteria for I. Intra-verbal Junction, and II. Inter-verbal Junction comprise the following features; these features characterize initial consonant (C-), final consonant (-C), and vowel (-V, -V-) according to the syllable structure of the syllables concerned in the junction:

I. *Intraverbal Junction.* (-VC-/-CC-)

The phonetic criteria stutable for Intra-verbal Junction are considered under two main heads: A. Non-stressed-syllable Junction, or, more briefly, Non-stressed Junction, in which the former of the two syllables in the junction is a non-stressed syllable (strCV/strCVC)³; B. Stressed-syllable Junction, or, more briefly, Stressed Junction, in which the former of the two syllables in the junction is a Stressed syllable (strCV/strCVC). The reason for stating the phonetic criteria of Intra-verbal Junction by reference to the Stress system rather than by reference to e.g. syllable structure is that the phonetic criteria stutable for Non-stress (str) are also and equally criteria of Intra-verbal Junction, with the result that a Non-stressed syllable (strCV/strCVC) may be regarded as invariably in an Intra-verbal-Junction relationship with the latter syllable

¹ cf. Daniel Jones, 'The Word as a Phonetic Entity' (*Maitre Phonétique*, October-December, 1941).

In Spoken Burmese the word is not a phonetic entity in this sense, though it is not far removed from it; that is, there are instances of intersyllabic junction where, as will be seen from the texts, there are no phonetic criteria for distinguishing Inter- and Intra-verbal Junction, and recourse must be had to extraphonetic criteria. Cf. also R. H. Robins: 'Formal Divisions in Sundanese,' *TPS*, 1953, pp. 111, 124.

² See J. A. Stewart: *Manual of Colloquial Burmese*, Pt. 1; in this work space and absence of space are systematically used in both Burmese and Roman scripts in such a way that they exactly correlate with the Inter- and Intra-verbal Junction as stated in the present article.

³ The prosodic type referred to is the 'θ' term of a three-term system: Y/W/θ. An account of this prosodic system lies outside the scope of the present article; but the three terms may be exemplified from the Noun category as follows:

Y: mi:, shi:, ŋi:, ei?, mji?

မိး၊ ဆိး၊ ဂိး၊ ဝိး၊ မိး။

θ: le:, θwe:, sa:, mji:, əθ, lā:, le?, θəθ, tsa?

လဲး၊ ဝဲး၊ ဆး၊ မိး၊ ဝဲး၊ လာ်၊ လဲး၊ ထဲး၊ တဲး။

W: po:, tsaū:, θə, mōū, θu:, shāi:, dou?, tchau?, shai?

ပိုး၊ တဲး၊ ဝဲး၊ ထူး၊ သူး၊ ဆိး၊ ထူး၊ တဲး၊ ဆိး။

With a very few exceptions a str/str system may not be stated for Y and W syllables. The

of the junction ; the special relationship of \overline{str} and Intra-verbal Junction has therefore been emphasized at the outset (the criteria of \overline{str} , however, are without any such implications, whether of Intra- or Inter-verbal Junction). To identify a syllable as \overline{str} is thus equivalent to identifying an example of Intra-verbal Junction ; it follows that a \overline{str} syllable may not be final in word, phrase, or sentence.

A. Non-stressed Junction.

The phonetic criteria of Intra-verbal Junction when the former syllable of the junction is a \overline{str} syllable (and therefore the criteria of \overline{str} also) comprise :

- (1) Syllable whole : lesser degree of prominence.
- (2) $-V/-V-$ $-C-$
- (a) centralness : ə plosion \pm voice : $\text{p/ph/b/t/th/d/k/kh/g/te/}$
 tch/dz/ʔ
friction \pm „ s/sh/z/ç/θ/ð
nasality \pm „ m/n/ɳ/ŋ/ŋ̃/p/ɸ
laterality \pm „ l/ɭ
labiovelarity : w
- (b) frontness ɪ palatality : j
+ half-close aperture
- (3) (ft) $C-$
- $CV(C)$ plosion : θkh/θth/ekh
- friction palatality
- „ + voicelessness : sʃ
- nasality laterality : ml

There is no syllable-initial consonant (C-) or syllable-final consonant (-C) in Burmese for which the articulations listed at § 3 above, friction and plosion (θkh), etc., may be stated as exponents ; these articulations must therefore be attributed to more than one syllable. They are not, however, to be attributed to Stressed Junction whether Intra-verbal Junction or Inter-verbal : although -CC- in Stressed-Intra-verbal Junction may be characterized by friction, (θθ), laterality (ll), nasality (mm), etc. (see § B2 below), it may not be characterized by both friction and plosion (θkh, etc.), nasality and laterality (ml). The phonetic features given at § 3 above may therefore be stated as (fast tempo) criteria of \overline{str} , and therefore also as criteria of Intra-verbal Junction.

two-term Stress system provides for the stating of such differences in the phonetic shape of syllables as : (a) sa:/sɪ (စာ), (b) θu:/θ (သူ), (c) ɳa:/nə (နာ), (d) kā:/gə (ကန), e.g.

- (a) str : sa: je:me: (စာ ရေးမည်။)
- \overline{str} : $\text{sje:dzɪ: be: θwa:mlɔ:}$ (စာရေးကြီး ဘယ်သွားမလို့လဲ။)
- (b) str : θu: kho:laipɸi: (သူ ခိုးလိုက်ပြီ။)
- \overline{str} : θkho: laipɸi: (သူ့ခိုး လိုက်ပြီ။)
- (c) str : mjɛnə: θa:de: (မျက်နှာထား ထားသည်။)
- \overline{str} : mjɛnəθa: tɛi:de: (မျက်နှာထား ကြီးသည်။)
- (d) str : kā: je: pjene:bi: (ကန့် ရှေ့ ပြည့်နေပြီ။)
- \overline{str} : gəzɪ: pθə:ne:de: (ကန့်စင်း ဖေါ် နေသည်။)

Examples of Non-stressed Intra-verbal Junction may be given as follows :

- $\text{kəleθhāi: gəθɪ:, ʔeindāu: pəriβə:ɡu ʔəθōu: ja ɳainde:}$ (ကလေးထိုင်၊ ခုထိုင်၊ ဆိမ်ထောင် ပရိဘောဂ အစုံ ရ နိုင်သည်။)
- $\text{sje:dzɪ: be: θwa:mlɔ:}$ (str-, -ml-)
- စာရေးကြီး ဘယ် သွားမလို့လဲ။
- $\text{zəβwe:do: tɪjau? θa:me:}$ (zə-, -t-)
- စားပွဲထိုး တယောက် ထားမည်။
- $\text{θkhɪ: be:ma: θwa: pɪθθəle:}$ (θkh-, -θə-)
- သခင် ဘယ်မှာ သွား ပစ်သလဲ။

Being invariably in an Intra-verbal-Junction relationship with the latter syllable of the junction, \overline{str} syllables are thus prosodically bound to other syllables within the limits of the word.

The case for correlating \overline{str} with Intra-verbal Junction may, however, be reinforced by the statement of phonetic features, in addition to the phonetic criteria adduced above, that serve to link the \overline{str} syllable to the latter syllable (C-) of the \overline{str} syllable and the initial consonant of the latter syllable (-C-), whether str or \overline{str} ; they may be illustrated in the first instance from examples of disyllabic nouns in which C- is characterized by both dentality and friction (θ/θ) and -C- by plosion (b/d/g/dz/ph/th/kh/tch) ; in such examples either both C- and -C- are characterized by voice, or they are both characterized by voicelessness :

- | | | |
|----------------------------------|---------------------|----------------------------------|
| | $C-$ | $-C-$ |
| (1) dentality + friction + voice | plosion + voice : | $\text{θ} + \text{b/d/g/d}$ |
| (2) „ + „ + voicelessness | „ + voicelessness : | $\text{θ} + \text{ph/th/kh/tch}$ |

Examples as follows :—

- (1) θədzɪ: သူကြီး θəde? သွားတက် θəbau? သားပေါက်
- (2) θəkho: သူခိုး θətchi: သွားချေး θətɰe: သားထွေး

Somewhat similarly where both C- and -C- are characterized either by plosion, or by friction + alveolarity, and C- is further characterized by voice ; so also is -C- :

- | | | | |
|--|-------------------------------------|------------------------------------|--|
| | $C-$ | $-C-$ | |
| plosion + voice | plosion + voice | } | b/d/g/dz/z
$+ \text{b/d/g/dz/z}$ |
| friction + alveolarity | friction + alveolarity | | |
| + voice | + voice | | |
| e.g. zəβwe: စားပွဲ gəza: ကစား dzəbo: ကြမ်းပိုး dəɡu: တံခါး | | | |
| | (nwa: dəgāu: (နွား) တကောင် | (ɳwe:) dədzə? (ငွေ) တကျပ် | |

In stating \overline{str} junction it is necessary to refer to two of the prosodic systems mentioned above : d/d̄, h/h̄. The exponents of the terms of these two systems must be stated separately (1) for Verbal Phrase, and Nouns in ə- including the Verbal Noun ; (2) for disyllabic and trisyllabic Nouns other than those in ə-.

(1) Verbal Phrase, and Nouns in အ- .

The order of grammatical categories in the Verbal Phrase treated below is : Negative Particle (မ) + Verb.

The initial consonant of the Negative-Particle syllable is therefore in each case initial in the word ($C-$), and that of the Verb is non-initial ($-C-$). In the case of the Negative Particle $C-$ is characterized by labiality + nasality + voice (m); and in the case of the Noun by glottal plosion (ʔ), though not in all instances.

