

Christine D. Tomei

# The Structure of Verse Language

Theoretical and Experimental Research  
in Russian and Serbo-Croatian  
Syllabotonic Versification

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THE STRUCTURE OF VERSE LANGUAGE  
Theoretical and Experimental Research in Russian  
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## **FOREWORD**

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## CONTENTS

<b>Foreword</b> .....	<b>vii</b>
<b>Introduction</b> .....	<b>1</b>
Form as Function.....	1
Prose or Verse.....	6
<b>Chapter I: THE SECOND SYNTAGMATIC</b> .....	<b>16</b>
The Syntagmatic and the Paradigmatic: A Review.....	18
The Independence of the Poetic Word.....	19
Return to Form .....	23
<b>Chapter II: THE SECOND PARADIGMATIC</b> .....	<b>34</b>
The Concept of an Axis in Relation to a Paradigmatic.....	34
A Musical Source Involved in Combination on the Second Paradigmatic .....	35
Meter and Accent.....	43
P <sub>1</sub> and P <sub>2</sub> in Verse.....	45
<b>Chapter III: RUSSIAN SYLLABO-TONIC VERSE</b> .....	<b>58</b>
Verse Line as Verse "Dominant" .....	58
Equivalence: the Projection Principle.....	65
Parameters of Russian Verse.....	69
<b>Chapter IV: SERBO-CROATIAN SYLLABO-ACCENTUAL VERSE</b> .....	<b>80</b>
Serbo-Croatian Phonology.....	80
Versification in Serbo-Croatian .....	85
The Short Rising Tone and Post-accented Length.....	88
Phonetic Considerations.....	92
The Line and Serbo-Croatian Syllabo-Accentual Poetry.....	96
<b>Chapter V: ACOUSTIC PHONETIC INVESTIGATION OF PROSODIC PECULIARITIES IN VERSE</b> .....	<b>106</b>
Acoustics and Poetics.....	108
Previous Research in Acoustics and Poetics.....	110
The Present Study.....	113
Method.....	114

The Corpus .....	115
Speakers .....	116
The Recordings.....	116
Setting up the Data Base.....	119
Preliminary results.....	121
Group Data .....	123
Analysis of variance (N = 6) .....	124
Fundamental frequency (F <sub>0</sub> ) .....	126
Duration .....	128
Energy .....	130
Verse context (N = 3, experimental).....	130
F <sub>0</sub> .....	130
Duration.....	131
Energy .....	132
Summary .....	133
Conclusions.....	135
<b>Appendix A: Previous Experiments (1983).....</b>	<b>140</b>
<b>A Reappraisal of “Word Accent in Modern Serbo-Croatian” .....</b>	<b>154</b>
Perception testing and perception vs. production.....	155
Method: broadcasting production material for perception.....	159
Method of Perception evaluation .....	160
Geography and Dialect .....	163
<b>Bibliography.....</b>	<b>171</b>



## **INTRODUCTION**

### **POETICS, POETRY AND PROSE**

We have invented the creation of forms: and that is why everything that falls from our weary and despairing hands must always be incomplete.

György Lukács, *Theory of the Novel*

#### ***Form as Function***

Perhaps the most confounding obstacle in addressing the subject of poetics lies in the plethora of meanings and associations that the term has accumulated. 'Poetics', perhaps because of its descriptive suggestiveness, its brevity[1] or its seeming preoccupation with the 'poetic function' of language has become the heading under which all of artistic literature is currently examined, whether as theory, criticism or creative practice.[2]

Examining prose under the rubric of 'poetics', a fairly recent phenomenon, probably gained popularity with the increasing realization that devices in the two artistic systems are technically similar. Thus the assumption obtained is that language in its 'poetic function' equals poetics. However, acceptance of this concept brought about a crisis of form. Distinctiveness which may be quite useful is abandoned for the compelling generality of categorization according to function. For example, A. Potebnja wrote in 1905 of the expression that takes place through the use of images in every art including verbal art.[3] In his vision, then, it is the functioning of images which defines art, and further dis-

inction is redundant. If such broad generality prevails, it goes without saying that more subtle distinctions are also obliterated: "It would be superficial – a matter of mere artistic technicality to look for the only and decisive genre-defining criterion in the question of whether a work is written in verse or prose," as György Lukács wrote in 1920.[4] Thus, prose and verse have come to be seen as not having mutually exclusive boundaries.[5] However, poetics must address the function of formal arrangement in literature. At this point it may be necessary to override general poetic function and concentrate on the form as a function in itself.

The present view of both verse and prose being inseparable in 'poetics' presents a striking irony *vis-à-vis* the historical evolution of 'poetics'. The relationship between word and expression, or art and non-art has gone full cycle. In Classical times, there was a single concept of the artistic entity, that of an organically integrated quintessential embodiment of content in form. Language was not distinguished according to function, but artistic verbal art found regular expression in verse. The use of verse represented a fundamentally "deformed" language. It was noticeably different from natural speech[6] which was normally prose[7] and was easily identified. The unity of form and content precluded any idea of function:

[...]as if one might term them all poets indiscriminately because of the metre[...] But the *Iliad* of Homer and the versified natural science of Empedocles really have nothing in common save the metre; and hence, if it is proper to style Homer a poet, Empedocles must be classed as a natural scientist rather than a poet.[8]

A word was *logos*, not just a reference to something external, but organically united with its meaning and interpretation. Its function was self-explained within an integrated society.[9] The language of a work was not seen to be a feature separable from the artistic system within which the work appeared. Thus there was no confusion in identifying a work of verbal art according to genre: it was distinct by its content. Likewise, content distinguished form; a poem was easily distinguishable from a mere versified text.

If the Classics understood a work within the cultural, holistic context, twentieth-century theorists and critics, preoccupied with scientific method, inexorably effected a total reversal in the philosophical basis for the study of poetics. Championing the position of the auto-telic artistic word, and even the “auto-defined” transrational seme or sign, Russian Formalism[10] proclaimed a science of poetics based on the *device*. Content was largely ignored except insofar as it provided the systems of form for the aesthetic satisfaction of scholarly analysis.[11] A relation of form and content obtained, but form was a transformation of content catalyzed by intention or design:

Every kind of content (ideological, psychological, etc.) turned into form, is absorbed by it, is destroyed as such, and becomes material. The transformation into form is summed up in that upon it (that is, upon the content) arises an artistic-abstract design which is also the organizational foundation of the work – other elements are subordinate to it.[12]

The main operative of this science was considered the formal device: “If the science of verse should wish to become a *science*, it must recognize the device as its only *hero*.”[13]

In some ways a direct outgrowth of the formal approach to literature influenced the discipline of modern linguistics. Study of language phenomena in the twentieth century is form-analytic. It addresses certain systems of abstractions in isolation from the social basis of language. This approach minimizes the relative properties of content and concentrates on observable systems which are functions of form – devices as it were. However, linguistics has claimed hegemony over all language phenomena. As an inevitable consequence, the concept of the uniqueness of the poetic word has begun to disappear. As Roman Jakobson proclaimed, “Since linguistics is the global science of verbal structure, poetics may be regarded as an integral part of linguistics.”[14] Likewise subsumed by linguistics are certain constituent manifestations of poetry, notably metrics. As John Lotz claims, “Since all metric phenomena are language phenomena, it follows that metrics is entirely within the competence of linguistics.”[15][16]

The notion of aesthetics parallels that of the related 'poetics' almost perfectly. Aesthetics has effectively collapsed within the narrowing focus of scientific orientation: "Aesthetics, if it is to be scientific, must be approached from the analytic point of view and must concern itself chiefly with the formal aspects of art." [17] Accordingly, aesthetic considerations are of a scientific nature and constitute only formal elements: thus, aesthetics is merely a sub-system of mathematical thought, without its basis in sensory response.

Clearly, the modern domination of linguistics and mathematics is responsible for a profound problem within the realm of literary studies. Possibly in reaction to the scientism, that is, in order to reestablish the rationale for the aesthetic study of literature, theorists and critics have resorted to the Classics, principally to Aristotle. They have reclaimed the right of literary theory to investigate 'poiesis' – literally creativity or 'making' – as the foundation of their approach to literature. One example of the call to return to 'poiesis' is from Frye. He summons the restoration of the task of Aristotle in writing a *Poietike*:

The next thing to do is to outline the primary categories of literature, such as drama, epic, prose fiction, and the like. This at any rate is what Aristotle assumed to be the obvious first step in criticism. We discover that the critical theory of genres is stuck precisely where Aristotle left it.... The Greeks hardly needed to develop a classification of prose forms. We do, but have never done so. [18]

Other modern critics also seek a return to the 'poiesis' of the Classics, S. Langer among them, but for other reasons:

Prose is a literary use of language, and therefore, in a broad but perfectly legitimate sense (considering the meaning of "poesis"), a *poetic form*. It is derived from poetry in the stricter sense, not from conversation; its function is creative. This holds not only for prose fiction (the very term, 'fiction', bespeaks its artistic nature), but even for the essay and for genuine historical writing. [19]

While the appeal of Frye is defensible, it contrasts greatly with that of Langer. The result is that the hearkening to the Classics is an ambiguous process: does one return to *Poietike* and continue a modern typology; or does one resort to *poiesis*, the study of 'making' literature, which is its function?

It may be that the modern use of Classical models is wholly inappropriate. Moreover, it may be that the reaching of modern critics for the economy or simplicity attributed to 'poiesis' in Classical nomenclature is an ironic historic repetition of Plotinus acclaiming the perfect symbolic representation of language in Egyptian hieroglyphics:

Similarly, so it seems to me, the wise men of Egypt – whether in precise knowledge or by a prompting of nature – indicated the truth when, in their effort towards philosophical statement, they spurned the forms of writing that take in the detail of words and sentences (those characters which represent sounds and convey the propositions of reasoning), and drew pictures instead, engraving in their temple-inscriptions a separate image for every separate item: thus they exhibited the mode in which the Supreme manifests itself.

For each manifestation of knowledge and wisdom is a distinct image, an object in itself, an immediate unity and not an aggregate of discursive reasoning and detailed planning.[20]

Certainly Plotinus' misconception of unambiguous language transferral is analogous to the present return of literary critics to 'poiesis'. He assumed that the difficulty in assigning values and definitions was due to the indefiniteness of his own language. He turned to a previous, foreign system which, to his mind, did not involve such sources for confusion. Likewise, the modern literary critic, when invoking Classical terms such as 'poiesis' or 'logos', is making a similar assumption, that these old, foreign words preserve a more essential meaning by being extracted from a language of greater sign-to-meaning integrity than the modern one. It is doubtful that they do.

The quandary manifest in Plotinus' position serves to demonstrate that a construct integral to one society and period of development may not retain its value when transplanted into another. Hieroglyphics may have worked for the Egyptians, but they could scarcely operate in Classical Greece. 'Poiesis' and 'logos' were perfectly viable concepts to the Greeks, but are less adaptable in the 'alienated' period of the twentieth century.[21] The social basis upon which the signification of 'poiesis' relied cannot be transferred from one period to another simply by invoking the term.

## *Prose vs. Verse*

By concentrating solely on the artistic function of the language under investigation, modern criticism and theory imply an absolute obliteration of *prosus* and *versus* in language form. The two fundamentally discrete systems of verse and prose are equated to an extreme degree, to the detriment of the understanding of the verbal material. For example, J. Culler, in his introduction to T. Todorov's book, *The Poetics of Prose*, uses literature and poetry interchangeably. He concurs with N. Frye's position concerning the need to return to the task first begun by Aristotle in his *Poetics* — that of developing a systematic theory of literature.[22] Culler continues: "Literary critics should assume, as Frye says, that there is a totally intelligible structure of knowledge attainable about poetry which is not poetry itself, or the experience of it, but poetics." [23]<sup>1</sup> Although Culler's concern is a systematic theory of literature, he addresses his subject under the general rubric of poetry. While it may be generally accepted that verse is a sub-class of all literature, here the converse is implied, that is, that all literature is a kind of poetry. This is wholly in keeping with S. Langer's position cited above — but very misleading. Another example demonstrates one of the pitfalls of describing prose and verse identically. In talking about the rapidity with which a literary form can change, T. van Dijk writes:

In poetics [literary scholarship] ...individuals or small groups may sometimes abruptly change, actively and consciously, a system of rules (norms, conventions, codes) independently of immediate positive or negative sanction of the group of readers of literary texts. That is, literary systems are characterized not only by rule-governed but also by rule-changing activity.... This change, unlike general linguistic change, is not always gradual, as can be seen in the transition from the symbolist system to dadaist and surrealist systems of poetry in a few years between 1915 and 1925. Poetics therefore will have to include a very important theory of diachronical 'transformations' of underlying systems.[24]

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<sup>1</sup> Throughout this paper, original italics will appear in italic print; emphasis added by the author of this paper will appear in boldface type.

Such a claim, using only verse examples, may not pertain to all systems of literature. It may be that van Dijk is overlooking some fundamental property of verse which may exist either in greater concentration in verse or in verse exclusively.

Artistic prose has manifold properties and verbal resources available to it; it is able to be multi-valent in terms of meaning, style, grammar and composition. Many of these systems are extrinsic to verse. And some of the major operative systems in verse are both foreign to and incompatible with prose. For example, consider the terms "prosus" and "versus". These words are descriptive of the concepts they represent. Except for symmetrical oppositions and symbolic repetitions, the flow of prose runs on (prosus), not turning back as verse does (versus). Prose does not characteristically employ sound features at the structural level.[25] In the case of all verse, the line is the fundamental construct (the point of versus). Verse language is phonetically structured, with or without meter.<sup>2</sup> The line is both a primary unit as well as a constituent unit in a series of related units. This results in periodization, a simultaneity of the continuum of the verse from one line to the next and the repetition of features such as sounds. Equivalence is a function of the unit of line echoing the rhyming lines, lines simply adjacent, as well as lines only in the poem. When lines are not regular or metered, they are still structures that are perceived as mutually equivalent. One of the cerebrally superior qualities of free verse and other verse using lines of unequal length is the use of line-equivalence as a structural device. Clearly, such is not the system of organization for the prose message.

Contrary to the tremendously popular precept that there is no demarcation between poetry and prose in the study of poetics, the major formal demarcation of verse and prose exists and is of great importance to literary scholarship. Study of its individual properties should be particularly profitable to the modern theorist and critic. Verse exhibits the fea-

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<sup>2</sup> "Lines" refers to colon, half-line or line (stix), any portioning of verbal material which is significant for the architecture of verse.

ture of non-continuous language organization operating above the level of grammar and syntax. Thus the irrational element of verse language, the line or colon-final pause which may or may not conform to another type of language disjuncture, separates verse from prose.[26]

In present theoretical programs, the importance of form is often overlooked and greater prominence is acceded to function: 'poetic' expression is a matter of structure,[27] psychology,[28] allegory,[29] metaphor,[30]etc. In these theories, if the formal consideration of the verse form should arise, it is generally reduced to the stature of merely a graphic element. Free verse is seen to need a special graphic construction to be apprehended as a form of poetic language since it is not metrical.[31] Generally, the construct of line is regarded only as a marker of verse form or the 'packaging' for the correct aesthetic reception, rather than a principle component of the form. However, such consideration obfuscates the functional nature of the form of verse:

The division into lines may be in contradiction with the structure of the verse — and the lines of Majakovskij do not coincide with every separate verse of his work. In such a fashion, we must free ourselves from the graphic representation, even if the graphic division of language in various cases appeared to be the necessary indication for the correct perception of the verse.[32]

The line as a strictly metrical construct is readily treated as an organizing principle of verse. Even considered as divorced from syntactic and phonetic considerations,[33] metrical lines are easily perceived as the dominating force in verse. In fact, metrical theorists even go so far as to claim that "a non-metric text is called 'prose'".[34] When lines are seen as metrical, eventually the assumption underlying the concept of 'meter' — sound organized in time — must be recognized "[...]it is hardly possible to ignore the metrical significance of pausal intonation."[35] Ultimately though, sound organization as a function of time causes phonic consciousness to reemerge as the dominant structure of the verse line. Since line structure is fundamental in all verse, the line with or without metrical regularity



is the hallmark of verse form: "The word comes to us from the Latin *versus*, a turning round as of the plow at the end of the furrow, and thus it meant also a furrow, a row, a line of writing. In verse, language turns from time to time and forms a new line." [36] These 'rows' consist of a string of sounds, and even if they are not articulated, they are sounded to oneself. [37]

By virtue of its foundation in the phonetic realm of language, verse must remain a separate consideration from prose. While the study of "poetics" may continue metaphorically to refer to the study of all language in the 'poetic' function, there is a real need to develop a modern methodology which specifically addresses the phenomenon of verse language. If "scientific metrics must be based on phonetics, the science of the sounds of language," [38] then so must all of the study of poetry:

We propose that verse in general is characterized as a phonetic phenomenon, in actual fact, on a level with intonation and other components, culminated in the common phonetic structure of a special type which forms verse language. [39]

Moreover, this is one aspect of poetic language that truly is universal, since, "from the available information, it appears that all literary traditions including those of primitive societies in many of which oral poetry plays an important role, utilize the same elements of form as Western poetry, and no exotically different ones." [40][41]

Ἐν ἀρχῇ ἦν ὁ λόγος

Certainly the nature of the task of a modern *Poietike* would be such that one cannot reconcile all the known and possible features in the language of poetry in one cohesive and fully defined system; but it would be foolish to abandon all the features simply because the final product must remain incomplete. It is true that the evolution of the relationship of the poetic word has gone full cycle. Function, in many cases, preempts form as a characteristic of the use of language just as content has become independent of form. V. Sklovskij points out in *The Theory of Prose*:

The poetic image is one of the means of poetic language. The prosaic image is a means of abstraction: a small melon instead of a round lampshade or a small melon instead of a head is only an abstraction from the object from one of its qualities and in no way differs from the distinction of a head equals a ball, a melon equals a ball. This is thought, but it has nothing in common with poetry.[42]

He implies, then, that the context defines the image, or that the image relies on the artistic intention.

Baxtin created a parallel between musical polyphony and the type of verbal organization of Dostovskij's prose. In doing this he drew attention to the metaphoric appeal that sound oriented features have for application to artistic language.[43] The nature of Dostovskij's characterization is not really 'polyphonic'. There is no strictly regulated relation among the voices in the novel; there are many voices in the specific arrangement of the verbal material, something only vaguely akin to the domain of music.

The term 'poetics' used to describe the language of all verbal art is, ultimately, inefficient. This is the study of the poetic function and should remain clearly labelled as such. If 'poetics' were defined solely on the basis of language function, the implication follows, paradoxically, that there is no subject of study whatsoever. The poetic function in language is manifested through the features used to 'make strange' (*Entfremdung*) – deautomatization in a word. Since poetic language must always renew itself, accordingly, one would be compelled to agree with R. Posner that "the concept of a 'poetic language' is thus a contradiction in itself,"[44] since endless deautomatization contradicts the necessary structure for a cultural phenomenon of such as art. The basis does exist, however, refuting such a claim. Furthermore, referring to the systems of literary study, including the disciplines of theory, criticism and practice, with one term – poetics – implies that all the properties of artistic prose are related to verse, as well as vice-versa. In the formal sense, this position is untenable, either as a methodology or as terminology. Neither are the formulae of the Classics presently viable for modern poetics. And avoiding the formal issues

by devolving into greater generality is counterproductive. Surely Sklovskij correctly remarked in 1929:

Poetics has, as it were, completed a circle in its activity. In some characteristics the elaboration of the theory has returned to the old rhetoric — this is not so bad, if the fact of the return itself is recognized, and not turned into a repetition, seeing in it a new approach to the heartbeat of reality.[45]

The Classical concept of 'poiesis' functions no better for modern literary criticism than the Classical concept of the configuration of the Universe operates for modern astronomy. Since this is the modern age, a modern reevaluation is in order.

Relegation by function is seen by this author to be too great a generalization to approach literature. The concerns are aesthetic, sociological, psychological and many others. Each of these disciplines has its use in the study of literature, both alone and in conjunction with other disciplines. However, each one needs to explain itself in relation to the approach and the material itself. Otherwise, perhaps the logical path of research is through a syntagmatic orientation, that is, to analyze literary language usage according to specifics of form. This is the goal of the present work.

## NOTES

- [1] T. van Dijk, *Some Aspects of Text Grammars*, Mouton: The Hague, 1971, p. 169.
- [2] A representative sampling of the variety of associations of 'poetics' can easily be perused in the journal, *Poetics*, Mouton Publishers: The Hague, or *PTL*, North Holland Publishing Company: Amsterdam.
- [3] A. Potebnja, *Iz zapisok po teorii slovesnosti*, Xar'kov, 1905, p. 83.
- [4] G. Lukács, *Theory of the Novel*, MIT Press: Cambridge, 1978, p. 56.
- [5] B. Tomaševskij, *Stix i jazyk*, Moscow-Leningrad, 1959, p. 12.
- [6] "That resemblance to non-artistic reality is a merit or even a condition of art ... is quite a recent phenomenon in the history of art. In the initial stages it was precisely non-resemblance, the difference between the sphere of the ordinary and the artistic, which made people perceive a text aesthetically. To become the material of art, language was first deprived of its resemblance to everyday speech. Only much later did it return to prose." Ju. Lotman, *Structure of the Artistic Text*, Michigan Slavic Contributions, No. 7: Ann Arbor, 1977, p. 97.
- [7] "A prerequisite to any judgement on language is the axiom that the natural form of organized human speech is prose.", B. Tomaševskij, *Stix i jazyk*, *op. cit.*, p. 35.
- [8] Aristotle, "On the Art of Poetry," Cornell University Press: Ithaca, 1947, p. 4.
- [9] Such organicism conforms to the 'heroic' (epic) consciousness of the time as described by Lukács. *Theory of the Novel*, *op. cit.*, p. 30 and elsewhere.
- [10] Not all the Formalists took a like position on the subject of linguistics in poetics. B. Ejxenbaum writes that R. Jakobson "more than once entered into argument with V. Sklovkij and V. Žirmunskij" regarding the relation of poetics to linguistics, in "Melodika ruskogo liričeskogo stixa", *O poèzii*, Leningrad, 1968, p. 337.
- [11] *ibid*, p. 336.
- [12] "Vsjačoe soderžanie (idejnoe, psixologičeskoe i t.d.), prevraščajas' v formu, pogloščä-

etaja eju, uničtožaetsja kak takovoe, i stanovitsja materialom. Prevrášenie v formu zaključaetsja v tom, čto nad nim (t.e. nad soderžaniem) vznikaeť xudožestvenno-abstraknyj zamysel, kotoryj i est' organizujuščee načalo vsego proizvedenija – emu podčiněny drugie èlementy." B. Èjzenbaum, "O zvukax v stixe," *Skvoz' literaturu*, University of Michigan Microfilms: Ann Arbor, 1961, p. 205.