The phonetic criteria of d and \bar{d} comprise :

d :	dentality	$\theta/(\delta)$ ¹
\bar{d} :	non-dentality :	e.g. $p/th/\eta/c/w/l$, e.g.
d :	məθiba:bu:	məθwa:ba:me ?əθe? (bəlau? cibəle:) မသိပါဘူး။ မသွားပါနှင့်။ အသက် (ဘယ်လောက် ချိမြဲလဲ။)
\bar{d} :	məhoupha:bu:	məthounne ?əp̄ndzi:la: မဟုတ်ပါဘူး။ မထုပ်နှင့်။ အပင်ကြီးလား။

Syllables may therefore be classified as d or as \bar{d} syllables. The junction of the relevant st̄r syllables and d syllables may be stated as follows :

	$C-$	$-C-$	
labiality + nasality + voice (မ)	} dentality + friction + voicelessness : $m + \theta$		
glottality + plosion (အ)		} $\text{ʔ} + \theta$	
e.g. məθau? (naimba:bu:)	məθwa:bu:dzabu:		(. . . jōŋ:) əθi:
	မသောက် နိုင်ပါဘူး။	မသွားဘူးကြဘူး။	(ရုံး) အသင်း

In the case of \bar{d} syllables a further prosodic statement is necessary : syllables may be assigned to one or other term of the two-term system h/\bar{h} . The Phonetic criteria of h and \bar{h} comprise :

plision	} + { h : aspiration : ph/th/kh/tch/sh/h	
friction + alveolarity		} + { \bar{h} : non-aspiration : p/t/k/te/s/?
nasality		
laterality		
labio-velarity, palatality	} + { h : voicelessness : mp/np/ŋp/l/ɸ/c	
		} + { \bar{h} : voice : m/n/ŋ/n/l/w/j
e.g. h		

məthounne	မထုပ်နှင့်။	məp̄eipba:me	မပိတ်ပါနှင့်။
(bəθu:) məsho:	(ဘယ်သူ) မဆို။	məsammiba:bu:	မစမ်းမိပါဘူး။
məhoupha:bu:	မဟုတ်ပါဘူး။	mə?eipba:bu:	မအိပ်ပါဘူး။
məŋa:de:bu:	မငှီးသေးဘူး။	məme:bu:	မမေးဘူး။
məjone	မလှုပ်နှင့်။	məlouphu:βu:	မလှုပ်ဘူးဘူး။
məwebu:	မဝေ့ဘူး။	məwophu:	မဝတ်ဘူး။
məəone	မလျော့နှင့်။	məjaipbu:	မချိတ်ဘူး။
?əkhā: . . .	အခန်း	?əpo:da:pa: . . .	အပေါ်ထပ်မှာ
?əshe: . . .	အဆယ်	?əse:gā: . . .	အစေခဲ
?əpa: . . .	အမှား	ənaumbje: . . .	အညောင်းပြေ
?əja . . .	အလှ	?əloukŋa . . .	အလှုပ်က
?əəəəkŋa . . .	အရှေ့ဘက်က	əjāŋ: ?əwe: . . .	အရောင်းအဝယ်

¹ Both voice and voicelessness (δ/θ) have been recorded as features of the initial consonant of the verb သွား for the same speaker ; it has not so far been found possible to systematize this alternation.

(2) Disyllabic and trisyllabic Nouns, other than those in အ .

While it is necessary to refer to the same two prosodic systems, d/\bar{d} , and h/\bar{h} , as are stated at § 1 above for disyllabic and trisyllabic nouns also, the exponents of d , and of h/\bar{h} , are not necessarily the same here as in the preceding section. A more complicated statement is required ; and, while the prosodic statement advanced here is thought to deal with the bulk of the material, it must be considered as tentative only.

First to be considered, at (a) below, are examples in which one of the syllables is a d syllable ; where it is the initial syllable that is a d syllable, $C-$ and $-C-$ are characterized by the following features, according as the second syllable is a h or a \bar{h} syllable :

(a) *d* syllable

	$C-$	$-C-$	
voicelessness :	θ	{ (i) (h) aspiration + plosion : kh/th/tch/ph (ii) (\bar{h}) voice : m/n/ŋ/n/l/?	
voice :	δ	{ " + " : b/dz/d	
e.g.			
(i) θakho:	သုခိုး	θətə:	သုဌေး
(ii) θəŋ:	သုငယ်	θəmji?	သွားမြစ်
ðədzi:	သုကြီး	ðəgaumbju	သုကောင်းပြု
		ðəde?	သွားတက်

Where it is the second syllable that is a d syllable, an alternation of the features voice and voicelessness has been recorded in what appears to be prosodically the same type of junction ; it has not so far been found possible to systematize this variation :

$C-$ $-C-$

(i) (h) voicelessness + nasality :	ŋ	voicelessness :	θ
(ii) (\bar{h}) voice + nasality :	n/ŋ	" :	θ
" :	n/ŋ	voice :	ð
" plosion :	b	" :	ð
voicelessness + plosion :	p/t	voicelessness :	θ

e.g.

(i) ŋəθāŋ:	နှစ်သောင်း	ŋəθā:	နှစ်သန်း	ŋəθāi:	နှစ်သိန်း
(ii) nəθāndi:	နားသင့်သီး	ŋəθəlaun?	ငါးဆလောက်	nəθwe:	နားသွယ်
ŋəθāle:do:	ငါးသလံထိုး	nəθo:	နှားသိုး	nəθa:	နှဲသာ
bəθu:	တယ်သူ				
pəθwe:	ပါးသူယ်	təθe?	ကျားသစ်		

(b) Secondly there is the type of st̄r junction that is confined to \bar{d} syllables (h and \bar{h} syllables). The following types of junction are possible within \bar{d} junction :

- (i) h syllable + h syllable ;
- (ii) h syllable + \bar{h} syllable ;
- (iii) \bar{h} syllable + h syllable ;
- (iv) \bar{h} syllable + \bar{h} syllable.

In these four types of *d* junction, C- and -C- are characterized by the following features:

(i)	(h)	C-	(h)	-C-
	plosion friction	} + aspiration :	{kh sh	} + aspiration : ph/təh/ sh
	nasality friction		+ voicelessness : ɲ + ,, : c	

e.g.

khəshɪ [?]	ခါးဆစ်	khətəhɪ [?]	ခါးချပ်	shəjɔ:	ဆန်လှေ့
ɲətəhɪ [?]	နှစ်ချပ်	ɲətɪ [?]	နှစ်နှစ်	ɲət:	နှစ်ယဉ်း
cəkhɔ:	ခိုခို	ɲəkħāū:	နှာခေါင်း		

(ii)	(h)	C-	(h̄)	-C-
	plosion friction	} - aspiration :	{p k/s	} + voice : b/g/ d/z
	plosion friction		} + ,, :	
	nasality	+ voicelessness : ɲ		{plosion nasality laterality palatality

e.g.

ɲəgōū:ɲɪ:	ဖားခိုညှင်း	kəbɪ [?]	ခါးပတ်	təbɔ:	ထမ်းခို
thəmi:	ထမ်း	phəna [?]	ဘိနပ်	shənɰɪ:	နံနင်း
ɲətca [?]	နှစ်ကျပ်	ɲətāi:	နှစ်တိုင်	khɯji:	ခရီး
ɲəma	နှစ်မ	ɲəlōū:	နှစ်လုံး	ɲtjau [?]	နှစ်ယောက်

(iii)	(h̄)	C-	(h)	-C-
	plosion friction	} + voicelessness : p/t/ k/tɕ	{plosion friction nasality friction laterality	} + aspiration : tɕh/ph/sh/ kh/th/h + voicelessness : ɲ/ɲ/ ɲ̄/l/c
	nasality laterality palatality		+ voice :	

e.g.

ɲətchei [?]	ပါးချိတ်	təkħa:	တခါ	tɕəthi:	ကျားထီး
səɲi:	စာညှင်း	təɲɪ [?]	တနှစ်	təɲɔ:	သူလှူ
ɲəkħāū:	နှာခေါင်း	ɲəshā:	နှားဆန်	ɲəhɪ [?]	ငါးဟစ်
məjāi:	မလှိုင်	ɲəmja:dā:	ငါးမျှားတံ	ɲət:	ငါးရှင်
ləpħeje:	လှော်ရည်	jəthɪ:	ရထား	wətchā:	ဝါးခြမ်း
wəshɪ [?]	ဝါးဆစ်	wəɲa [?]	ဝါးညှပ်	təkəde:	တခါတည်း
jətəmu:	ရထားမူး	mjənnəthɪ:	မျက်နှာထား		

In the $\bar{h} + h$ junction, exemplified above, plosion in *h* syllables is co-articulated with aspiration in stressed syllables (*str*) and with absence of aspiration in non-stressed syllables (*s̄tr*) e.g. **təkəde:**, c.f. **təkħa:** (တခါတည်း/တခါ); **jətəmu:**, c.f. **jəthɪ:** (ရထားမူး/ရထား). Somewhat similarly nasality in *h* syllables is co-articulated with voicelessness in *str* syllables, and with voice in *s̄tr* syllables, e.g. **mjənnəthɪ:** (မျက်နှာထား), c.f. **mjəɲa:** (မျက်နှာ).

There are a number of examples of what might appear to be $\bar{h} + h$ junction in which the second syllable can be established as a *h* syllable, but the first has an exceptional feature: plosion + voice, e.g. **bəhɪ[?]** (ပါးဟစ်); it is possible that such examples should be excluded from the primary system.¹

(iv)	(h)	C-	(h̄)	-C-
	plosion friction laterality	} + voice :	{plosion friction	} + voice : b/d/g/dz/z
	plosion friction		} - voice : p/t/k/tɕ/s	
	nasality	+ voicelessness : tɕ/t		{glottality + plosion
	nasality	+ voice : m/n	plosion	+ voice : dz/g/b/d/z
	"	" : ɲ	"	- voice : p/k

e.g.

zəbwe:	စားပွဲ	dəgāū:	တကောင်	gəɲɪ:	ခုတင်
ləbāi:	လပိုင်	ləda	လင်းတ	təma [?]	တမတ်
təəma	ကျားမ	pəlwe:	ပြေ	kəla:	ကုလား
tjau [?]	တယောက်	sɯje:	စာရေး	pəjo:	ပါးခိုး
mɯja:	မယား	nəma	နှားမ	nəlā:	နာလှန်
mədzi:	မန်ကျည်း	ɲəbjā:	ငါးပျံ	ɲəɲɪ:	နှားကင်း
ɲəpi	ငါးပိ	ɲəpounna:	ငါးပုတ္တား	ɲəɲjo:	ငှက်ပျော

It has not been found possible to account for the alternation of voice and

¹ For the distinguishing of 'primary' from other systems see Eugénie J. A. Henderson in 'The Phonology of Loanwords in some South-East-Asian Languages' (*TIPS*, 1951, pp. 131-2).

voicelessness in e.g. **mədʒi:** and **nəbjā:** (မန်ကျည်း, ငါးပျံ) as compared with **nəpi** and **nəpjo:** (ငါးမိ, ငှက်ပျော).

A number of examples in which C- is characterized by voice + plosion in comparison with the voicelessness + plosion of the above statement have been treated either as outside the primary system or as exceptions: **dəmja** (တေးပြ), **bəlau?** (ဘယ်လောင်), **bəlu:** (ဘီလူး).

It is of interest that in syllables in which the initial consonant is characterized by plosion voicelessness-aspiration may be an exponent of both h and ĥ, but not in the same type of junction, e.g. h : **kəba?** (h + ĥ junction), but **khəshi?** (h + h junction) (ခါးဝတ်, ခါးဆစ်) cf. ĥ **pətshəi?** (ĥ + h junction), but **bəzāū:** (ĥ + ĥ junction) (ဝါးချိတ် ဝါးတောင်). The exponents of h and ĥ have thus little if any significance unless specifically related to one of the types of junction: when C- is characterized by plosion + voicelessness - aspiration and -C- by voice, it is the voicelessness - aspiration and the voice combined that may be stated as a criterion of h + ĥ junction, the initial syllable being then identifiable as a h syllable; when C- is characterized by voicelessness - aspiration and -C- by aspiration, it is the voicelessness - aspiration and the aspiration combined that are criteria of ĥ + h junction, the initial syllable being then identifiable as a ĥ syllable.

In trisyllabic nouns of which the medial syllable is non-stressed ($\overline{\text{str}}$ /str syllable + $\overline{\text{str}}$ syllable + str syllable, e.g. **mujəkhə:**, မယားခိုး) the initial consonant of the final syllable is characterized by the following features:

plosion } friction }	+	{ (h) aspiration : ph/th/kh/tch/sh (ĥ) voice : b/d/g/dz/z
nasality } laterality } palatality }	+	{ (h) voicelessness : m/n/ŋ/l/ (ĥ) voice : m/n/ŋ/l/j/ŋ
glottality	+	plosion (ĥ) : ʔ
labiovelarity	+	voice (ĥ) : w
dentality (d)	+	{ voice : θ voicelessness : ð

e.g.

h :	mjənnətʃi:	မျက်နှာချေ	kələthāi:	ကုလားထိုင်
ĥ :	mjənnədʒi:	မျက်နှာကြီး	kələdɛ:	ကုလားထဲ
h :	zəgəɬi:	ကော့ရှင်	zəgəŋi?	ကော့ညှစ်
ĥ :	zəgəjei?	ကော့ရိပ်	əθəŋo:	အသားပြို
ĥ :	kələou?	ကုလားအုတ်	zəgəwa:	စံကားဝါ
d :	jətəθā:	ရထားသန်		
	mjənnəða:	မျက်နှာသာ	mjənnəði	မျက်နှာသိ

Here again it is difficult to account for the alternation of voice and voicelessness in the case of the d-syllable examples; the voicelessness feature is perhaps to be regarded as due to a spelling pronunciation.

B. Stressed-syllable Junction. (strCV/strCVC.)

Intrasyllabic junction in which the former syllable of the junction is a Stressed syllable may be considered under two main heads: (1) Junction in which the former syllable is of the structure CV, hence -VC- junction; and (2) Junction in which the former syllable is of the structure CVC, hence -CC- junction.

(1) -VC- junction

In -VC- junction, -V, and C-, are characterized by the following features:

	-V		C-
Frontness + close aperture	i/i:	Voice + plosion	dʒ
" half-close	e/e:	" (st):	b/d/g
" open	ɛ/ɛ:	friction:	z/ð
Backness + close	u/u:	" (ft):	β/ɣ/ɹ
" half-close	o/o:	Flapped articulation (ft):	r
" open	ɔ/ɔ:		
" " "	ɑ/ɑ:		

When long duration is a co-articulation of the features given above as characterizing -V (i/e/ɛ:, etc.), so also is clear voice-quality; and when short duration (i/e/ɛ, etc.), so also is glottal voice-quality.

Examples are as follows:

- θu: sə:zo: no:dɛ:** (-ə:z-, -ə:d-)
သူ စောစော နိုးသည်။
- θkho: tɹjəu? pʰəmmi:βi:** (-i:β-)
သူ့ဆိုး တယောက် ဖမ်းပြီးပြီ။
- tə:ro: tɛ:dɛ:** [(-ə:r-, -ɛ:d-)]
တော်တော် ကျယ်သည်။
- ʔeɪŋŋə zəβwə:do: pja:dɛ:** (-əβw-, -ə:d-)
အိမ်က စားပွဲထိုး ဖျားသည်။
- pədtɪmɔuɴ dɛgəβəuɴmja: əkhā:zi: thɛ:** (-əð-, -əg-, -əβ-)
ပြတင်းပေါက်နှင့် တံခါးပေါက်များ အခန်းဆီး ထည့်။
- ɛyā: loupʰho kaunɛ:** (ɛy-)
ဧည့်ခန်း လုပ်သို့ ကောင်းသည်။
- tɛāū:outdʒi: pjaβoja: sɑ:ɣələ: dəzāū: je: pɛ:ba:** (-əb-, -ɑ:ɣ-, -əz-, -ə:b-)
ကျောင်းအုပ်ကြီး ပြတိုရာ စာကလေး တစောင် ရေး ပေးပါ။

In intersyllabic junction in which -V is characterized by the features stated above, and C- by co-articulations of voice other than those stated above, e.g. by nasality (m/n/ŋ/n), laterality (l), or by a semivowel articulation (w/j), no phonetic criteria of Intraverbal Junction are statable. It may, however, be possible to identify examples of this kind as examples not of Intra- but of Interverbal Junction from the phonetic criterion pause; but where no pause

is perceived, the example may be categorized as Inter- or Intra-verbal only by convenience of grammatical statement, e.g.

da:ne pjatde: (-a:n-) ဝါးနှင့် ဖြတ်သည်။	da:ne ဝါးနှင့်	Noun + Particle (N + P)
gene mædwa:ba:ne (-a:n-) ဂနေ့ မသွားပါနှင့်။	mædwa:ba:ne မသွားပါနှင့်	(P + Verb + P + P)
sa:oumja: be:ma: ja painðəle: (-ε:m-); စာအုပ်များ အယ်မှာ ရ နိုင်သလဲ။	be:ma: အယ်မှာ	(N + P)

The criteria given above for Intraverbal (-VC-) Junction are not, however, entirely without exceptions: examples can be found that must be held to be examples of Interverbal Junction even though they exhibit some, but not all, of the phonetic features given above. These ambiguous features comprise:—

-V C-

Any of the features given above. Voice + plosion: **b/d/g/d**

friction: **z/ð**

(The features voice + friction (**β/γ/ɹ**), and flapped articulation (**r**) are always criteria of Intraverbal Junction.)

Examples as follows:

?eɪŋŋa zəβwe:do: pja:de: (-az-) အိမ်က စားပွဲထိုး ပျားသည်။		
pædumba:ne dægəbaumja: əkhá:zi: tɬe: (-εd-) ပြတင်းပေါက်နှင့် တံခါးပေါက်များ အခန်းဆီး ထည်။		
ze:go: la:de: (z-)		ဈေးကို လာသည်။
bəda:zo:lo je:me: (b-)		ဘဏ္ဍာစိုးလို့ ရေးမည်။
gakʁo: sa: je:me: (g-)		ဂိတ်ကို စာ ရေးမည်။
da:ne pjatde: (d-)		ဝါးနှင့် ဖြတ်သည်။

It is clear that the initial syllables of the words **ze:go**, **bəda:zo:lo**, **gakʁo**, **da:ne**, are to be reckoned as in Inter-verbal Junction, for all of these words are sentence-initial; in the previous two examples it is only on grammatical grounds that the example may be assigned. Fortunately the number of lexical items in the case of which C- is characterized by voice + plosion/friction in Inter- and Intra-verbal Junction alike is not great; further, some of them, including the examples given above, can be considered to be outside the 'primary' system¹; others, however, cannot, e.g.

bəðu:ne bəðu: gəza:ðəle:	(b-, b-, g-)	အယ်သူနှင့် အယ်သူ ကစားသလဲ။
di: ha: ba:le:	(d-, b-)	သည် ဟာ ဘာလဲ။
be:go: la:ðəle:	(b-)	အယ်ကို လာသလဲ။
gáũ: shaunde:	(g-)	ခေါင်း ဆောင်သည်။
gene mædwa:ba:ne	(g-)	ဂနေ့ မသွားပါနှင့်။
əkhĩ: be:ma: ðwa: pj.θθəle:	(b-, ð-)	အခင် အယ်မှာ သွား ပစ်သလဲ။

¹ See n. 1, p. 115.

The sum total of these lexical items, whether in the primary system or not, is not high; but their rate of occurrence in texts undoubtedly is.

With very few exceptions (e.g. **gəza**; ကစား), the lexical items concerned can be classified as members of the Noun category. Some part of their number is recruited from those disyllabic and trisyllabic nouns whose initial, or initial and medial, syllables are non-stressed (pp. 113-16 above):

zəba: saitde:	(z-)
ဓပါး စိုက်သည်။	
zəbəzai? θwa:ba:	(z-)
ဓပါးစိုက် သွားပါ။	
ðəðzi: mĩ: ba: loune:ðəle:	(ð-)
သူကြီး မင်း ဘာ လုပ်နေသလဲ။	

(2) -CC- Junction

In -CC- junction -V-, -C-, and C- are characterized by features as follows:

(a)	-C	C-
nasality + oral occlusion	voice + plosion (st):	mb/nd/ng/ndz
	friction:	ŋð
	nasality:	mm/nn/ŋŋ/ŋŋ

Examples as follows:

- pambĩ: je: laumbogo: bəðu: laumməle:** (st: -mb-, -mb-, -mm-)
ပန်းပင် ရေ လောင်းသူကော၊ အယ်သူ လောင်းမလဲ။
- di: gimməjĩ ?əjĩ: teade mɪmbe:** (st: -mb-) (ft: -mm-)
သည် ရှင်ဘုရင့် အရင် ကျသည့် မင်းဘဲ။
- sa:ousummja: be:ma: ja ŋaiŋðəle:** (-mm-, -ŋð-).
စာအုပ်စင်များ အယ်မှာ ရ နိုင်သလဲ။
- ?eindáũ: pəriβo:ga ?əsəũ: ja ŋaunde:** (st: -nd-, -nd-)
အိမ်ထောင် ပရိဘောဂ အစုံ ရ နိုင်သည်။
- ɛunnamba? jannáũ tɹja: wə:gəme:** (st: -nn-, -mb-) (ft: -nn-)
ရှမ်းနဲ့ပတ် ယမ်းတောင့် ၁၀၀ ဝယ်ခဲ့မည်။
- khəna wɹndzɪməla:** (st: -ndz-)
ခဏ ဝင်ကြည့်မလား။
- lā: əcebe:kʁa əpɹɹɹi:la:** (ft: -ŋŋ-)
လမ်း အရွှေဘက်က အပင်ကြီးလား။
- θouŋge** (st: -ŋg-)
သုံးခဲ့။
- θəkhĩ ?eɪŋŋa bəda:zo:be:** (ft: -ŋŋ-)
အမင့် အိမ်က ဘဏ္ဍာစိုးဘဲ။
- θu: { kaŋgáũ: } louŋá: θide:** (st: -ŋg-)
{ kaŋŋáũ: } (ft: -ŋŋ-)
- သူ ကောင်းကောင်း လုပ်မှန်း သိသည်။

θkho: tɿjau[?] { phambi:βi: (st : -mb-)
 { phammi:βi: (ft : -mm-)
 သူ့ခိုး တယောက် ဖမ်းပြီးပြီ။
 ʔɛyā: louppho { kaunde: (st : -nd-)
 { kaunne: (ft : -nn-)
 ဧည့်ခန်း လုပ်၍ ကောင်းသည်။

In some of the above examples a particular phonetic feature is assigned now to st and now to ft, e.g. -nn- (st : **cunnamba**[?] ရှင်နံပါတ်; ft : **jannāū** ဝမ်းတောင့်). This difference in category corresponds to a difference in prosodic type of junction : -nn- is treated as an example of st for those lexical items in which C- is invariably characterized by nasality, regardless of the type of Intraverbal junction (i.e. where C- summarizes such initial consonants as M-, N-, D-); and as an example of ft for those items in which C- is or is not characterized by nasality according to the type of Intraverbal Junction (i.e. where C- summarizes such initial consonants as P-, T-, K-).