- [13] R. Jakobson, *Nověšaja russkaja literatura*, Prague, 1921, p. 11.
- [14] R. Jakobson, "Linguistics and Poetics", *Selected Writings*, III, Mouton: The Hague, 1966, p. 18.
- [15] J. Lotz, "Metric Typology", *Style in Language*, E. Sebeok, ed. MIT Press: Cambridge, 1960, p. 137.
- [16] Žirmunskij assigns metrics to poetics as, "the science of the *norms* of artistic language determined by artistic intention," in *Introduction to Metrics: The Theory of Verse*, Mouton: The Hague, 1966, p. 17.
- [17] Birkhoff, "A Mathematical Theory of Aesthetics and Its Application to Poetry and Music," *Rice Institute Pamphlet*, XIX, July, 1923, No. 3, p. 193.
- [18] N. Frye, *Anatomy of Criticism*, Princeton University Press: Princeton, 1973, p. 13.
- [19] S. Langer, *Feeling and Form*, Schribner's Sons: NY, 1953, p. 257.
- [20] Plotinus, *Fifth Enead*, viii.
- [21] G. Lukács, *op cit*, pp. 29-39; 56 and elsewhere.
- [22] J. Culler in T. Todorov *The Poetics of Prose*, Cornell University Press: Ithaca, 1980, p.4, quoting N. Frye, *Anatomy of Criticism*, *op. cit.*
- [23] *ibid*
- [24] T. van Dijk, *Some Aspects of Text Grammars*, *op cit*, pp. 178-9.
- [25] N. Frye points out the proximity of rhetoric to literary form in its occasional use of rhyme, alliteration, metre, antithetical balance and exempla. *Anatomy of Criticism*, *op. cit.*, p. 251. However, these forms are optional and thus differ fundamentally from the construct of line in verse.

- [26] There is irrational pause in prose speech as well, but this is more of a function of the thinking process in relation to articulation. Furthermore, this pause is perceptually salient only as an element for psycholinguistic studies rather than as a fundamental organizational element in the fabric of spontaneous language.
- [27] Eg., such as demonstrated by Jakobson and Lèvi-Strauss in "Les Chats de Baudelaire" in *The Structuralists from Marx to Lèvi Strauss*, DeGeorge, ed. Doubleday and Co.: NY., pp. 124-146.
- [28] J. Kristeva, see *Desire in Language: A Semiotic Approach to Literature and Art*, Columbia University Press: NY, 1980.
- [29] P. DeMan, *Allegories of Reading*, Yale University Press: New Haven, 1979.
- [30] S. Levin, "Standard Approaches to Metaphor and a Proposal for Literary Metaphor," in *Metaphor and Thought*, A. Ortony, ed., Cambridge University Press: Cambridge, 1981, pp. 124-135.
- [31] Ju. Lotman, *Structure of the Artistic Text*, *op. cit.* p. 103.
- [32] "Droblenie na stročki mozet naxodit'sja v protivorečii so strukturoj stixa – i stročki Majakovskogo ne sovpadajut s každyim otdel'nym stixom ego proizvođenij. Takim obrazom, nam neobxodimo osvobodit'sja ot grafičeskix predstavlenij, xotja by grafičeskoe droblenie reči v otdel'nyx slučajax i javljalos' neobxodimym ukazaniem dlja pravil'nogo vosprijatija stixa." B. Tomaševskij, *Stix i jazyk*, *op. cit.*, p. 15.
- [33] M. Halle and S. Keyser, *English Stress: Its Form, Its Growth and Its Role in Verse*, Harper: NY, 1971, p. 152.
- [34] J. Lotz, "Metric Typology", *op. cit.*, p. 135.
- [35] R. Jakobson, "Linguistics and Poetics", *op. cit.*, p. 36.
- [36] J. Thompson. "Linguistic Structure and the Poetic Line," *Poetics*, D. Davie, ed. Mouton: The Hague, 1961, p. 168.
- [37] A.N. Sokolov, *Inner Speech and Thought*, Plenum Press: N.Y., 1972, p. 24.
- [38] V. Zirmunskij, *Introduction to Metrics*, *op. cit.*, p. 17.

- [39] "My polagaem, čto stix voobščë xarakterizuetsja kak zvukovoe javlenie, na samom dele, narjadu s intonaciej i drugimi komponentami, vključaetsja v obščuju zvukovuju strukturu osobogo tipa, kotoraja obrazuet stixotvornuju reč'". B.Gončarov, *Zvukovaja organizacija stixa i problemy rifmy*, Moscow, 1973, p. 31.
- [40] P. Kiparsky, "The Role of Linguistics in a Theory of Poetics," *Daedalus*, 1973, pp. 232-3.
- [41] It is information such as this pertaining to poetic universals which demonstrates painfully clearly the deficiency of the Western theoretical approaches of the "text" which extend to such extremes as "[...] only hearing such a poem is an experience essentially poorer than hearing *and* seeing it," J.J.A. Mooij, "On the Foregrounding of Graphic Elements in Poetry," *Comparative Poetics*, Fokkema, ed. p. 94.
- [42] "Poètičeskij obraz est' odno iz sredstv poètičeskogo jazyka. Prozaičeskij obraz est' sredstvo otvlečenija: arbuzik vmesto kruglogo abažura ili arbuzik vmesto golovy est' tol'ko otvlečenie ot predmeta odnogo iz ix kačestv i ničem ne otlišaetsja ot opredelenija golova=šaru, arbuz=šaru. Èto — myšlenie, no èto ne imeet ničego obščego s poèzijëj." V.Sklovskij, "Iskusstvo kak priëm", *O teorii prozy*, Moscow, 1983, p. 12.
- [43] M. Baxtin, *Problems of Dostoevsky's Poetics*, Ardis: Ann Arbor, 1973.
- [44] R. Posner, *Rational Discourse and Poetic Communication*, Mouton: Berlin, 1982, p. 125.
- [45] "Poètika kak budto opjat' soveršila krug v svoej rabote. V nekotoryx čertax razrabotka teorii vernulas' k staroj retorike — èto ne tak ploxo, esli soznavat' sam fakt vozvraščeniya i ne prevraščat' ego v povtorenija, videt' v nëm novoe približenie k pul'sacii suščnosti." V. Sklovskij "O stat'e Romana Jakobsona 'Poèzija grammatiki i grammatika poèzii'" *Izbrannoe v dvux tomax*, II, Moscow, 1983, p. 195.

## Chapter I

### *THE SECOND SYNTAGMATIC*

If one knew a little more about it, one could hope in consequence to form a fairly clear idea of the poetic essence. But we are far from possessing this central science...everything in this field must be created – and not only the means, the methods, the terms and the notions – but also and above all, the very object of our curiosity must be defined.

Paul Valéry, *The Art of Poetry*

For some reason, modern scholarship which still addresses the intrinsic nature of literature tends toward paradigmatic studies such as genre theory. The syntagmatic study of literary works, on the other hand, is largely misunderstood. For example, T. Todorov, in presenting Genette's conception of literary criticism writes:

To sum it up, we might say that in Genette's conception, the field of literature should be separated into two parts, each lending itself to a different type of analysis: the study of the individual work cannot be undertaken by structural methods, but these methods remain pertinent for the other part of the field.[1]

Certainly the scholar is mistaken, and structural analyses of a single work are both possible and profitable practice. R. Jakobson and C. Lèvi-Strauss demonstrate this fact abundantly in their analysis of Baudelaire's sonnet, "Les Chats".[2] The formal organization of the sonnet may be a superficial structure, as the authors of the critique point out. Because of certain semantic parallels and grammatical correspondences functioning structurally in the poem, the poem does not settle as expected into two traditional sections. Structural characteristics of this sonnet cause the text to divide into three parts, formed from sections of six, two and six lines instead of the commonly construed octet and sestet. Such a vari-



ation from the norm, some scholars would say, is the very limitation on the study of the literary "instance". The analysis produces specifics which do not lend themselves to the generalization commonly desired. However, the structural study of a given work may provide information about some important feature of the paradigmatic which has been overlooked. In this case, perhaps the possibility exists that sonnets normally contain a transitional or ambiguous section of, for example, the last two lines of the octet. This break may be a regular feature of the sonnet itself, or perhaps it is a recurring feature in Baudelaire's sonnets, etc. The possibility exists that a tripartite form may underlie the two parts of the sonnet quite significantly. This structure could conceivably obtain without drawing any attention to itself since the paradigmatic design for the sonnet requires two parts and not three. Thus, the examination of the instance reveals significant properties of the system. Perhaps a reexamination of sonnets would be in order, the result of which might indicate that the paradigmatic structure used to produce sonnets is not the simple design traditionally accepted.

Furthermore, the occupation with paradigmatic studies allows for inadvertant oversight of syntagmatic distinctions which might otherwise be very helpful to the literary scholar. As stated in the previous section, by lumping together verse and prose in his examination of macrostructures, Teun van Dijk may have overlooked an important feature of verse, that is, that it has the capacity for withstanding rapid changes of form.[3]

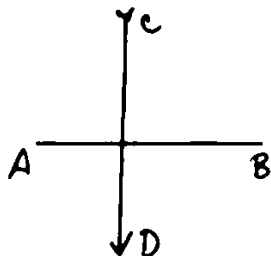
Verse language represents a syntagmatic structure which is absolutely discrete from prose. The feature of pause which occurs at points relevant only to the verse or to the tradition of verse separates it distinctly. This pause is not linguistic nor is it a distraction from the norm of verse form. The following sections will deal with this phenomenon in greater detail. Pause which is not linguistically necessary will be shown to distinguish verse language from the set of all artistic language.

## 1.1 *The Syntagmatic and the Paradigmatic: a Review*

The schema for the two major operations transpiring in language use are presented graphically by F. DeSaussure in his *Course in General Linguistics*:

[...] distinctions should be made, according to the following illustration, between (1) *the axis of simultaneities (AB)*, which stands for the relations of coexisting things and from which the intervention of time is excluded; and (2) *the axis of successions (CD)*, on which only one thing can be considered at a time but upon which are located all the things on the first axis together with their changes.[4]

Figure 1: The linguistic axes of DeSaussure



The axis of simultaneities is completely abstract. It is the set of all possible systems, structures and paradigms of the given language and is regularly called the “paradigmatic” axis. The axis of successions is the set of all examples as evidenced by the instance or the specific combination of the system. It is regularly called the “syntagmatic” axis.[5] Thus, the syntagmatic obtains from the projection of a possible combination in the paradigmatic into an utterance, instance, etc.

F. DeSaussure’s model has never been refuted, although it has not been categorically accepted by all scholars. R. Jakobson argues that it cannot be totally comprehensive, but he does not argue with the two-dimensionality of the model.[6] He has somewhat modified its operability in his famous dictum that *“the poetic function projects the axis of selection*

onto the axis of combination".[7] If a model for this process were to be made, it would doubtless add another dimension to the dual axes of DeSaussure. Essentially, R. Jakobson's point is that the instance of a poetic text cannot be pinned down to a single linguistic operation for its source. While the associations in artistic language are profuse, a great many of them are non-linguistic: mythic, psychological, etc., so R. Jakobson's model for the poetic function must ultimately be shown lacking. However, there can be no doubt that the syntagmatic arrangement of artistic language is quite different from other instances of language use. These differences are elusive, though, and would require intensive study. It is doubtful whether any specific of the syntagmatic would clarify most of these issues. One exception, though, is verse language. The discrepancy between the structure of verse and prose is manifest in all the instances of the two forms: verse does not proceed in a single-direction succession; it turns back. DeSaussure's scheme, as represented above, does not accommodate this structure because a lack of continuity is not explained by his formulation of the nature of language progression. The syntagmatic described by DeSaussure, which is continuity-conscious, accommodates only prose: "words are governed by relations based on the linear nature of language because they are chained together." [8] Words in verse are not necessarily chained together. The difference between the concatenation of language in verse and prose is striking; it is distinctive. Moreover, it serves to point out other features which differ between prose language and the material of verse.