(b) -C C-
 Oral closure plosion + voice (ft) : **pb/td/kg/ʔdz**
 voicelessness + laxness (st) : **ph/tq/kq/ʔqz**
 ,, + aspiration (st) : **pph/tth/kkh/ʔtqz**
təūouʔdʒi: pjaboja: sa:ʔəle: dəzāū: je: pə:ba: (-ʔdz-)
 ကျောင်းအုပ်ကြီး ပြည့်ရာ ဓာကလေး တစောင် ရေး ပေးပါ။
məhouppa:βu: (-pb-)
 မတုတ်ပါဘူး။
ŋəpɿjɿ: θwa:me: (-pɿ-)
 ငှက်ပိတ် သွားမည်။
ləpɿje θautde: (-td-)
 လွှက်ရည် သောက်သည်။
eikkhā: bəlau[?] ɛiðəle: (-kkh-)
 အိပ်ခန်း ဘယ်လောက် ရှိသလဲ။
təəno shi:ma: tha:bjɿkkhəde: (-kkh-)
 ကျွန်တော့် ဆီမှာ ထားပစ်ခဲ့သည်။
ʔɛyā: louppho kaunde: (-pph-)
 ဧည့်ခန်း လုပ်၍ ကောင်းသည်။

(c) -C C-
 friction voicelessness + friction : **ss/ssh/θθ/ɛɛ**
 e.g.
sa:oussummja: bə:ma: ja ŋainðəle: (-ss-)
 စာအုပ်စင်များ ဘယ်မှာ ရှိ နိုင်သလဲ။
θəkhɿ: bə:ma: θwa: pɿtθəle: (-θθ-)
 သခင် ဘယ်မှာ သွား ပစ်သလဲ။
ja:ma ba: saiθθəle: (-θθ-)
 ယာမှာ ဘာ ရိုက်သလဲ။

(d) -C C-
 lateral occlusion lateral occlusion : ll
 e.g.
θu: tɿwellailo pje:ade: (-ll-)
 သူ ထွက်လိုက်လို့ ပြေးရသည်။

(e) Further criteria of Interpersonal Junction are provided by the following features characterizing -V- when considered in conjunction with certain features characterizing C- :

	-VC		C-
diphthongization :	ei/ai/ou/au	aspiration (ft) :	ph/th/kh/tsh/sh
half-close aperture		glottality (ft) :	ʔ
+ centralization :	ɿ/o	nasality	} ± voice (ft) : { m/n/ŋ/p/l
		laterality	
open aperture			
+ frontness :	a	semi-vowel articulation :	j/w/ɥ
		friction — voice :	θ

e.g.
di:lo: laitda: mətəaiphu: (-aiph-)
 သည်လို လိုက်တာ မကြိုက်ဘူး။
pəðumbaunə dəgəbaumja: əkhā:zi: tɿ: θə (-aun-, -aun-)
 ပြတင်းပေါက်နှင့် တံခါးပေါက်များ အခန်းဆီး ထည့်။
ðoumja: bə:mətəhāū: ɛiðəle: (-oumj-)
 ဒုတိယား ဘယ်နှစ်ချောင်း ရှိသလဲ။
ʔautthamə: bə:nəkhā: ɛiðəle: (-am-)
 အောက်ထပ်မှာ ဘယ်နှစ်ခန်း ရှိသလဲ။
θu: ne:de mjauphe[?] bu:da:ʔəū: tweme: (-auph-)
 သူ နေသည့် ပြောက်ဘက် ဘူတာရုံ ထွေမည်။
zɿjamə: əjei[?] kaupəðəla: (-am-)
 စရပ်မှာ အရိပ် ကောင်းသလား။
θu: kaupəðəū: loumā: θide: (-oum-)
 သူ ကောင်းကောင်း လုပ်မှန်း သိသည်။
təhoqunde: (-əq-)
 ချွတ်ယွင်းသည်။
ðəgaumbju pɿune:de: (-un-)
 သူကောင်းပြု ဖြစ်နေသည်။
əpə:damə: bə:nəkhā: ɛiðəle: (-am-)
 အပေါ်ထပ်မှာ ဘယ်နှစ်ခန်း ရှိသလဲ။
bə: məpɿɿāū: sāū ɛaupba: (-ɿ[?]-)
 ဘေး မဖြစ်အောင် စောင့် လျှောက်ပါ။
θu: tɿwellailo pje:jade: (-ail-)
 သူ ထွက်လိုက်လို့ ပြေးရသည်။

II. Interverbal Junction. (-V C-/-C C-)

The same procedure has been adopted for stating the phonetic criteria of Interverbal Junction as for Intra-verbal Junction above: the phonetic criteria have been associated with a junction final (-V, -C) and with a junction initial (C-). The only difference in the application of this procedure arises out of the fact that, while Intraverbal Junction is confined to the interior of clause and sentence, with the result that the features characterizing the -V or -C of the former syllable cannot but be considered in relation to the C- of the latter syllable of the junction, the phonetic criteria assigned to C- in Interverbal Junction are just as applicable to sentence-initial C- as to the C- of a syllable in a junction relationship with another syllable; criteria assigned to -C are similarly valid for both sentence-final -C and non-sentence-final -C. In Inter-verbal Junction -V and -C do not therefore necessarily imply a complementary C-, and vice versa.

The criteria statable for Interverbal Junction comprise:

A.		-V	C-
frontness	+ closeness :	i/i:	voicelessness + plosion :
	+ half-closeness :	e/e:	p/ph/t/th/k/
	+ ,, openness :	ɛ:	kh/te/tch/?
backness	+ closeness :	u/u:	+ nasality :
	+ half-closeness :	o/o:	m/ɱ/n/ɲ/ɳ/p/ɳ/
	+ ,, openness :	ɔ/ɔ:	+ laterality :
	+ openness :	ɑ/ɑ: ¹	ʃ/sh/θ/ç/h

Examples as follows :

- θu:** **kaunggāū:** **loumā:** **θide:** (-u:k-)
သူ ကောင်းကောင်း လုပ်မှန်း သိသည်။
- ts:rɔ:** **tsɛ:ɛ:** (-ɔ:tsɛ-)
တော်တော် ကျယ်သည်။
- θu:** **so:zɔ:** **no:ɛ:** (-u:s-)
သူ စောစော နိုးသည်။
- ʔəj̄:** **gəɛ:** **ʔəlouʔ** **mja:lo** **tsɛmbo** **ʔətɛhɛi:** **mɔjadzabu:** (-oʔ-)
အရင်ကထက် အလုပ် များလို့ ကျင့်သို့ အချိန် မရကြဘူး။
- θu:** **ga** **laundaundaunne** **əti:** **zəga:** **məpjo:bu:** (-a|-)
သူက လှောင်တောင်တောင်နှင့် အတည် စကား မပြောဘူး။
- kaləthāi:** **gəɛ:** **ʔeindāū:** **pəriβə:ga** **ʔəsōū:** **ja** **ɲainde:** (-aŋ-)
ကုလားထိုင်၊ ခုတင်၊ အိမ်ထောင် ပရိဘောဂ အစုံ ရ နိုင်သည်။
- θu:** **kho:laipbi:** (-u:kh-)
သူ ခိုးလိုက်ပြီ။

¹ cf. I. B (1) above: Intraverbal -VC- junction.

B.		-C	C-
(1) Nasality	— oral closure :	plosion ± voice :	p/ph/b/t/th/d/k/kh/g/te/
	ɛi(:)/ōū(:)/āū(:)/āi(:)/	tch/dz/?	
	i(:)/ā(:)/ō(:) ¹		
		nasality ± voice :	m/ɱ/n/ɲ/ɳ/p/ɳ/
		laterality — voice :	ʃ
		friction — voice :	s/sh/ɟ
		„ ± „ :	θ/ð

Examples as follows :

- kaləthāi:** **gəɛ:** **ʔeindāū:** **pəriβə:ga** **ʔəsōū:** **ja** **ɲainde:** (-āi:g-, -āū:p-)
ကုလားထိုင်၊ ခုတင်၊ အိမ်ထောင် ပရိဘောဂ အစုံ ရ နိုင်သည်။
- θu:** **kaunggāū:** **loumā:** **θide:** (-ā:θ-)
သူ ကောင်းကောင်း လုပ်မှန်း သိသည်။
- əj̄:** **gəɛ:** **ʔəlouʔ** **mja:lo** **tsɛmbo** **ʔətɛhɛi:** **mɔjadzabu:** (-əi:m-)
အရင်ကထက် အလုပ် များလို့ ကျင့်သို့ အချိန် မရကြဘူး။
- je:** **dzə:gā:** **təkhənnə** **ʔeija:gā:** **ɲəkhā:** **əide:** (-ā:t-, -ā:ɲ-, -ā:ç-)
ရေချိုးခန်း၊ တခန်းနှင့် အိပ်ရာခန်း နှစ်ခန်း ရှိသည်။
- be:** **məp̄j̄:** **ʔāū:** **sāū** **gəupba:** (-āū:s-, -āū:ç-)
ဘေး မဖြစ်အောင် စောင့် လျှောက်ပါ။
- gāū:** **shaunde:** (-āū:sh-)
ခေါင်း ဆောင်သည်။
- nəphā:** **ɲəp̄jiʔ** **θwa:mɛ:** (-ā:ɲ-)
နက်ဖန် ငှက်ပစ် သွားမည်။

(2) A further criterion may be stated for Interverbal Junction in which -C is characterized by nasality, but this criterion is (a) non-sentence-final, and (b) restricted to Fast Tempo :

	-C	C-
Nasality + oral occlusion ²	Voicelessness + plosion :	mp/ɱp/nt/nth/ɲk/
		ɲkh/ntɛ/ntɛh
	„	friction : ɲθ
	„	nasality : mɱ/nɲ/ɳɲ/ɳɲ/

Examples as follows :

- je:** **dan** **tjauʔ** **thə:mɛ:** (-nt-)
ရေထမ်း တယောက် ထားမည်။
- eija:gənn** **ɲəkhā** **əide:** (-nɲ-)
အိပ်ရာခန်း နှစ်ခန်း ရှိသည်။

¹ cf. I. B (2a) above: nasality in Interverbal -CC- junction.
² cf. I. B (2) above: nasality in Interverbal -CC- junction.

Where -C is characterized by nasality — oral closure and C- by laterality (l), a semivowel articulation (j/w), or voice + alveolarity + friction (z), there are no phonetic criteria of either Junction term, apart from pause. Where no pause is perceived, it is only on grammatical grounds that the example may be allotted to either term of the Junction system, e.g.

kəlethāi: gədi: eindāū: pəriβo:ga əsoū: ja ŋainde: (-oū:ɟ-)

ကုလားထိုင်၊ ခုတင်၊ အိမ်ထောင် ပရိဘောဂ အစုံ ရ နိုင်သည်။

ləlf: tɟau? pɟā: la:ne:de: (-ā.1-)

လုလင် တယောက် ပြန် လာနေသည်။

C.

-C		C-
glottal occlusion ¹ :	ʔ plosion ± voice :	p/ph/b/t/th/d/k/kh/g/ɟc/tch/dz/ʔ
	nasality ± ,,	m/ɱ/n/ɲ/ŋ/ñ/p/ɲ
	laterality ± ,,	l/ɭ
	friction ± ,,	s/sh/z/θ/ð/ʒ
	semivowel articulation :	j/w/ɥ

Examples as follows :

ʔəjŋgədeʔ ʔəlonʔ mja:lo tɟumbo ʔətɟhēi: məjadzabu: (-ʔʔ-, -ʔm-)

အရင်ကထက် အလုပ် များလို့ ကျင့်ဘို့ အချိန် မရကြဘူး။

ŋəpɟɟi? θwa:mə: (-ʔθ-)

ငှက်ပိတ် သွားမည်။

zəβwe:do: tɟau? tha:mə: (-ʔth-)

စားပွဲထိုး တယောက် ထားမည်။

bəlau? pe:uðəle: (-ʔp-)

ဘယ်လောက် ပေးရသလဲ။

məneʔ be: ətɟhēi: ŋo:aməle: (-ʔb-)

မနက် သယ် အချိန် နှီးရမလဲ။

tɟhaunna:ji:lau? ŋo:ba: (-ʔn-)

ခြောက်နာရီလောက် နှိုးပါ။

ɟunnambaʔ jannāū tɟa: we:geme: (-ʔɟ-)

ရှစ်နာရီ ယမ်းတောင့် ၁၀၀ ဝယ်ခဲ့မည်။

eikkhā: bəlau? siðəle: (-ʔɟ-)

အိမ်ခန်း တယ်လောက် ရှိသလဲ။

zəbəgau? la:mə: (-ʔl-)

ပေါးကောက် လာမည်။

D. Pause.

Pause may be perceived only at word limits, and may therefore be stated as a criterion of Inter- and Intra-verbal Junction ; it does not, however, follow that Inter- and Intra-verbal Junction is regularly, or even frequently, marked by pause.

¹ cf. I. B (2) (b) (Fast Tempo) (c)-(e).

GRAMMATICAL AND LEXICAL IMPLICATIONS OF THE JUNCTION SYSTEM

The delimitation of the word by the use of the phonetic criteria stated for Inter- and Intra-verbal Junction has important implications for linguistic analysis at other, but congruent, levels : grammatical and lexical.

I. Grammatical Analysis of the Word.

The delimitation of the word suggests the recognition of an order of categories within the word, when subjected to grammatical analysis, of the following kind :

A. Noun (N) + Particle (P).

B. Verb (V) + Particle (P) ¹ ; e.g.

tādāi:lau? we:ðe:de: (တတိုင်လောက် ဝေးသေးသည်။) :—

တတိုင်လောက် = N + P (လောက်) ; ဝေးသေးသည် = V + P (သေးသည်).

langwe:mja: siðe:ðəla: (လမ်းခွဲများ ရှိသေးသလား။) :—

လမ်းခွဲများ = N + P (များ) ; ရှိသေးသလား = V + P (သေးသလား).

kaumba:bi: (ကောင်းပါပြီ။) :— V + P (ပါပြီ).

With certain exceptions, which are stated below, and on the assumption that 'zero' be included as a term in both Noun-Particle and Verb-Particle categories, the formulae N + P and V + P are valid for all Burmese words. The introduction of 'zero' into the two categories of Particle is not due simply to a desire to preserve the formulae above stated at all costs ; appropriate syntactic functions may be stated for 'zero' just as for any other member of the Particle categories. In such sentences as : သွား။, လာ။, it is thought more convenient to be able to assign syntactic (imperative) and stylistic (non-polite) functions to a particle (zero) than to 'Verb without Particle', or the 'Verb used by itself', i.e., V — P.

The exceptions mentioned above include words in sentences the grammatical analysis of which would require the use of a (formally established) category of negation. The order of grammatical categories in such words might be symbolized as P' + V + P, in which P' represents one of the Negative Particles (ə), e.g.

məci:ba:bu: (မရှိပါဘူး။) : V (ရှိ) ; P (မ, ပါဘူး).

bə:ma məðwa:ba:bu: (ဘယ်မှ မသွားပါဘူး။) : V (သွား) ; P (မ, ပါဘူး).

There are also certain Verbal-Noun words for which the formula N + P is not satisfactory : those grammatically analysable as Verb colligated with Nominalizing Particle (ə-), e.g. အရောင်း, အဝယ်, အသိ. For such words the formula P' + V + P, in which P' represents the Nominalizing-Particle (ə-), and P the Noun-Particle category, is appropriate, e.g.

əjāū: (အရောင်း) : V (ရောင်း) ; P' (ə-) ; P (zero).

¹ See also R. K. Sprigg : 'The Tonal System,' op. cit., p. 146.

II. Tonal Systems.

The unity of the word as delimited by Inter- and Intraverbal Junction suggests that for Burmese, as for other tone languages,¹ it may well be more convenient to consider Tone as a prosodic system stable for the word rather than for the syllable.

As applied to words of the grammatical type monosyllabic Verb + Particle the tonal analysis suggested would require the stating of a two-term system: Tone One, Tone Two. The two terms are exemplified below, the Particle category being exemplified by သည် (-de/-ḡe):

Tone 1 : \ _ ²	te:de:, jaun:de: ² 'tɛ:de:, 'mjunde: ³ jautḡe: ကြီးသည်။ ရောင်းသည်။ ကြည့်သည်။ မြင့်သည်။ ရောက်သည်။
Tone 2 : - \	la:de:, wunde:. လာသည်။ ဝင်သည်။
Tone 1 : _ - - \ _ \	məḡwa:bəjazi:nɛ, məjaumbəjazi:nɛ, etc. မသွားပရစေနှင့်။ မရောင်းပရစေနှင့်။
Tone 2 : _ - - \ _ \	məla:bəjazi:nɛ, məwumbəjazi:nɛ. မလာပရစေနှင့်။ မဝင်ပရစေနှင့်။

The Particles given in the above examples, and indeed all Particles, have been recorded for both Tone-One and Tone-Two words without restriction; they might therefore be classified for purposes of lexical reference as tonally neutral. Any given monosyllabic verb will, however, be found to have been recorded either for the Tone-One word or for the Tone-Two exclusively; a monosyllabic verb would therefore need to be identified lexically as a Tone-One-word Verb, or as a Tone-Two-word Verb; or more briefly as a Tone-One, or a Tone-Two, Verb.⁴

¹ For systemic statements of Tone as a prosodic system referable to the word, see also R. K. Sprigg: 'Verbal Phrases,' op. cit., pp. 150-4; 'The Tonal System,' op. cit., pp. 134-154; J. Burton-Page: 'Two Studies,' op. cit., pp. 111-16.

² The symbols within each stave are an indication of the relative pitch of the syllables within the word; Tone-One and Tone-Two are, however, identified not from the pitch of an individual syllable but from the tonal pattern of the word, whether monosyllabic or polysyllabic.

The patterns given are not the only possible intonation patterns for Tone-One and Tone-Two words; the following have also been recorded:

Tone One (te:de: ကြီးသည်။):	- Λ \ /
,, Two (la:de: လာသည်။):	- Λ - -

³ A rather more detailed phonetic transcription is given at this point in order to illustrate the criteria for the stating of a sub-system (of Quantity) within the Tonal system. The symbol [''], preceding the syllable to which it refers, symbolizes glottal voice-quality, for which the I.P.A. provides no symbol.

⁴ cf. also Tibetan: R. K. Sprigg: 'The Tonal System,' op. cit., p. 124.

A complete phonological analysis of e.g. the Tone-One Verb would require further statements, both prosodic and phonematic. Priority in statement goes to the prosodic systems; these are stated as a hierarchy of sub-systems within systems, and further sub-systems within sub-systems, by a regular process of subdivision within the limits set by the original prosodic statement.

Phonematic systems (consonant and vowel) are then stated with reference to the appropriate prosodic systems: at least three vowel systems would need to be stated for the monosyllabic verb in Burmese, a system each for syllables prosodically classified as Y, W, and Ḷ; separate C- systems would need to be stated for ḍ syllables and ḍ̄ syllables.

A procedure such as has been outlined above obviates the need to make a distributional statement, of the kind required by an application of any of the phoneme theories, governing the powers of combination of the various elements. The relations of the prosodic systems are governed by their place in the hierarchy of prosodic statement: according to its place in the hierarchy each prosodic system implies its own incorporation, as a subsystem, in previously stated systems, and the further analysis of the structure with reference to which it is stated (word, syllable, etc.) through the stating of subsystems for each of its terms. Each phonematic system is specifically associated with a particular term of a prosodic system, e.g. ḍ-syllable C- system, ḍ̄-syllable C- system, and is therefore not regarded as comparable with any phonematic system associated in statement with some other term of that prosodic system, or with a different prosodic system.

The next stage in the phonological analysis of the Tone-One Verb, for example, might profitably be the setting up of a 3-term prosodic subsystem: n/ḡ/g (see p. 107 above). A complete statement of the criteria for the terms of this system is not attempted here: some exemplification may, however, be given as follows:

n: syllable-final nasality (-nd-): **jaunde:** (ရောင်းသည်), **'mjunde:** (မြင့်သည်)

g: ,, occlusion — nasality (-td-): **jautde:** (ရောက်သည်။)

ḡ: Certain features of vowel quality (i:/i): **te:de:** (ကြီးသည်။) **tcide:** (ကြည့်သည်။)

A further prosodic system, of Quantity (Long/Short), might then be stated for 'n' and 'ḡ' syllables, but not for 'g' syllables:

n	{	Long: jaun:de: (ရောင်းသည်။); criteria: relatively long duration of vowel and consonant.
		Short: 'mjunde: (မြင့်သည်။); criteria: relatively short duration of vowel and consonant, + glottal voice.
ḡ	{	Long: tcide: (ကြီးသည်။); criteria: relatively long duration of vowel.
		Short: 'tcide: (ကြည့်သည်။); criteria: relatively short duration of vowel + glottal voice.

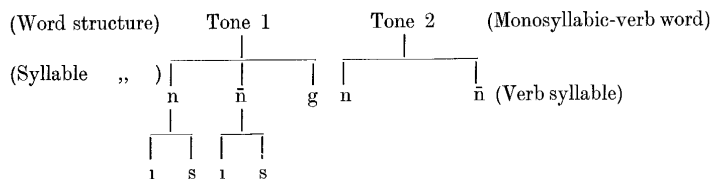
The 3-term system n/ñ/g of Tone-One monosyllabic Verbs is not applicable to Tone-Two Verbs; for them a two-term system, n/ñ,¹ might be stated, e.g.

n : syllable-final nasality (nd) : wunde: (ဝင်သည်။)

ñ : certain features of vowel quality (a) : la:de: (လာသည်။)

Further, the Quantity system statable for Tone-One Verbs of the prosodic types n/ñ may not be stated for the Tone-Two.