## 1.2 *The Independence of the Poetic Word*

Verse language<sup>3</sup> involves a materiality quite foreign to prose. In poetry language is both the code and the substance which is manipulated to produce a sensuous and aesthetic effect. In this respect, verse language is materially different from other language combi-

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<sup>3</sup> "Verse language" is meant to include all language used to produce verse, including poetry, the artistic use of verse language.

nation since in ordinary combination, as DeSaussure describes it: "language is a form, not a substance, a structure with modes rather than an aggregate of items which has content." [9] 'Concrete' attributes of materiality are, on the contrary, the hallmark of poetic language:

[Language in poetry] is a *material* like metal and stone in sculpture, like pigment and the material of the pictorial plane in painting and so forth. Language, too, enters the work of art from outside as a sensorily perceptible phenomenon in order to become a vehicle of the non-material structure of the work; in the work of art it also undergoes elaboration, reorganization for that purpose. [10]

Verse relies very heavily on different levels of sound production, which systems are quite secondary to ordinary prose speech. The phonological and morphophonemic levels of language are particularly important in verse. The fundamental principle of syllabic verse is phonological where the number of syllables determines the line. Another consideration is word boundary since often formal constraints of verse depend on its distribution. Unlike prose, then, verse often considers substrata properties of language to be of the greatest importance.

The materiality of language in verse often appears in the phenomenon of the type of formal constraints where demands of verse form may override strict linguistic organization. Thus, the verse line may be limited, for example, by the number of possible outstanding syllables in a given line as in metrical or stress verse; or the number of syllables itself may be limited; or the sound sequence may be made to break at certain, linguistically unpredictable junctures as in free verse lines. [11] Changes in word accent, syncope, as well as changes in natural word order are frequent transformations which language withstands in its poetic conformation.

There is no feature of poetic language which is not susceptible to a noticeable deformation *vis-à-vis* ordinary language, thanks to the phonetic architecture of poetic combination. This makes the language of verse qualitatively distinct from its prose counterpart.

When the Formalists began to observe characteristics of poetic language which they called 'zatrudnennaja forma', 'osložnennaja', 'deformovannaja', etc., they did not realize that deformation is to a significant degree actually an integral, in fact, obligatory function of the operation of verse organization. Because verse uses language as a material, it actively subjects language rules to its own organization which overturns ordinary language, particularly grammar and syntax. Thus verse in its combination actively deforms language. If "poetry is language in its aesthetic function",[12] it is not a function which is strictly linguistic. Rather it is dialectic alternation where expectations of repetition and anticipation[13] transform all elements and their relations. Thus, it is mistaken to assert that "poetic language does not depend for its existence on 'deviations' from the linguistic system."[14] Poetic language is predicated on a system of linguistic deviations, a fact which whole language communities accept.[15]

In verse then, "[...] all linguistic elements potentially have autonomous value ;"[16] because they are all eventually subject to the higher order principle of verse combination before they are subject to the rules of grammar and syntax. The autonomy of the word in verse results from being freed from solely linguistic considerations in language combination. Such freedom may be interpreted to mean only such extremes in neologism as of 'zäumnyi jazyk',[17] but, agreeing with H. Friedrich, in fact it is a general condition, pertaining to all poetic language:

[...]in verse the autonomous dynamics of language [...] can go so far that the poem is no longer intelligible from its statements. Its actual content is the dramatics of external and internal formal forces. Since the poem still consists of language [...] it has the dissonant effect of simultaneously beguiling and bewildering the reader.[18]

It is impossible that, as Stankiewicz states, "poetic language takes full cognizance of the rules of the linguistic system"[19] when the poem may deform any element of language which it uses. Thus, as S. Levin writes, "put another way, the poem generates its own code, of which the poem is the only message."[20]

Grammar, which organizes thought, and syntax, which structures it logically, have been observed to differ in poetry.[21] These differences point out the fact that “many poetic sequences are generable by the kind of grammar constructed for ordinary language, but some are not.”[22] Even phonology, which would presumably constrain the poet in the same way as the user of ordinary language,[23] has been observed to operate differently in poetry (again, not only in the extreme case of *zaum*). One good example of such ‘deformation’ is in American Indian chants and songs where phonemes have been reported to have entered which do not appear in the spoken language.[24] Often phonetic laws which tolerate no exception in ordinary language are suspended in poetry. For example, the silent vowel [e] in English may become syllabic; ‘e muet’ in French poetry is pronounced as a syllable; the final [e] in German may be pronounced or not according to the requirements of meter. Certain grammatical tendencies are considered characteristic of poetic language, for example, the tendency toward verblessness.[25] And poetic syntax is sufficiently discrete to be called a phenomenon “not syntactic in general, but a rhythmico-syntactical phenomenon.”[26] While it is impossible to state that the language of verse is without a grammar or even that it shares nothing in common with the grammar of prose, it represents a transitional or mutated system and is not strictly speaking grammatical in the linguistic sense.

There are, then, sufficient grounds for postulating a separate system of poetic language, that is, verse language. The idea that there is “no clear demarcation between poetic and non-poetic language, but rather a matter of degree of lesser or higher poetic saturation,” as proposed by E. Stankiewicz[27] is not only formally misleading, but essentially unsatisfactory: We must instead agree with W. Koch who points out the weakness in this position: “If we say that an increasing number of stylistic items contributes to a higher degree of poeticalness, we must at the same time admit that the stylistic mode is the weakest spot of the whole of poetic analysis.”[28] Moreover, “[...] it is obvious that

poetic language is different from what we call common sense language; on the other hand this difference cannot be reached through a listing of stylistic phenomena..."[29] One must accept the materiality of verse language, its inherent quality of *faktura*, and attempt a different, more fundamental, approach.

### 1.3 *Return to Form*

The limits of poetic form are simply psychological givens, just as gravity is a physical given. In trying to define them we will have to make the effort, required wherever man studies his own nature, of not taking the 'natural' for granted.

Paul Kiparsky, "The Role of Linguistics in a Theory of Poetry"

Verse language represents a limited, specialized system of language which is not necessarily unique and isolated from other language systems, but the components of which combine in an idiosyncratic operation that is fundamentally discrete from other language combination. Verse language manifests a clear demarcation in that it must include extra-systemic formal properties such as the phonological constraint of number of syllables in a line, etc. The highest order of constraint in verse language is the periodic organization of the message.[30] Periodization is not related to linguistic considerations. Rather, it is the effect of sustained occurrence of the verse segment of line framed by pauses creating the primary units of which verse language is organized:

The primary rhythm arises because the flow of verse, thanks to fundamental verse pauses, is divided into lines (verses — in the most narrow meaning of the word), which act as the units of the primary rhythm.[31]

The primary rhythm of line structure in verse is its absolute requisite. It exists in all verse forms from the Classical hexameter to free verse. Yet verse-line disjuncture is not a feature of language at all. Scholars who speak of iambic or trochaic tendencies in a language and insist that verse rhythm is enhanced natural rhythm are ignoring the feature of

periodization which is by far the most significant component of rhythmic structure in verse.

Periodization ultimately generates a separate, second syntagmatic axis of language constructed along a principle of combination not wholly dependent on linguistic rules. This arrangement in segments called lines is distinct because its primary concern is segmentation; that is, it is not continuity-conscious before being line-conscious. On the other hand, the syntagmatic used in verse routinely enforces the separation of units of discourse at points which are not necessarily a function of syntax, grammar or logic; these points of separation may be linguistically arbitrary or irrelevant — hence, outside the system of language or simply non-linguistic.

The concept of the verse line constitutes the basis of the entire structure. As such, the study of the system of verse should embrace the distinctive 'features' of verse form. One of the fundamental flaws of much of the study of modern metrics is that verse language is approached as though lines in verse were determined *a priori*, or by metrical criteria alone. This is not the case; poetic lines are not pre-formed contours of language although there are standard 'lines' common in certain cultures. Neither do these 'natural rhythmical schemes' exist *a priori*. [32] According to Aristotle, even the hexameter was arrived at "by experience", [33] thus assuring us that meter in verse form is strictly a convention. This much is sure: metrical organization is subordinate to verse periodization which functions as the primary rhythmic organizer and is, as such, the fundamental component of the phonetic orientation of poetry. Periodization into lines at non-linguistically relevant junctures significantly affects potentially all features of language. Metrical structure may also be capable of deforming language, but its effect may be most noticeable at a different level, as will be discussed in the next chapter.



Verse language is to a great degree phonetically constructed by force of the line-creating properties of verse rhythm as well as the rhythm-creating properties of the line. It must not be overlooked that in correspondence with its syntagmatic structure, verse sound orientation is not linear in the sense of regular language:

The essential element of verse is found in the relations existing between three structures of sound that may be distinguished, for purpose of analysis, in any line of English verse. These three are, first, the structure of sound of the English language, second, the structure of sound of the metrical pattern, and third, the structure of sound of the line of verse.[34]

In poetry, then, linguistic linearity is superseded, and an increased dimensionality, the product of a tri-valent, phonetically constructed line emerges. The continually interfacing line, standing alone, echoing forward and/or backward to other lines, and existing within a continuum, obtains as a "pluridimensionality" of poetry, differing from "non-poetic linear sequence" by its transformational capacity.[35] This pluridimensional phenomenon may be seen to be a conventionalized property of form (a deformation property) providing it is recognized that the form of the poem is phonic: "...all verse by definition is an organization of the language's sound system." [36] The primary phonetic construct to which the constituent members are all related is the unit: language plus pause; or plus and minus sound. The plus-sound material of poetry is usually meaning-containing or linguistically-organized; minus-sound are the intervals of perceived pause, distributed within a span of time, either real time as in recitation or the relative time of the inner consciousness.[37] Verse differs from prose in its rhythmic patterning by implying the recurrence of certain elements within regularly distributed time intervals.[38] These intervals may be "units of precise temporal programming"[39] or only "perceived as if they had the same objective length." [40] But placement within a line certainly effects repetition within corresponding units of some definite scheme of progression.[41] It is within these lines that equivalences, so often referred to, may obtain: "It is precisely pauses, graphically affixed but not the graphic set-up by itself, which enable the 'correspondence of sets.'" [42]

The rhythmic structure of poetry bears a greater resemblance to the system of musical organization where phrasing and rhythm are temporally assigned than to the system of language where phrasing is subordinate to logic. Pause is not a feature of prose except when syntactical, logical, emphatic or grammatical. In verse, pausal intonation achieves a special dimensionality:

The phonetic structure of prose language is *single-planed*, that is, the carrying of the voice [golosovedénie] and intonation, as a rule, coincide; the clause [frazá] in prose language is the unit of the carrying of the voice.

The phonetic structure of verse language is *double-planed*: in verse new units of the carrying of the voice arise which do not exist in prose language: verses and strophes, which may not coincide with the intonational period.[43]

Pause in prose speech, if it is perceptually salient[44] usually belongs to the same syntactical categories as in written prose with the significant exception of use for added emphasis. Irrational pause, i.e., non-syntactic, is usually not significant in speech except as emphasis. In no case, at the risk of invoking the verse pattern, is non-syntactic prose pause structural; it is never fundamental.

This condition contrasts with verse structure in more ways than one. In verse, pause is psychologically salient even when it does not obtain phonetically: "A sense of regular pulses, once established, tends to be continued in the mind and musculature of the listener, even though the sound has stopped."[45] Moreover, it is a perceived feature of the structure of verse language even when it does not obtain phonetically. Verse pause functions both as an abstract measure producing perceptually equivalent segments and as a practical, phonetic element sometimes referred to as "silent stress",[46](a metronome in reverse, as it were). Pauses have varying phonetic impact, ranging from marginal, where they coincide with syntactic phrasing, to pronounced where the line ends without syntactic pause, and finally to "greatest relief", in such cases as enjambement.[47] V. Majakovskij, who revolutionized verse form with his graded poetic line, did so primarily by introducing new

phonetic relationships with increased occurrence of pause. This produced a more speech-based potential for emotional expression (one of the more significant borrowings of poetry from prose):

Our ordinary punctuation with periods, commas, interrogative and exclamation marks is absolutely impoverished and inexpressive in comparison with the overtones of emotion which a complex person now puts into the poetic work.[48]

Pause is of primary importance to the organization of verse. Practically, it takes on a special form and significance in the system of poetry by subjugating all other elements to its domination. Thus the organization of metrical verse, of stress verse and of syllabic verse, is always a function of some feature *per line*. Also, secondary language features are further subordinated to verse form, as was discussed in the previous section. It is a function of verse pause to engage in language combination by primarily non-linguistic segmentation, on the second syntagmatic axis, the mode of combination specific to verse.

Perhaps the origin of this axis should be identified as musical whether it be considered as strictly musical or of some mixed function. Some scholars still identify features of verse language with those in common with music: "A rhythm of word-music is a repetition of similar phonetic effects at approximately equal intervals." [49] The consideration of a musical basis may reconcile some of the irrational properties of verse language:

Musical stress [of the accompanying song] does not always correspond to linguistic stress which we assume to be on the first vowel within the word [in Ob-Ugric poetry]. Thus the phoneme /ə/ which, by definition, may never carry word-stress since it never occurs as the first vowel of the word, may nevertheless occur as the first vowel within a musical measure." [50]

In any event, "the original rationalizing of its [poetry's] irrational proportions under the influence of music explains the apparently unrhythmical nature of some such verse when found divorced from the melody with which it came into being." [51] If we accept that verse form is the convention which deforms language material, it is not hard to accommodate the idea that some feature related to music is operating in poetry.

One very conspicuous attribute of all verse – from the versified science of Empedocles to the Iliad of Homer – is that the function of form changes the function of sound:

Thus all sounds belong to the phonology of a language, but not all sounds belong to the structure of a poem. Only such sounds which may be linked into patterns of rhyme or alliteration or sound orchestration will be activated, but the same sounds in other places, if they cannot be linked in such a way, will be considered neutral from the point of literary organization.[52]

“Verse is the specially transformed, that is reshaped [preobrazovanaja] sound structure of language.”[53] Prose speech, though, is normally not sound-conscious, not oriented toward a combination of sounds for their own sake. In languages which invite alliteration or rhyme in ordinary speech[54] with the element of the line as the organization principle, sound orientation means nothing; the effect is still prose. Ordinary language intonation has the primary task of organizing for the sake of communication, of limiting ambiguity. The function of this greater rhythm is the determinant of the phonetic basis of poetic language. Rhythm must be temporally assigned, but “rhythm is more than a mere sequence of durational proportions. To experience rhythm is to group separate sounds into structured patterns.”[55] In poetry rhythm is the basis of equivalence, the line being perceived as the individual unit of composition. And in this respect, poetry is more closely related to music than to other forms of language phenomena.

## NOTES

- [1] T. Todorov, *The Poetics of Prose*, Cornell University Press: Ithaca, p. 30.
- [2] R. Jakobson and Lèvi-Strauss, "Les Chats of Baudelaire" in *The Structuralists from Marx to Lèvi-Strauss*, F. and G. DeGeorge, eds., Doubleday and Co.: N.Y., 1972, pp. 124-146.
- [3] T. Van Dijk did not overlook very much in this ambitious monograph on text grammars, and for his purposes the difference might not be important. *Some Aspects of Text Grammars*, Mouton: The Hague, 1971.
- [4] F. DeSaussure, p. 80. *Course in General Linguistics*, McGraw Hill: N.Y., 1966.
- [5] R. Jakobson calls them the axis of combination and the axis of selection respectively. "Linguistics and Poetics", *Selected Writings*, III, Mouton: The Hague, 1966.
- [6] R. Jakobson, *Six leçons sur le son et le sens*. Les éditions de minuit: Paris, 1976, pp. 106-111.
- [7] R. Jakobson, *ibid*.
- [8] *Course in General Linguistics*, F. DeSaussure, *op. cit.*, p. 123.
- [9] F. DeSaussure, *Course in General Linguistics op. cit.*, p. 122.
- [10] J. Mukařovský, *On Poetic Language*, Peter DeRidder Press: Lisse, 1976, p. 13.
- [11] The breaking of lines into significant units is the basis of all cultures' understanding of verse. That such lines imply a formal integrity as meaningful units is well demonstrated in free verse. For example, in e.e. cummings:

O sweet spontaneous  
 earth how often have  
 the  
 doting  
 fingers of  
 prurient philosophers pinched

and  
 poked  
 thee

there is no linguistic or logical function in breaking the language in such a fashion.

- [12] R. Jakobson, *Novejšaja russkaja poèzija*, Prague, 1921, p. 11.
- [13] I.A. Richards *Principles of Literary Criticism*, Harcourt, Brace, Jovanovich: N.Y., 1967, p. 134.
- [14] E. Stankiewicz, "Poetic and Non-Poetic Language in their Interrelation", *Poetics*, D. Davie, ed., Mouton: The Hague, 1961, p. 12.
- [15] W. Koch, *Recurrence and a Three-Modal Approach to Poetry*, Mouton: The Hague, 1966, p.42.
- [16] L.G. Jones, "Tonality Structure in Russian Verse", *International Journal of Slavic Linguistics and Poetics*, 9, 1965 p. 125.
- [17] In *zaimnyj jazyk*, Kručenyx claims that words differ from others in that no one understands them. "We gave a model of a different sound and word combination:

dyr bul ščyl

ubeščur

skum

vy so bu

r l èz

A. Kručenyx, *Slovo kak takovoe*, Moscow, 1913.

- [18] H. Friedrich, *The Structure of Modern Poetry*, Northwestern University: Evanston, Ill., 1974, p. 5.
- [19] E. Stankiewicz, "Linguistics and the Study of Poetic Language", *Style in Language*, T. Sebeok, Ed., MIT Press, Cambridge, 1964, p. 71.
- [20] S. Levin, *Linguistic Structures in Poetry*, Mouton: The Hague, 1973, p. 41.

- [21] P. Kiparsky, "The Role of Linguistics in a Theory of Poetry", *Daedalus*, 1973, p.238.
- [22] S. Levin, *Linguistic Structures...*, *op. cit.*, p. 11.
- [23] *ibid*, p. 28.
- [24] E. Stankiewicz, *Linguistics and the Study of Poetic Language*, *op. cit.*, p. 75.
- [25] R. Jakobson, *Novejšaja rusškaja poèzija*, Prague, 1921, p. 36.
- [26] B. Èjxenbaum, "Melodika russkogo liričeskogo stixa," *O poèzii*, Leningrad, 1968, pp. 328-9.
- [27] E. Stankiewicz, "Poetic and Non-Poetic Language in their Interrelation" *Poetics*, D. Davie, ed., Mouton: The Hague, 1961. p. 13.
- [28] W. Koch, *Recurrence ...*, *op. cit.*, p. 47.
- [29] P. Valesio, "On Poetics and Metrical Theory", *Poetics*, 2, Mouton: The Hague, p. 38.
- [30] E. Stankiewicz, "Linguistics and the Study of Poetic Language," *op. cit.*, p. 77.
- [31] "Pervičnyj ritm vozniakaet potomu, čto stixovoj potok blagodarja osnovnym stixovym pauzam delitsja na stroki (stixi – v samom uzkom smysle slova), kotorye i vystupajut edinicami pervičnogo ritma." B. Gončarov, *Zvukovaja organizacija stixa i problemy rifmy*, Moscow, 1973, p. 52.
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- [36] R. Wellek and A. Warren, *Theory of Literature*, Harcourt, Brace and World: N.Y., 1956, p. 146.
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- [41] Atkins, *History of German Versification*, Methuen and Co.: London, 1923, p. 9.
- [42] B.P. Gončarov, *Zvukovaja organizacija stixa, op. cit., p. 53.*
- [43] "Zvukovaja struktura prozaičkeckoj reči *odnoplanovaja*. t.e. golosovedénie i intonacija, kak pravilo, sovpadajut; ediniciej golosovedénija i intonaciji v prozaičkeckoj reči javljaetsja fraza.
- "Zvukovaja struktura stixotvornoj reči *dvuplanovaja*: v stixe vznikaeet novye, otsutstvujščie v prozaičkeckoj reči edinicy golosovedénija. — stixi i strofy, kotorye mogut ne sovpadat' s intonacionnym periodom." B.P. Gončarov, *Zvukovaja organizacija stixa, op. cit., p. 48.*
- [44] J. Svartvik, *et al. Survey of Spoken English*. Lund Series in English, 63, Liber Läromedel: Lund, 1982.
- [45] Cooper and Meyer, *The Rhythmic Structure of Music*, University of Chicago Press: Chicago, 1960, p. 3.
- [46] Jarvis, "Whitman and Speech-Based Prosody", *Walt Whitman Review*, 27 (2), June, 1981, p. 56.
- [47] B. Gončarov, *op. cit., p. 48.*
- [48] "Naša obyčnaja punktuacija s točkami, s zapjatymi, voprositel'nymi i vosklicatel'nymi znakami čeresčur bedna i malovyrazitel'na po sravneniju s ottenkami èmociji, kotorye sejčas usložennyj čelovek vkladivaet v poetičeskoe proizvedenie." "Kak delat' stixi," *PSS*, X, p. 113.
- [49] M. Yoshida, "Word-Music in English Poetry," *Journal of Aesthetics and Art Criticism*, XI, p. 152.



- [50] R. Austerlitz, *Ob-Ugric Metrics: The Metrical Structure of Ostyak and Vogul Folk-Poetry*, Helsinki, 1958, p. 124.
- [51] H.G. Atkins *History of German Versification*, *op. cit.*, p. 13.
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## Chapter II

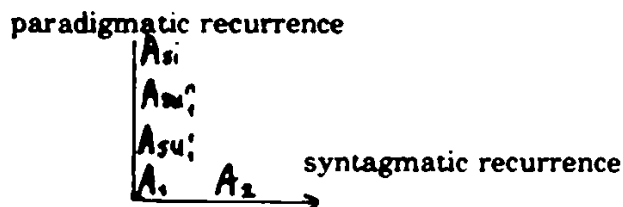
### THE SECOND PARADIGMATIC

#### 2.1 The concept of an axis in relation to a paradigmatic

To describe the primary relation of different language features DeSaussure used an axial system to accommodate two kinds of elements, one which is a function of time (syntagmatic) and one which is unaffected by considerations of time (paradigmatic). As was shown in the previous chapter, the axis of simultaneities (the paradigmatic) stands for the "relations of coexisting things from which the intervention of time is excluded." [1] The paradigmatic, while not composed in linear relations, was also projected as a line.

The temptation to postulate spatial relations among these features is overwhelming, given their stated position on an axis. Thus Koch describes the paradigmatic relations, asserting that the paradigmatic, as the syntagmatic, is marked for the phenomenon of recurrences. [2]

Figure 2: Koch's illustration of paradigmatic relations



"We say that the greater the distance of a particular  $A_1$  from a possible  $A_{(si)}$ , the less semantically satisfactory the paradigmatic recurrence of  $A_1$ ."

Obviously, this represents a problem because the paradigmatic cannot have recurrences since it does not have occurrences.

The problem arises in understanding how well “simultaneities” relate given that they are projected on an axis. To understand the relation of features in the paradigmatic, one must see a whole set of simultaneous features which, although not sharing any contiguous relations, are nonetheless related to each other by virtue of the kind of process they are part of. The interrelatedness of paradigmatic features is conditioned not by their contiguity or even their particular influence upon the linguistic material. These features are simply all those which do not presuppose the function of time within their structures. Their relationship, seen on an axis, resembles the fictional 1-dimensional society described by E. A. Abbott in *Flatland*.<sup>[3]</sup> All the members are single points, conjoined only from an outside perspective.

## 2.2 *A Musical Source Involved in Combination on the Second Paradigmatic*

The strategy of the present argument is to assume as psychologically valid the perception of rhythm and then to investigate metered language as an instance of it, or, to put it in slightly different terms, to assume a concurrence of rhythmic system and linguistic system.