The prosodic systems thus far mentioned by no means exhausts the list of those which require to be stated; they do, however, provide enough material for the principle of stating the prosodic systems as a hierarchy to be illustrated :



The use of the term *monosyllabic* Verb above implies the recognition of more than one category of Verb; not only are two categories of Verb recognized here (monosyllabic, disyllabic), but the grammatical distinction is reflected at the phonological level in the need to make an altogether different tonal statement for words analysable as monosyllabic Verb + Particle from those analysable as disyllabic Verb + Particle. In contrast to the two-term system stated above for the former, a four-term system might be stated for the latter. The criteria for these terms are briefly indicated in the following sentences :

- Tone I : - - \ : jo:ðe:de: (ရှိသည်။) leimma:de: (လိမ္မာသည်။)
- Tone II : - \ _ : st:zu:de: (စဉ်းစားသည်။) nipḥatḥe: (ညှစ်ပတ်သည်။)
- Tone III : _ \ _ : pumbande: (ပင်ပန်းသည်။) 'sḍza:de: (စွန့်စားသည်။)
- tce:matḥe: (ကြော်နှပ်သည်။)
- Tone IV : \ _ _ : taumbande: (တောင်းပန်သည်။) peipḥinde: (ပိတ်ပင်သည်။)

Words of the grammatical type N + P would similarly need more than one system in order to reflect differences in the tonal behaviour of monosyllabic and polysyllabic nouns.

Thus far the Junction system has been considered from the point of view of the implications that it has for further prosodic statement, for word (Tone) and syllable (n/ñ/g, n/ñ, Quantity); it remains to consider its influence on the statement of phonematic systems, and on the concept of assimilation.

¹ It is emphasized that the n and ñ terms of the two-term system are not to be identified with the n and ñ terms of the three-term system; the same pair of names has, however, been given to these different terms in order to make the stating of exponents less complicated.

III. Phonematic Systems.

The setting up of the two-term junction system requires that every initial consonant (C-) and final consonant (-C) be considered as in a junction context or environment, either Intraverbal or Intervocal. In addition the exponents of a given C- term (i.e. P/M/Q, etc.) may well be different in Intervocal Junction from what they are in Intraverbal Junction (it is in fact this potential difference in exponent that has made it possible to produce such an abundance of phonetic criteria for distinguishing Inter- and Intraverbal Junction). Neither context is considered to provide a norm; on the contrary, the C- and -C terms have each their appropriate exponents for either term of the Junction system; there is no change of phonematic unit, merely a difference of exponent, e.g.

A. w̄yhT-¹ (ဆယ်/ဆယ်) :

Alveolar friction + { (Inter) voicelessness + aspiration (**sh**)
 (Intra) voice (z), e.g.

Inter : she ḥa: pe:ade: (she) (ဆယ် ငါး ဝေးသည်။)

Intra : ḥa:ze: pe:ade: (-ze:) (ငါးဆယ် ဝေးသည်။)

¹ The stating of the criteria of the prosodic systems y/ŷ and w/w̄ does not fall within the scope of the present article; nor does an account of the exponents of each term of each of the several C- systems. In this instance, however, in order to illustrate the point that the phonetic shapes **sh** and **ze:** are referred to the same lexical item, with the same C- term, it becomes necessary to identify that C- term (T-), and also to identify the prosodic character of the syllable (w̄, y, h). **sh** and **z** are thus both regarded as exponents of T- in a w̄yh syllable, the former being the exponent appropriate to Intervocal, and the latter to Intraverbal, Junction. The terms of the y/ŷ and w/w̄ systems are exemplified in the initial syllable of each of the following words :

y : p̄jude: jaunde: shoutḥe: tehetḥe: c̄wede: (pj/j/s(h)/te(h)/c̄)

ပြည်။ ရောင်းသည်။ ဆုတ်သည်။ ချက်သည်။ ရွှေသည်။

ŷ : pu:de: haunde: thoutḥe: khetḥe: we:de: (p/h/t(h)/k(h)/w)

ပူသည်။ ဟောင်းသည်။ ထုတ်သည်။ ခက်သည်။ ဝေ့သည်။

w : we:de: sw̄e:de: θwa:de: wotde: p̄wunde: (w/sw̄/θw/p̄w)

ဝေးသည်။ ဆွဲသည်။ သွားသည်။ ဝတ်သည်။ ဖွင့်သည်။

w̄ : je:de: she:de: θa:de: ḥatde: p̄nde: (j/sh/θ/?/p)

ရေးသည်။ ဆဲသည်။ သာသည်။ ဖတ်သည်။ ဖင့်သည်။

The exponents of T-, and of K-, appropriate to various prosodic contexts are exemplified in the initial syllables of the following words :

- | | |
|-----------------------------------|--------------------------------------|
| yhT- : shoutde: (sh) (ဆုတ်သည်။) | yhT- : sounde: (s) (စုတ်သည်။) |
| ŷhT- : thoutde: (th) (ထုတ်သည်။) | ŷhT- : toutde: (t) (ဖုတ်သည်။) |
| w̄yhK- : katde: (k) (ကတ်သည်။) | w̄yhK- : khetde: (kh) (ခက်သည်။) |
| w̄yhK- : teatde: (te) (ကျွတ်သည်။) | w̄yhK- : tehetde: (tch) (ချက်သည်။) |
| w̄yhK- : kw̄atde: (kw) (ကွတ်သည်။) | w̄yhK- : kw̄e:de: (kw̄) (ခွဲသည်။) |
| w̄yhK- : tewe? (tew) (ကြွတ်။) | w̄yhK- : tehotde: (tcho) (ချွတ်သည်။) |

B (1) $\bar{y}K$ - (ကောင်း) :

Velar occlusion + $\left\{ \begin{array}{l} \text{(Inter) voicelessness + oral release (k)} \\ \text{(Intra) } \left\{ \begin{array}{l} \text{(st) voice + ,, ,, (g)} \\ \text{(ft) voice + nasal ,, (ŋ), e.g.} \end{array} \right. \end{array} \right.$

0u: kaungāū: (ft **kaungāū:**) **loutq̄:** (**kaun-**, **-gāū/-ŋāū:**)
သူ ကောင်းကောင်း လုပ်သည်။

(2) -Qn. (ကောင်း) :

Nasal release + $\left\{ \begin{array}{l} \text{(Inter) oral release (āū)} \\ \text{(Intra) velar occlusion (ŋ), e.g.} \end{array} \right.$

0u: kaungāū: (**kaungāū:**) **loutq̄:** (**-gāū:**, **kaun-**)
သူ ကောင်းကောင်း လုပ်သည်။

C (1) $\bar{w}yK$ - (ချက်) :

Palatal occlusion + $\left\{ \begin{array}{l} \text{(Inter) voicelessness + aspiration + oral fricative} \\ \text{release (tch)} \\ \text{(Intra) } \left\{ \begin{array}{l} \text{(st) voice + oral fricative} \\ \text{(ft) ,, + nasal release (n)} \end{array} \right. \\ \text{release (dz)} \end{array} \right.$

di: thəm̄ɹdʒe? (ft **thəm̄ɹpe?**) **thəm̄ɹgo: tɛhne:de:** (**tɛhɛn-**, **-dze?**/**-pe?**)
သည် ထမင်းချက် ထမင်းကို ချက်နေသည်။

(2) -Qg. (ချက်) :

(Inter) glottal occlusion (P)
(Intra) $\left\{ \begin{array}{l} \text{(st) alveolar occlusion + nasal release} \\ \text{(ft) none } ^1 \end{array} \right.$ (n)

di: thəm̄ɹdʒe? **thəm̄ɹgo: tɛhne:de:** (**tɛhɛn:de:**) (**-dze?**, **tɛhɛn-/tɛhɛ-**)
သည် ထမင်းချက် ထမင်းကို ချက်နေသည်။

Such other examples as the following may be similarly stated :

mj̄: **theinde:** (မြင်း ထိန်းသည်။) cf. **mj̄nd̄ɛi:** (မြင်းထိန်း)
shu:ja: **kho:de:** (ဆရာ ခေါ်သည်။) cf. **shu:ja:go:** (ဆရာခေါ်)
zəba: **saitq̄:** (စပါး စိုက်သည်။) cf. **zəbezai?** (စပါးစိုက်)

With the exception of the -C term in (ft) described at p. 123 above, the

¹ In the absence of any type of articulation that might be specifically assigned as an exponent to Q-, a combination of features characterizing (a) the former syllable of the junction (glottal voice-quality), (b) -V- (half-open aperture + lip-spreading : ɛ), (c) C- (nasality : n) is sufficient to exclude the possibility that the former syllable might be a n syllable, but not sufficient to identify it as a g syllable or as a n̄ syllable : in this type of Intraverbal Junction the exponents of a 'short' n̄ verb would be identical with those recorded here : **tɛhɛ** (ချ); there are phonetic criteria of g as against n, but not as against n̄; there are, however, other types of Intraverbal Junction, e.g. in which C- is characterized by plosion, where criteria might be stated for g and n: **tɛhɛq̄:** (ချက်သည်။), cf. **tɛhɛq̄:** (ချသည်။).

exponents of -C and C- terms in Inter- and Intraverbal Junction are constant; those stated for examples A, B, and C above comprise :

$\bar{w}yHT$ - : voicelessness + aspiration + alveolar friction (**sh**)
 yK - : ,, - ,, + velar plosion (**k**)
 $\bar{w}yHK$ - : ,, + ,, + dorsal occlusion + fricative
release (**tɛh**)

-Qn : nasality - oral occlusion (P)

-Qg : glottal occlusion (P)

In Intraverbal Junction, however, the stating of the exponents is rather more complicated : the exponents of the C- terms (P/M/Q, etc.) in the latter syllable of the junction relationship must be related in statement to the prosodic character of the former syllable. The relevant prosodic systems here are the three-term system n/n̄/g and the two-term system n/n̄; and five separate exponents therefore need to be stated for each of the terms of the C- system : in junction with a 'n' syllable ('n'-syllable junction, or, more briefly, 'n' junction), or with a n̄ syllable ('n̄' junction), etc. Since, however, the exponents of a given C- term in junction with a 'n̄' syllable where 'n̄' is a member of the three-term system, n/n̄/g are identical with those of 'n̄' junction in which 'n̄' is a member of the two-term system, n/'n̄', it is not necessary to distinguish the one 'n̄' from the other at this stage; a common symbol (n) may similarly be used for the 'n' terms of both the three-term and the two-term system (the choice of the names 'n' and 'n̄' for these four terms in two different systems was in fact dictated by the economy in the statement of exponents that could be achieved in the same way).