Seymour Chatman, *Theory of Meter*

It is quite clear that verse language operates on a syntagmatic axis separate from everyday language. This holds true in a structural sense on both analytical and common-sense levels. According to Unbegaun, “the language of poetry is far from spontaneous. On the contrary, it is highly artificial: nobody employs verse in ordinary speech.”<sup>[4][5]</sup> It is equally clear that the relation which obtains between the verse syntagmatic and the linguistic paradigmatic is well defined. Pause in the linguistic paradigmatic is something that regularly accompanies syntactic, grammatical and other logical considerations.<sup>[6]</sup> Lan-

guage pause is subordinate to the system of syntactic structures which includes pauses as affixes to mark phrase-final junctures, i.e. syntagm = phrase plus phrase-final pause marker. Pause in verse represents a temporal concern, by definition, it cannot be generated from the linguistic paradigmatic.

Verse pause is by itself a compositional element and is a structural unit even though it obtains as a “negative” substance. In the same way as a “hole” may function in physics, pause may function in the verse syntagmatic:

In contemporary molecular physics the concept of a “hole” by no means refers to the simple absence of matter, but rather the absence of matter in a structural position which implies its presence. Under these conditions, a “hole” behaves so much like “matter” that its weight can be measured – in negative terms, of course. And physicists naturally speak of “heavy” and “light” holes. The student of prosody has to deal with analogous phenomena.[7]

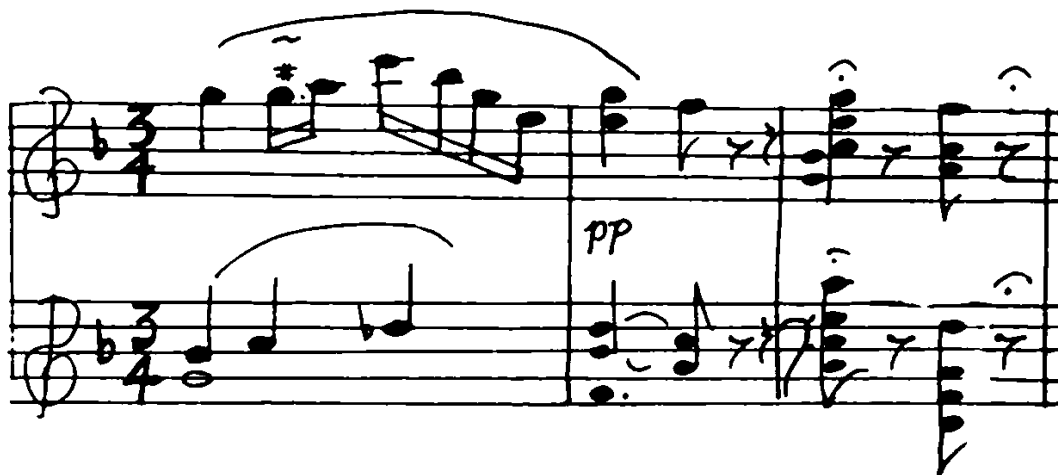
There is, perhaps, an analogy with the visual arts, where a “neutral” area may, in fact, act as contrast to a more vivid or “busy” area. This “neutral” area, then, takes on a meaning of its own rather than representing so much “empty space”.

Verse pause operates as a “hole” in the language syntagmatic. Its presence can be felt albeit in negative terms. The combinatory procedure results in such a way that verse pause is simultaneously both above syntactic organization and a syntactic element itself. It must be perceptible at the line-final junctures, at least at the psychological level, as discussed earlier, or be superseded by equally perceptible negative pause, enjambement; but no particular syntactic procedure is necessarily involved in the individual principle of combination of material organization in the particular verse or line.

This pause in verse acts as a rhythmic factor which points out the fundamental non-linguistic structure of verse language. Clearly, though, not just a single factor of rhythm is operating in verse since numerous relations produced among elements of language are far too discrete – even altogether unrelated – to be reconciled by consideration of simple

rhythmic principles. In addition to basic rhythm, phonetic features of language operate at a level of enhanced effect, significantly influencing the material in verse language, even producing other “rhythms” of their own making. The operation of these two basic organizing principles would seem to indicate the operation of a large non-language system in verse language combination. The variational potential for line-length, prosodic distribution, material composition, kinds and numbers of internal rhythms and sub-rhythms, etc., all correlative to greater verse rhythm, are too vast and, at the same time, too disparate, to ignore the operation of an inclusive system of organizational functions. The prosodic and syntagmatic rhythm present in verse language indicate a non-linguistic structural system which, in further redefining DeSaussure’s axial relations, produces a second paradigmatic axis. This system, engaged in a process of interaction with the linguistic paradigmatic, affects a material change, analogous to chemical compounding, within the language of verse.

The second paradigmatic is probably either music or analogous to music. One compelling argument for the claim for musical organization is that the feature of verse line ( $S_1$ ) organizes material much the same way as melody does in music. Perhaps just as not all of the linguistic paradigmatic ( $P_1$ ) is used in the production of verse, neither is all of the musical paradigmatic ( $P_2$ ). In the following discussion of the second paradigmatic, musical features will be introduced for a direct comparison. The phonic level of language which is not directly analogous to music will be addressed later; this level is secondary.[8] However, the component of verse pause — the periodic element of line organization representing rhythmic and phonic significance — must be examined directly since it has an exact analogue in music. Musical pause is also a “hole”, serving as both an organizing and a compositional unit:



This *adagio* does not end at the F major chord, but at the held rest. Arthur Schnabel, a scrupulous editor, cautions the performer to observe these final *silences*: a reminder that the musical work exists not solely in the world of physical sound, but in a temporal continuum formed by sound *and* silence.[9]

Moreover, music functions on the principle of rhythmic grouping – durationally organized by the feature of meter. Verse has the same tendency to group its material rhythmically, though not exclusively durationally. Verse organization depends on one major feature associated with accent, pitch, stress (intensity) or vocalic duration. Even when verse is not metrical, i.e., in free-verse, it tends to exhibit rhythmic patterning. “Critics have only vaguely appreciated how the phonic elements of Whitman’s style, iterated syntactic structures, the organization of stresses and “rhyme”, are combined in speech-based yet rhythmical units.”[10] In other non-metrical verse, “There is rhythm and non-rhythm. Rhythm may change; but as soon as rhythm does not obtain in general – there is a rift, a breakdown [vzryv, lomka].”[11] Musical pause, used organizationally, is analogous to internal verse line pause; the elements of melody are interspersed with elements of reflection. Musical pause used compositionally, though, is very much like the verse pause at the significant structural intervals of its occurrence; it “semanticizes” the segments of sound elements: “The musical sound of poetic speech is *also a means of transmitting information*, that is, transmitting content, and in this sense cannot be set in opposition to the other means of transmitting information.”[12] Pause invests meaning into the organization of sound elements which, in contrast to these, becomes significant.

In verse, there is a natural dialectic between language as a conveyor of thought or expression and language as a material [faktura]. This dichotomy in verse language has an analogy in musical melody. Melody and variation are involved in an internal “tension” with other fundamental compositional elements: counterpoint and harmony. Just as melody serves to be both “sense-containing” and a rhythmic organizing agent, counterpoint and harmony serve to both challenge it and complement it. The resulting dialectic is a process of balancing the tension between the different elements to produce an organically united “whole”.

The organization of material into complex simultaneous rhythms is common to both verse and music.[13] Seen thus, “poetic” figures such as alliteration, assonance, “homotony”, [14] etc. operate both at the level of morphological, phonological and/or phonemic feature patterning and also rhythmically at the level of establishing identifiable intervals. In music it has been pointed out that the more similar rhythmic groups are, the greater the tendency to perceive them as separate units.[15] Rhythmic movement in music depends on this principle in establishing its intricate web of primary and secondary rhythms. Feature patterning in verse may also produce rhythm when it serves to establish identifiable intervals; sound and prosodic repetitions produce another form of rhythmic organization. While the major rhythms of line-pause and prosodic rhythm are important, the infrastructure of verse lines often produce smaller phonic repetitions which coalesce into a kind of musico-linguistic rhythm in verse. In order to analyze the process of the dual-paradigmatic interaction, first consider the rhythm effected by the segmentation of language into lines. The line is organized according to principles of both paradigmatics.

P<sub>1</sub> functions occur on at least three levels:

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**Figure 3:** A line from Lermontov's famous poem, *Vyxožu odin ja na dorogu.*

жду л'чего || жалею ли о чем?  
 /ždúl'čə vó || žə léjuliačóm/

---



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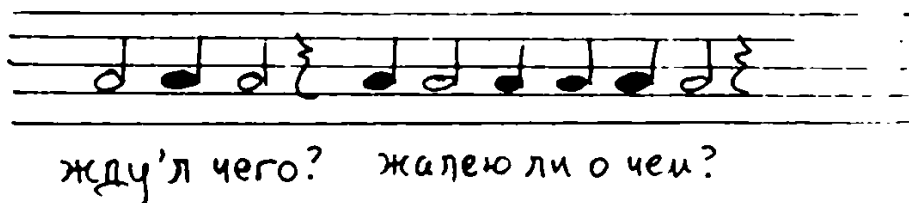
**Figure 4:** P<sub>1</sub> function: linguistic repetition

- Syntactic/grammatical parallel: verb + interrogative particle + object
  - Morphemic parallel: 1st person sing. /-u/; /li/; /čto/ (neuter interrogative pronoun)
  - Intonation construction 3 in both cases: an interrogative and an indefinite pronoun.
- 

However, P<sub>2</sub> function also operates at more than one level. P<sub>2</sub> function has direct analogues to musical organization. The line operates as a melody and meter is only a paradigm for the rhythm:

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**Figure 5:** Primary P<sub>2</sub> function. Simple rhythmic obtainment of metric structure using relative durational values approximated in musical notation.





$P_2$  primary function is a direct, unaffected projection from  $P_1$ .

Certain sound features in verse language are the result of a combination of two operations:  $P_1$  plus  $P_2$ . Repetitions are composed of linguistic features abstracted from their linguistic context; the features involved are thus neither lexical nor grammatical. Isolated linguistic particles occurring in the verse syntagmatic form another rhythm in the verse line. This is a secondary  $P_2$  rhythm. For example, prosodic and phonetic features combine in the following manner:

*Figure 6:* Secondary  $P_2$  function. All feature repetitions, prosodic, assigned relative quantitative values approximated in musical notation. Note: accent in Russian counts for three features: stress, duration, and full vocalic quality.

Thus a tension is created between the features which are inherently rhythmic (primary  $P_1$ ) and those which are rhythmic in combination from  $P_2$  operations. The components of these rhythms are essentially linguistic material ( $P_1$ ) but join to form a special relation with features of rhythm ( $P_2$ ):

$P_2$  secondary rhythm is clearly not a metrical rhythm nor is it formally related to  $P_2$  primary. This secondary rhythm is "out of phase", as it were, from  $P_2$  primary rhythm and proceeds from the combined forces of the linguistic and non-linguistic paradigmatics.[16] The two structures are dissimilar both fundamentally and in terms of correspondence. The rhythms obtain in the same material at the same time, but not "simultaneously" as dem-

Figure 7: Contrast of  $P_2$  primary and  $P_2$  secondary rhythm.

$P_2$  primary:

жѐу л' чѐго? жалеюли о чем?

$P_2$  secondary:

ѐ ѹ.Л' ѐ ѐ ѐ ѹ.Л' ѐ ѐ

or:

onstrated by the fact that  $P_2$  primary does represent an approximate durational relationship and  $P_2$  secondary is clearly a non-musical arrangement.  $P_2$  secondary is also not linguistic *per se*; it is the resulting phenomenon of language features combining in a musical orientation.

$P_2$  and  $P_2$  are not competing systems, nor are they complementary. They are “simultaneous” although they operate in different realms. Between them there is frequently a dialectic which arises from the perception of two functionally separate organizing systems, operating at different levels. The tension can never be absolutely reconciled. To the perception of the intelligent consciousness they are operating simultaneously: the material which results from the two different organizations is ostensibly the same.

Speaking generally, both music and verse enjoy great degrees of freedom in composition, in the ability to use or ignore the opportunities afforded by the structural features available within the systems accessible to them. There is of course a natural affinity

between the two forms. Their compositional domain is temporal, and combination occurs on a syntagmatic principle.[17] Elements produce both a progressive and a repetitive (regressive) combinatory effect. Acoustically perceivable material is organized into durationally relative repetitions involving both sound and silence. Finally it might be mentioned that the quintessential “affinity” between music and language becomes clear in those forms of art which rely both on language and music, the *canzone*, the *Lied*, the *pesn’*, or the ballad, for example.

### 2.3 *Meter and Accent*

Most phoneticians have paid little attention to verse structure. Most writers on prosody, moreover, have paid little attention to phonetics.

Abercrombie

The internal organization of material as meter is presumed identical in both verse and music:  $\overset{\curvearrowright}{\bullet}\overset{\curvearrowright}{\bullet}\overset{\curvearrowright}{\bullet}$  = dactyl;  $\overset{\curvearrowright}{\bullet}\overset{\curvearrowright}{\bullet}\overset{\curvearrowright}{\bullet}$  = amphibrach;  $\overset{\curvearrowright}{\bullet}\overset{\curvearrowright}{\bullet}$  = iamb, etc. “It seems obvious that meter is one thing that verse and music share; not contingently, but as an essence of both. Yet whether we have here a deep affinity or a mere equivocation is a serious question.”[18] This question is principally concerned with the features of accent since in both music and verse the basis of meter is assumed to be icti, a relative of word accents “whether they are produced by stress (dynamic), duration (agogic), or melodic change (tonic).”[19] In verse, although these three features are commonly associated with accent, usually only one of these principles is assumed to be the operant in a given versification system.[20] Thus, even a language in which features of quantity, stress and duration function phonemically, only one feature is used as the operative element of verse organization. However, in languages where syllabotonic versification is regularly employed, accent “is something not *in principle* concerned with any one constituent factor more than with another, though at the same time we usually do find one of the factors playing the predominant part.”[21] Many of the problems in the theory of verse language originate in this idea of exclusivity.

However, certain matters of prosodic importance arise which pertain to factors in syllabotonic verse which are not necessarily involved in the principle of the distribution of stress. In Russian, for example, stress is only one of three prosodic features of accent, vocalic duration and higher pitch naturally accompanying the stress in accented syllables. Phonetic rules operate which are dependent on the assignment of stress meaning that certain vowel sounds obtain only in accented syllables; in all other environments they are reduced. Thus, the feature of stress plays a leading role in the natural language prosody of Russian and must be seen to have a primary role in verse, too. However, the other factors associated with accent, known as a part of the natural language and, in the sound-conscious system of verse, presumably slightly enhanced by their relations to the dominant stress feature, must be important, even if contrary to the traditional theory of versification: the distribution of stress is not the only parameter of accent; thus, distribution of stress is not adequate to explain the fundamentals of rhythm in syllabotonic verse. One way to demonstrate this claim is to present the inadequacy of the traditional stress-assignment system in verse scansion. Many prosodic features of verse structure cannot be accounted for by stress assignment; there must be an attempt to reevaluate the interrelations of prosodic features which are not stress.

A lesson might be learned from the problem of meter and rhythm in music:

...Meter can apparently be independent of rhythm, not only in the sense that it can exist in the absence of any definitive rhythmic organization, but also in the sense that rhythmic organization can conflict with and work against an established meter. Thus, for instance, beats which might become accents (potential accents) or which actually *are* accented may be at odds with the accentual scheme established in the meter. Conversely, beats which for melodic, harmonic, or other reasons would naturally be weak may be forced because of the meter to become accents. While such conflicts of natural rhythmic groups with metric structure constitute disturbances which tend to modify grouping, they need not necessarily result in a change of meter. Rather they may produce either weak beats or forced accentuation.[22]

Music, since it may employ all phonic features, does not discount any one of these features; any one is a potential agent in structure or rhythmic realization. Even a normally subordinate element cannot be overlooked in a treatment of meter and accent in music; the system is sufficiently flexible that such a unit could become prominent in a given environment.

In verse, though, issues of scansion are generally concerned with the binary possibility of +/− stress in a given word at a given place. The best example of the insufficiency of this single-feature approach is the practice of scansion:

[...] during scanning the accent very often falls on a syllable unaccented in practice. Often the opposite happens – the syllable accented in practice is left without an accent.

It would seem – that scanning is pure arbitrariness, and that it is possible to scan whatever one wants or however one wants.[23]

Even when broad and penetrating statements are made to the effect that phonetics must be considered for the analysis of the fabric of verse language, it is often simply to clarify the assignment of stress:

In many cases there is no doubt whatsoever about the location of the stresses, while other cases give rise to disputes. The resolution of each separate problem may affect the results obtained by statistical calculations of “deviations”, as well as the theoretical inferences about the nature of Russian verse. Therefore, it is necessary first of all to investigate the linguistic material itself, its natural phonetic characteristic, and the influence exerted upon this material by the metrical organization.[24]

However, examining other characteristics of language accent in Russian in relation to the realization of verse ictus and non-ictus has consistently been avoided.

#### 2.4 *P<sub>1</sub> and P<sub>2</sub> in verse*

It should be clear that verse language uses the phonetic qualities of language just as music, in a material, hence malleable, manner. Accordingly, one might predict that in verse all accent features operate in freer variation in terms of combination than in every-

day language including those features which are assumed invariably to coincide. The inability to calculate the extent to which the rhythmic factor may supersede natural word-accent in verse, or to predict how a phonic feature may affect a line's rhythm, indicates that the system of language prosody must be profoundly flexible in verse combination. Verse language exhibits a "*special phonic organization* [zvukovaja organizacija] in its entire structure of interconnected and intersubjected [vzaimopodčinnyi] sound elements." [25]

A common indicator of the *special phonic organization* appears in the two areas most commonly associated with verse structure: the structure of concatenating syllables (including the number of admissible ones in a line); and the structure of word accent (or verse ictus, including the number of admissible ones per line). In terms of the verse structure, many factors differ from regular prose language. High on the list is the feature of word-boundary. This feature would be insignificant in prose; it must accompany any mark of punctuation by definition, but it is not determinative of anything else. In verse, word boundary may be accompanied by a pause which in this system is extremely significant. Majakovskij well understood the potentially heightening effect of the increased instance of verse pause. And his exploration of this potential resulted in the creation of a different-looking, more disjointed and emphatic poetic line, such as the following:

Graždanin fininspektor!  
   Prostite za bespokojstvo.  
 Spasibo...  
                ne trevožtes'...  
   ja postojū...  
 U menja k vam  
                             delo  
   delikatnogo svojstva:  
 o meste  
                     poëta  
                                 v raboëem stroju.

Much of the tension created is the result between linguistic and non-linguistic ordering, both of which occur “simultaneously” in the material, but one of which is at the cognitive level (the communication of the language) and the other of which is at the temporal level, involving the factor of rhythm(s). In V. Žirmunskij’s explanation, the dichotomy of verse language resides in the “*interaction* of two things: the natural characteristics of the verbal *material*, and the compositional law of alternation, which is incompletely realized owing to the resistance of the verbal material.”[26] Stankiewicz points out that the “hesitation between literalness and non-literalness transcends the purely semantic aspect of linguistic forms; it pertains also to their formal structure.” Clearly the dichotomy between what in the present formulation are called the first and second paradigmatic noticeably obtain in verse.

A deformation of language in verse does not always involve rhythmic procedures. A good example of deformation is found in Kručenyx’s theory of “shift”, or “*sdvigologia*”. Word boundary is an elusive feature in any continuous form, and that part of verse which is read in continuum – the line or some part thereof – may yield interesting results. If taken to its extreme, the structure of metrical verse produces linguistic deformation such as Kručenyx’s *Ikra á la Onèguine*:

Parter i kresla, vsë kipit...  
 I kraj otcov i zatoëen’ja...  
 Perom i krasdami slegka...

*I kryl'jami treščit i mašet...*

*I krug tovariščeј prezrennyx.*

The phenomenon of “sdvigologia” then produces segments of language where lexical meaning is subordinate to metrical dictates.

“Sdvigologia” is an extreme case. One poet of the time, Andrej Belyj, vigorously objected to its contrivance:

Scanning is something which does not exist in reality; neither the poet scans verses in internal intonation, nor the performer, [ispolnitel'] whoever he might be, a poet or an artist, never will read the line “Dux otrecan'ja, dux somnen'ja” as “duxot rican'ja, duxso mnen'ja”; from these “duxot”, “ricanij” and “mnenij” – we run in terror.[27]

Belyj was not alone in rejecting Kručenyx's approach. However, Kručenyx's approach is not without some justification. As Lotman observes:

The rhythmical picture really does divide the text of the verse into pieces which do not coincide with the sense, and then, whether we pronounce:

Dúx otricán'ja, dúx somnénja –

or:

Duxót ricán'ja, dúxso mnén'ja –

or more likely:

Duxót ricán' jadúx somnén'ja

in all cases we are dealing with verse reality.

[28]

Lotman then offers the explanation for the non-importance of the actual word boundary by addressing the problem in the deeper cognitive structure:

[...] Words in a poetic text divided by rhythmic pauses, no matter how prolonged these pauses may be, still remain *words*. They remain tangible juncture features – morphological, lexical and syntactic. The word in poetry recalls Gogol's “red caftan” [krasnaja svitka] – it is cut up by rhythmic pauses (and other rhythmic means), but knits itself together again, never losing its lexical integrity.[29]



Essentially, then, “*sdvigologia*” could be described as a phenomenon caused by the suspension of the “red caftan” effect.

The *special organization* of sound referred to by B. Gončarov may acquire particular significance in respect to the prosodic organization of verse language displaying meter. “Ictus” or “arsis”, [30] is naturally associated with word stress, an already extremely complex arrangement of prosodic features, usually amplitude (intensity), duration (length) and tone height (pitch). The “special organization” of verse language compounds further the unusual nature of language accent:

In a theory which patterns of relative stress are represented and assigned in terms of segmental or syllabic features, stress features and stress rules usually have a number of special properties that distinguish them from other phonological features and rules.

(i) The stress feature is *n*-ary, that is, it may assume a range of values that is limited only arbitrarily; other phonological features may generally be treated as binary, or at least as assuming a strictly limited range of distinct values in any given phonological system.

(ii) Non-primary values of the stress feature are defined only syntagmatically. [31]

In the “special organization” of verse language, the stress feature is generally regarded as binary (+ or –); but its placement may not accord with the usual phonological representation of the word.

In the special realm of  $S_2$  combination, one can reasonably expect even greater potential for variability since the nature of language in verse is much more “flexible”: “The flexibility of language ( $h_2$ ) to use Academician Kolmogorov’s terminology *grows markedly when the text is broken up into rhythmically equivalent segments*. [32] It is safe to say that the relations of the correlates of accent are more in flux than fixed in verse.

Perhaps the most remarkable aspect of this phenomenon is that features which normally must appear together may operate separately and retain accentual significance. Again, the resemblance to musical accent is clear: “an accent is a stimulus (in a series of

stimuli) which is *marked for consciousness* in some way. It is set off from other stimuli because of differences in duration, intensity, pitch, timbre, etc.”[33] This phenomenon is extremely interesting as it relates to syllabotonic verse:

For instance, in the group *Drug-moj*, the word *moj* is deprived of stress since it is joined to the preceding word like a particle, but the vowel *o* does not undergo any qualitative reduction (cf. *Drúg-moj* and *družboj*, where the final vowel is reduced to ə [družbəj]). The semantic independence of the pronoun makes possible the preservation of clarity in the pronunciation of the vowel.[34]

In conformity with the canonized theory of verse, it is not thought that language prosody itself is the operating principle behind this phenomenon.