The phonetic criteria for the terms n, n̄, and g are the concern of this article only in so far as they are relevant to the stating of phonematic units in Intraverbal Junction; these criteria are not therefore dealt with in detail here. It is, however, not irrelevant to point out that the syllable-structure of n̄ syllables is invariably CV, while that of 'n' and of 'g' syllables is invariably CVC. Certain of the criteria stated for Intra- and Inter- and Intraverbal Junction are also statable for n, n̄, g; e.g. the qualities of vowel characterizing -V in § I B (1) and § II A (-VC-) junction for n̄ as compared with the qualities characterizing -V- in §§ I B (2) (a)-(e), and II B-C; another important criterion is provided by junctional features, particularly those of Intraverbal Junction, which may be illustrated together with the exponents of the phonematic units (page 132).

Prosodically determined exponents may be stated for the other C- terms (K/N/D/Q/L/S) in the same way as in the examples given above, with appropriate differences of exponent.

The same type of statement may be applied to -C systems, or rather, for there is only one -C phonematic term, to the -C term. Since all n̄ syllables are of a CV structure, the only relevant prosodic categories of syllable for stating the exponents of -C are n and g. n syllables have only the one -C term; so also have g syllables. In order to distinguish the particular phonematic unit

<p>e.g. $\bar{w}y\dot{h}P- : (\text{ဆည်})$ alveolarity + $\left\{ \begin{array}{l} \text{(st) voice + plosion (d)} \\ \text{(ft) } \text{''} \end{array} \right\} + \left\{ \begin{array}{l} \text{plosion (d)} \\ \text{friction (t)} \\ \text{flapped (t)} \\ \text{articulation} \end{array} \right.$</p>	<p>$\bar{w}y\dot{h}P- : (\text{ဆည်})$ labiality + $\left\{ \begin{array}{l} \text{(st) voice + plosion (b)} \\ \text{(ft) } \text{''} \end{array} \right\} + \left\{ \begin{array}{l} \text{plosion (b)} \\ \text{friction (β)} \end{array} \right.$</p>	<p>$\bar{w}y\dot{h}M- : (\text{မည်})$ labiality + nasality (m) $\left\{ \begin{array}{l} \text{(st) } \dot{\theta}wume : \\ \text{(ft) } \dot{\theta}wume : \end{array} \right\} + \left\{ \begin{array}{l} \text{voice (d)} \\ \text{friction (t)} \\ \text{flapped (t)} \\ \text{articulation} \end{array} \right.$</p>	<p>$\bar{w}y\dot{h}M- : (\text{မည်})$ labiality + nasality (m) $\left\{ \begin{array}{l} \text{(st) } \dot{\theta}wume : \\ \text{(ft) } \dot{\theta}wume : \end{array} \right\} + \left\{ \begin{array}{l} \text{voice (m)} \\ \text{friction (z)} \\ \text{semivowel (j)} \\ \text{(:)} \end{array} \right.$</p>
<p>e.g. $\bar{w}y\dot{h}P- : (\text{ဆည်})$ labiality + $\left\{ \begin{array}{l} \text{(st) } \dot{\theta}wume : \\ \text{(ft) } \dot{\theta}wume : \end{array} \right\} + \left\{ \begin{array}{l} \text{voice (m)} \\ \text{friction (z)} \\ \text{semivowel (j)} \\ \text{(:)} \end{array} \right.$</p>	<p>$\bar{w}y\dot{h}M- : (\text{မည်})$ labiality + nasality (m) $\left\{ \begin{array}{l} \text{(st) } \dot{\theta}wume : \\ \text{(ft) } \dot{\theta}wume : \end{array} \right\} + \left\{ \begin{array}{l} \text{voice (m)} \\ \text{friction (z)} \\ \text{semivowel (j)} \\ \text{(:)} \end{array} \right.$</p>	<p>$\bar{w}y\dot{h}P- : (\text{ဆည်})$ labiality + $\left\{ \begin{array}{l} \text{(st) } \dot{\theta}wume : \\ \text{(ft) } \dot{\theta}wume : \end{array} \right\} + \left\{ \begin{array}{l} \text{voice (m)} \\ \text{friction (z)} \\ \text{semivowel (j)} \\ \text{(:)} \end{array} \right.$</p>	<p>$\bar{w}y\dot{h}M- : (\text{မည်})$ labiality + nasality (m) $\left\{ \begin{array}{l} \text{(st) } \dot{\theta}wume : \\ \text{(ft) } \dot{\theta}wume : \end{array} \right\} + \left\{ \begin{array}{l} \text{voice (m)} \\ \text{friction (z)} \\ \text{semivowel (j)} \\ \text{(:)} \end{array} \right.$</p>

from the more generalized phonematic unit (C, as opposed to V) the symbol Q is used for the -C term of both n syllables (-Qn) and g syllables (-Qg); the phonematic unit -Q may be considered as a single phonematic unit statable for n and g syllables alike; and with appropriate, and prosodically determined, exponents for: A. n syllables, and B. g syllables.

A. -Q in n syllables (-Qn).

The exponents of -Q in n syllables cannot easily be considered apart from the exponents of the various C- terms in the latter syllable of the junction relationship; they comprise:

1. labial nasality + labial nasality (mm):	jaumme:	(ရောင်းမည်။)
2. alveolar ,, + ,, plosion (mb) (st):	jaumbi:	(ရောင်းပွဲ။)
3. alveolar ,, + ,, plosion (nn) (st):	mujaunne	(မရောင်းနှင့်။)
4. velar ,, + velar ,, (ng) (st):	jaunde:	(ရောင်းသည်။)
5. palatal ,, + velar ,, (ng) (st):	mujaungŋ:	(မရောင်းခင်)
6. dental ,, + alveolar ,, (ndz) (st):	jaupdzade:	(ရောင်းကြသည်။)
	(dorsal contact)	
5. dental ,, + dental friction (pθ):	jaupθala:	(ရောင်းသလား။)
6. nasality - occlusion + lateral		
constriction ¹ (l):	jāū:leipphi:	(ရောင်းလိုက်ပြီ။)
+ alveolar friction ('z):	jāū:zja:	(ရောင်းစရာ)
+ semivowel (j):	jāū:ji:	(ရောင်းလျှင်)
(:):	tcāū:outdži:	(ကျောင်းအုပ်ကြီး)

B. -Q in g syllables (-Qg).

As in n syllables so also in g syllables the exponents of -Q cannot easily be isolated from the junction complex; exponents of -Q and the various C- terms are therefore stated as a complex (page 134).

The prosodic and phonematic analyses given in this article are offered not only as a contribution to Burmese phonology but also as an attempt to resolve some of the problems of Burmese grammar and lexicography by anticipating them at the phonetic and phonological levels of analysis. Congruence of statement as between all four levels has been adopted as the guiding principle of analysis; it is therefore possible for convenience of statement at e.g. the grammatical level to influence the form in which statements are made at the levels of phonetics and phonology.

The immediate aim of this article was to select from the phonic data those features which could be stated as phonetic criteria of a two-term junction system; its ultimate aim was to reap the advantages to be gained from this statement at the grammatical and lexical levels.

The two-term junction system was used in the first place to delimit those

¹ For the use of the term 'constriction' at the phonetic level of analysis see W. S. Allen: 'Retroflexion in Sanskrit,' op. cit., p. 557, note 3.

(1) labial occlusion + labial plosion (pb) (st) :	စာပျိး	(သောက်ပြီ)
" + " + aspiration (pph) (st) :	မေဇာပျုး	(မေသက်ဘူး)
labial plosion + aspiration (ph) (ft) :	မေဇာပျုး	(မေသက်ဘူး)
" nasality + labial nasality (mm) (st) :	ဇာဗူး	(သောက်မည်)
" " (m) (ft) :	ဇာဗူး	(သောက်မည်)
" " + voicelessness (mp) :	ဇာဗူး	(သောက်မည်)
(2) alveolar occlusion + alveolar plosion (td) (st) :	ဇာဗူး	(သောက်မည်)
" nasality + " nasality (nm) (st) :	မေဇာဗူး	(မသက်နံ့မို့)
" " (n) (ft) :	မေဇာဗူး	(မသက်နံ့မို့)
" " + voicelessness (n) :	မေဇာဗူး	(မသက်နံ့မို့)
" friction + alveolar friction (ss) (st) :	မေဇာဗူး	(မသက်နံ့မို့)
" " (s) (ft) :	မေဇာဗူး	(မသက်နံ့မို့)
" lateral constriction + alveolar lateral constriction (ll) (st) :	မေဇာဗူး	(မသက်နံ့မို့)
" " (l) (ft) :	မေဇာဗူး	(မသက်နံ့မို့)
(3) velar occlusion + velar plosion (kg) (st) :	မေဇာဗူး	(မသက်နံ့မို့)
" " + " + aspiration (kkh) (st) :	မေဇာဗူး	(မသက်နံ့မို့)
velar plosion + aspiration (kh) (ft) :	မေဇာဗူး	(မသက်နံ့မို့)
(4) alveolar (dorsal contact) occlusion + alveolar affrication (gdx) (st) :	မေဇာဗူး	(မသက်နံ့မို့)
" occlusion + alveolar affrication + aspiration (gdx) (st) :	မေဇာဗူး	(မသက်နံ့မို့)
alveolar affrication + aspiration (gdx) (ft) :	မေဇာဗူး	(မသက်နံ့မို့)
(5) dental friction + dental friction (θθ) (st) :	မေဇာဗူး	(မသက်နံ့မို့)
" " (θ) (ft) :	မေဇာဗူး	(မသက်နံ့မို့)
(6) palatal semivowel (j) :	မေဇာဗူး	(မသက်နံ့မို့)
labio-palatal semivowel (tj) :	မေဇာဗူး	(မသက်နံ့မို့)
glottal plosion (ʔ) (st) :	မေဇာဗူး	(မသက်နံ့မို့)
none (ft) :	မေဇာဗူး	(မသက်နံ့မို့)

structures (words) which appeared to be the most suitable for subsequent grammatical analysis. Congruence of statement in phonology and grammar may be illustrated by the fact that the need to state the Verb category in terms of two sub-categories (monosyllabic-verb and disyllabic-verb) is paralleled by the setting up of two distinct tonal systems : a two-term tonal system for words analysable as monosyllabic verb + particle, and a four-term system for words analysable as disyllabic verb + particle. Further, while for purposes of lexical reference members of both Verb and Noun categories may be associated with the prosodic statement of tone, no member of the Particle category may be associated exclusively with a particular term, or particular terms, of any of the tonal systems ; this third grammatical category may therefore be considered as tonally neutral.

In dealing with the problem of providing a single phonological formula for each lexical entry the Phoneme Theory imposes what is here felt to be a not inconsiderable handicap : it requires a single overall statement of phonemes without reference either to grammatical comparability or to what might be termed, with reference to prosodic analysis, prosodic comparability. On the one hand therefore the phonemic statement has subsequently to be revised in the interests of a morphophonemic statement ; and on the other it is only by an appeal to the concept of assimilation that the various phonemic shapes that result from an application of this theory can be reconciled : one of the phonemic shapes is treated as the norm, and the non-normal shapes accounted for as being due to the replacement of one of the phonemes of the norm by another phoneme.

The prosodic approach, however, requires on the one hand that congruence of statement of each level of analysis with every other level be achieved, with the result that, as has been demonstrated above, statements at the higher levels may be anticipated at the lower ; and on the other hand that at the phonological level of analysis a number of phonematic systems be stated, each of them referable to a different term of one or more prosodic systems.

APPENDIX

The three texts given in the appendix both in a detailed phonetic transcription and in the Burmese orthography are intended to illustrate the application to text of the prosodic statement of junction : I. Interword Junction is symbolized by space between syllables ; Intra-word Junction by absence of space between syllables ; II. examples of Interword Junction that may be identified by phonetic criteria are distinguished from those which may not by underlining : space + underlining signifies phonetically identifiable Interword Junction ; space—underlining grammatically established Interword Junction ; III. examples of Intra-word Junction that may be identified by phonetic criteria are similarly distinguished from those which may not : both syllables are underlined in phonetically identifiable Intra-word Junction ; and not underlined in grammatically established Intra-word Junction.

Those stretches of text in which the delimitation of words is based on phonetic criteria may, by this means—the use of space and underlining—be distinguished at sight from those for which the delimitation of words is based on extra-phonetic criteria.

(The symbol ['] has been used to indicate glottal voice, but only in the case of those syllables where the mark of long duration [:] would otherwise imply clear voice, e.g. [lo:']. In these texts the syllables in which glottal voice is co-articulated with long duration of vowel are all sentence-final, and are all characterized by a rise-fall pitch, e.g. -lô:'. -dô:'. ; လို့, တော့).

TEXT I

ʔa: be: ɔ̃wa:mələ:.

ဦး ဘယ် သွားမလို့လဲ။

be:ma məðwa:ba:bu:. ʔənaumbje: ʔəna:bje: lā: saumelo:.

ဘယ်မှ မသွားပါဘူး။ အညောင်းပြေ အညာပြေ လမ်း ရောက်မည်လို့။

ho: di: ʔeingo təno: ŋa: pi:bi:. khəna wī: təiməla:.

ဟော သည် အိမ်ကို ကျွန်တော် ငှါး ပြီးပြီ။ ခဏ ဝင် ကြည့်မလား

ʔəi: laya bəlauʔ pe:əðəle:.

အိမ် လခ ဘယ်လောက် ပေးရသလဲ။

ŋa:ze: pe:əre:.

ငါးဆယ် ပေးရသည်။

ʔəkhā: be:nəkhā: əiðəle:.

အခန်း ဘယ်နှစ်ခန်း ရှိသလဲ။

ʔautthamma: nəkhā: əiba:de:.

အောက်ထပ်မှာ နှစ်ခန်း ရှိပါသည်။

di: əkhā: tə:ro: tse:re:. ʔegā: louppho kaunne:.

သည် အခန်း တော်တော် ကျယ်သည်။ ဧည့်ခန်း လုပ်တို့ ကောင်းသည်။

təno:lə: di:lo: ðəbo: ja:re:.

ကျွန်တော်လည်း သည်လို သဘော ရသည်။

təgəbaune pəðumbaumja: əkhanzi: the. ko:zo:mja: khī:jt̃: jaðwa:mə:.

တံခါးပေါက်နှင့် ပြတင်းပေါက်များ အခန်းဆီး ထူသည်။ ကော်ဇောများ ခင်းလျှင် လှသွားမည်။

səbwe: kəlethāi: sa:oussimmja: be:ma: ja ɳainðəle:.

စားပွဲ။ ကုလားထိုင်။ စာအုပ်စင်များ ဘယ်မှာ ရ နိုင်သလဲ။

ləθəma: māū: tətto: hsi:ga səbwe: kəlethāi: kədi: bi:ro: ʔeindāū: pəribo:ga

ʔəsōū: ja ɳainde:.

လက်သမား မောင် တက်တို့ ဆီက စားပွဲ။ ကုလားထိုင်။ ခုတင်။ ဘီရို။ အိမ်ထောင် ပရိဘောဂ အစုံ ရ နိုင်သည်။

ʔəi: əe lə:ga:ga tɛpi: ʔəpo:daʔ tɛidzəzo:.

အိမ် ရှေ့ လှေခါးက တက်ပြီး အပေါ်ထပ် ကြည့်ကြည့်။

ʔəpo:damma: be:nəkhā: əiðəle:.

အပေါ်ထပ်မှာ ဘယ်နှစ်ခန်း ရှိသလဲ။

ʔeikkhan nəkhā:ne je:dzo:gammja: əide:.

အိပ်ခန်း နှစ်ခန်းနှင့် ရေချိုးခန်းများ ရှိသည်။

di: [ʔ]dzojmbankga tɛidzəzo. (an error)

သည် ပြတင်းပေါက်က ကြည့်ကြည့်။

di: ha:ya mi:bo:dzāū, ho: wa:de: ʔəse:gā: t̃ā:ja:mə mjnzāū:.

သည် ဟာက မီးဖိုချောင်။ ဟိုဟာတွေ အစေ့ တန်းလျားနှင့် မြင်းစောင်း။

je:dwī: əijela:.

ရေတွင်း ရှိလား။

əiba:re: t̃əhāū:jo:de:ma: t̃əhōū: kwə:ne:re:.

ရှိပါသည် ချားခိုးထဲမှာ ချို ကွယ်နေသည်။

TEXT II

ʔəse:gā: be: ɳujauʔ thə:məle:.

အစေ့ ဘယ် နှစ်ယောက် ထားမလဲ။

thəmɳjɳəʔ t̃jauʔ səʔwe:do: t̃jauʔ je:dan t̃jauʔ θōū:jəp[sic]be: thə:mə:.

(an error)

ထမင်းချက် တယောက်။ စားပွဲထိုး တယောက်။ ရေထမ်း တယောက်။ သုံးယောက်ဘဲ ထားမည်။

mjt̃: əiðəla:.

မြင်း ရှိသလား။

məsiðe:βu:.

မရှိသေးဘူး။

mjt̃: məsij̃t̃, mjunñēi: məlo:ðe:bu:.

မြင်း မရှိလျှင် မြင်းတိရိစ္ဆာန် မလိုသေးဘူး။

pammī: je: laumbogo: be:θu: laumməle:.

ပန်းပင် ရေ လောင်းတို့ကော။ ဘယ်သူ လောင်းမလဲ။

ʔa:lōū: wāi: lāū:aleimmə:.

အားလုံး ဝိုင်း လောင်းရလိမ့်မည်။

wī: dəga: ʔəmje: peipba:.

ဝင်း တံခါး အမြဲ ပိတ်ပါ။

ba: ɳjulələ:.

ဘာ ပြုလို့လဲ။

məpeij̃t̃, nwa:mja: wī: pi:do, pambunde: sa:leimmə:.

မပိတ်လျှင် နွားများ ဝင် ပြီးတော့ ပန်းပင်တွေ စားလိမ့်မည်။

TEXT III

di: laŋŋa mjodɔ? mi: jətha: bu:da:jōu: paubəla:

သည် လမ်းက မြို့သစ် မီး ရထား ဘူတာရုံ ပေါက်သလား။

paupba:de:

ပေါက်ပါသည်။

bəlau? we:ðe:ðəle:

ဘယ့်လောက် ဝေးသေးသလဲ။

təd̪i: [sɛ]lau? we:ðe:re: (an error).

တတိုင်လောက် ဝေးသေးသည်။

laŋgwe:mja: eide:ðəla:

လမ်းခွဲများ ရှိသေးသလား။

məɛiba:bu:; pe: tɔja: ətaiŋðə: lai? ðwa:ba: bu:da:jōu: tweme:

မရှိပါဘူး။ ပေ တရာ အတိုင်းသာ လိုက် သွားပါ။ ဘူတာရုံ တွေမည်။

lā: na:ma: ziamja: eijela:

လမ်း နားမှာ စရပ်များ ရှိလား။

eiba:de: ho: mədzi: bɔndzi: mji: jela:

ရှိပါသည်။ ဟို မန်ကျည်းပင်ကြီး မြင်ရဲ့လား။

ho: lā: əsebeɣa ?əpɪŋni:la:

ဟို လမ်း အရှေ့ဘက်က အပင်ကြီးလား။

houtde: ?e: di: na:ma: zɔjaɛ eide:

ဟုတ်သည်။ အဲ သည် နားမှာ စရပ် ရှိသည်။

?əjei? ?umədə: kaunne:

အရိပ် အင်မတန် ကောင်းသည်။

kāñ:βa:βi: θwa:oume:no:

ကောင်းပါပြီ။ သွားဦးမည်နော်။

θwa:do θwa:do:!

သွားတော့။ သွားတော့။

GEMINATION IN TIGRINYA

By F. R. PALMER

THE analysis of the nominal forms of Tigrinya¹ in terms of the grammatical category of number (singular and plural) involves the recognition of two kinds of plural form, 'suffixed plurals' and 'broken plurals'.² Plural forms of both types are to be paired grammatically with singular forms of all syllabic structures. An example of each type of plural form with a singular of the two syllabic structures CVCCV and CVCCVC is given below.

Exx.	Singular.	Suff. Plur.	Broken Plur.	
	bazra	bazratat		'mare'
	qarma		qaramu	'gnat'
	gəŋgəl	gəŋgəlat		'gun'
	kəŋjər		kəŋajər	'tin'

The plural form is lexically 'determined', that is to say, no general rules can be given to indicate whether the plural form paired with any particular singular form is a broken or suffixed plural.

The broken plural forms themselves are of a number of different syllabic patterns, but a regular correspondence between the syllabic patterns of the singular and the broken plural forms can be established, except that for the very common singular syllabic structures CVCCV and CVCCVC two different types of plural form are to be recognized. These may be exemplified by the following (the two types being described as plural 1 and plural 2):—

Exx.	Singular	Plural 1	Plural 2	
	mefes	mefələs		'wild pig'
	ħargeg		ħareggəg	'crocodile'
	k ^w atra	k ^w ataru		'pigeon'
	gawna		gawennu	'male baboon'

The plural form (1 or 2) is again lexically 'determined', since no general rules can be established to indicate any regular relationship between each of the plural types and any feature (either phonological or grammatical) of the singular forms. In many cases plural forms of both types are to be grouped with one singular form with no apparent difference of meaning³ at any other linguistic level.

Exx.	Singular	Plural 1	Plural 2	
	kəŋfer	kəŋafər	kəŋeffər	'lip'
	sanʃa	sanafu	sanəʃtu	'bag'

¹ My informant was Mr. Mesghenna Almedom of Shuma Negus in the Hamasien district of Eritrea who has spent most of his adult life in Asmara. Research was undertaken in London and Eritrea, 1951-3.

² For further details of the Tigrinya material, of the theoretical approach and the transcription employed, see my 'The "broken plurals" of Tigrinya', *BSOAS*, xvii, 3, 1955, 548-66.

³ For the statement of meanings at different levels see J. R. Firth, 'Personality and Language in Society', *The Sociological Review*, xlii, 1950.