Other instances of the same phenomenon are better examples of the function of the peculiar property of verse to overcome the limits of language phonetics and implement its own criteria. For example, in the line:

Moj djadja samyx čestnyx pravil

the same feature operates, that is, the phonetic principle of language reduction does not obtain and the unstressed vowel remains a full /o/. In this case, though, if the linguistic reduction would occur, it would reduce the /o/ to /a/ and not /ə/. In the following example, the /o/ in *von* might be thought to reduce to an /a/ or /ə/, depending on whether it were determined to be a proclitic to *tot* or an enclitic to *neuželi*:

Neužéli von tót – èto já

Xodasevič

*Von* is not likely to be either a proclitic or an enclitic, a fact supported by the resistance of the vowel to reduction; the stressed-vowel allophone in this word prevails, despite its position in the line. The same phenomenon occurs in lines like the following:

No, kážetsja, nam né za kem smotrét’:

Puškin

No is a conjunction, it might obtain with almost no vocalic duration at all, but as soon as it is pronounced, a full /o/ quality obtains.

It is not clear what semantic features might exert sufficient influence on an unstressed vowel to effect the preservation of an accent-only vocalic quality. It seems not only possible but entirely likely that the vowel does not reduce because one of the prosodic features usually assigned through stress in Russian, vocalic duration, remains in effect in this case. Unbegaun says of this the phenomenon: "the ambiguous character of the words [adverbs, pronouns] in question usually results in a partial loss of stress." [35] Certainly the converse is more the case, that the "ambiguous" words retain accentual features partially. This is exactly what happens in Stokavian Serbo-Croatian, where language stress normally shifts to proclitic prepositions, and vocalic duration is phonemic, the situation results in the duration remaining where stress is removed: *nôc* – *ũ nōc*.

Another problem in verse language is the case where a similar independence of normally interdependent factors is operating: pitch. The intonation of the line in terms of actual tone (pitch height being naturally associated with accent in Russian) probably compensates for what appear to be hypermetrical stresses [36] by conforming to stress-unstress contour instead of repeated-stress contour:

Já, já, já! Čto za díkoe slóvo!

Xodasevič

In other words, the complexity in phonetic realization of seeming clusters of stressed syllables provides adequate resource for one or more stressed words to undergo a "weakened" accent. For this reason, it should be conceded that A. Belyj was probably mistaken in his interpretation of three adjacent stressed syllables which he analyzes in his discussion of Greek *molosses*:

There has been a tendency to the *molosses* with which the ancient Greeks went to battle; the *moloss* is three accents set in a row ( *´*, *´*, *´* ), which correspond to three monosyllabic words which are difficult to fuse into a

line: they are three lines, *three lines* — perhaps because there is not any continuity in such a meter.[37]

It is very clear that these are three words in a line and not three lines, argue as Belyj may to the contrary. B. Gončarov, perhaps, summed up the problem when he wrote, “the prosodic contour helps to hide the whole fullness and richness of the accentual relations of verse, including the entire gamut of accents.”[38] The richness of accentual relations has to be delimited within verse lines; this is an elementary function of verse structure. Accents must be subdued or invoked, sometimes contrary to the dictates of ordinary usage.

Scholars do not usually recognize this principle of prosodic independence in verse. In fact, they often disallow it. Unbegaun writes that, “there is no notion of duration in Russian versification beyond the fact that the stressed syllable is always longer than the unstressed; but this fact affects prosody no more than it does the spoken language with the result that a Russian is not even conscious of it.”[39] For example, “the principle according to which we select the metrically relevant linguistic phenomena is the *principle of metric relevancy* in analogy with the principle of relevance in phonological and grammatical analysis; for example, length of the syllable is metrically relevant in Classical Greek, whereas intonation patterns are not metrically relevant in English.”[40] Yet a line from Gray’s *Elegy* proves that the same feature of intonation (pitch) is operative in verse:

Or Flatt’ry soothe the dull, cold ear of death?

*Cold* cannot obtain as fully stressed and not ruin the rythm. Yet it cannot be unstressed. Intonation, though, can “hide” the accent by removing the feature of higher pitch associated with word-accent in English. One of the primary tenets of metrical theory is the weakening of adjacent stresses.[41] However, this expedient does not justify the retention of other accent features in the syllables forced to lose their stress. If, however, the obvious is true and the other accentual features prevail after the loss of stress, then the normally conjoined features of accent may operate independently, and the features of duration and relative pitch operate significantly on the primary phonetic plane.

Scholars who disallow this possibility do not contend with this complexity of verse and usually are unconsciously inconsistent in their scansion procedures. It is most likely that scansion remains very subjective, though certain regularities may be predictable. This problem will be addressed more fully in the following chapter.

## NOTES

- [1] F. DeSaussure, *Course in General Linguistics*, McGraw-Hill: N.Y., 1966, p. 80.
- [2] W. Koch, *Recurrence and a Three-Modal Approach to Poetry*, Mouton: The Hague, 1966, pp. 10-11.
- [3] E. A. Abbott, *Flatland*, Dover Publishers: NY, 1952.
- [4] B. Unbegaun, *Russian Versification*, Oxford: Clarendon, 1956, p. ix.
- [5] Sometimes verse is used as a type of "sub-text" to prose, both written and oral.
- [6] It is interesting that R. Abernathy proposes that rhyme, a verse-pause related phenomenon, is a paradigmatic procedure "to perform effectively a syntagmatic organizing function." Rhyme is only peripherally linguistic procedure, as the following exposition demonstrates. In "Rhymes, Non-Rhymes and Anti-Rhymes," *To Honor Roman Jakobson*, Vol. 1, 1967. p 6.
- [7] J. Lotman, *Structure of the Artistic Text*, p. 103.
- [8] This phonic level is, however, composed of elements constituted by the same formal devices – timing and pitch (loudness plays a strictly tertiary role in both). D. Gardiner, *Intonation and Music*, Physsardt Series in Prague Linguistics 2: Bloomington, IN, 1980, p. 30.
- [9] H. Gross, *Sound and Form in Modern Poetry*, University of Michigan Press: Ann Arbor, 1964, p. 16.
- [10] D. Jarvis, "Whitman and Speech-Based Prosody," *Walt Whitman Review*, 27 (2), 1981, p. 52.
- [11] V. Majakovskij, "Kak delat' stixi," *PSS*, Vol. 12, 1961, p. 104.
- [12] Ju. Lotman, *Structure of the Artistic Text*, *Michigan Slavic Contributions*, no. 7, Ann Arbor, p. 120, 1977.
- [13] See G. G. Cooper and L. Meyer's chapter on complex rhythm in *The Rhythmic Structure of Music*, University of Chicago Press: Chicago, 1960, pp. 60 - 87, for an excel-

lent explanation and good illustrations.

- [14] Cigada. "Omotonia" *"Sull'autonomia dei valori fonetici nella poesia."* Milano, 1969, p. 43.
- [15] G. Cooper and L. Meyer, *Rhythmic Structure of Music*, *op. cit.*, p. 67.
- [16] Contrast the operation of these two rhythms with the complex structure of rhythm in music. G. Cooper and L. Meyer have an excellent discussion of the musical aspect.
- [17] D. Gardiner, *Intonation and Music*, Phylssardt Series in Prague Linguistics 2: Bloomington, In., 1980, p. 30.
- [18] M. Beardsley, "Verse and Music", *Versification: Major Language Types*, W. Wimsatt, ed., NYU Press: NY, 1972, p. 238.
- [19] G. Cooper and L. Meyer, *op. cit.*, p. 7.
- [20] "Metrical problems are solved in a particular way within the limits of any given language, and this largely depends on the inherent phonetic nature of the linguistic material." V. Žirmunskij, *Introduction to Metrics: The Theory of Verse*, Mouton: The Hague, 1966, p. 19.
- [21] H. Atkins, *History of German Versification*, Methuen and Co.: London, 1923, p. 23.
- [22] G. Cooper and L. Meyer, *op. cit.*, p. 88.
- [23] "Kak vidno iz ètix primerov, pri skandovke očën' často udarenie padaet na praktičeski neudarjaemij slog. Inogda byvaet obratnoe — praktičeski udarjaemij slog ostaeťca bez udarenija.
- "Kazalos' by — skandovka est' čistejšij proizvol, i proskandovat' možno čto ugodno i kak ugodno." B.Tomaševskij, *Russkoe stixosloženie*, Petrograd, 1923, p. 13.
- [24] V. Žirmunskij, *Introduction to Metrics*, *op. cit.*, p. 88.
- [25] B. Gončarov, *Zvukovaja organizacija stixa i problemy rifmy*, Moscow, 1973, p. 32
- [26] V. Žirmunskij, *Introduction to Metrics*, *op. cit.*, p. 21.
- [27] Skandovka est' nečto, ne suščestvujuščee v dejstvitel'nosti; ni poët ne skandiruet

stixov vo vnutrennej intonacii, ni ispolnitel' kem by on ne byl, poètom, ili artistom, nikogda ne pročtet stroki "dux otrican'ja, dux somnen'ja" kak "duxot rican'ja, duxso mnen'ja"; ot six "duxot", ricanj" i "mnenij" — bežim v užas. Andrej Belyj, "Ritm kak dialektika i *Mednyj vsadnik*." Moscow, 1929, p. 55.

- [28] Ritmičeskij že risunok, dejstvitel'no, delit tekst na otreški, ne sovpadajuščii so smyslovym, i togda proiznosim li my

Dúx otricaán'ja, dúx somnénja —

ili:

Duxót ricán'ja, dúxso mnén'ja —

ili vernee:

Duxót ricán' jadúx somnén'ja

my vo vsech slučajax imeem delo so stixovoj real'nost'ju.

Ju. Lotman *Lekcii po struktural'noj poètike*, Brown University Press: Providence, 1968, p. 142.

[29] Ju. Lotman, *Structure of the Artistic Text*, *op. cit.*, pp. 141-2.

[30] Originally, "thesis", the "setting down", but currently "the raising of the voice".

[31] Liberman and Prince, "On Stress and Linguistic Rhythm", *Linguistic Inquiry*, 8, 1977, pp. 261-262.

[32] Ju. Lotman, *Structure of the Artistic Text*, *op. cit.*, p.117.

[33] G. Cooper and L. Meyer, *op. cit.*, p. 8.

[34] V. Zirmunskij, *op. cit.*, p. 91.

[35] B. Unbegaun, *Russian Versification*, *op. cit.*, p. 16.

[36] Consider Unbegaun's example of hypermetrical stress:

Svéd, rússkij — kólet, rúbit, réžet;

Bój barabánnij, klíki, skréžet;



Gróm púšek tópot, ržánje, stón,

I smért' i ád so vséx storon.

In those lines where two stresses appear adjacent, the second one is probably pronounced on a higher pitch than the first.. *op. cit.*, p. 16.

[37] Pojavilos' tendencija k molossam, s kotorymi drevnie greki šli na boj; moloss – tri k rjadu ležaščix udarnyx ( ´, ´, ´ ), sootvetstvujuščix trem odnosložnym slovaryx slit' v stroku – trudno: oni – tri stroki, *tri stroki* – možet byt' ot togo, čto net prodolžatel'nosti v takom metre. A. Belyj, "Ritm i dialektika...", *op. cit.*, p. 11.

[38] B. Gončarov, *Zvukovaja organizacija stixa*, *op. cit.*, p. 62.

[39] B. Unbegaun, *Russian Versification*, *op. cit.*, p. 13.

[40] J. Lotz, "Metric Typology" *Style in Language*, T. Sebeok, ed. MIT Press: Cambridge, 1960 pp. 137-138.

[41] Liberman and Prince. *op. cit.*, p. 257.

## Chapter III

### *RUSSIAN SYLLABO-TONIC VERSE*

#### *3.1 Verse line as verse "dominant"*

The dominant may be defined as the focussing component of a work of art: it rules, determines and transforms the remaining components. It is the dominant which guarantees the integrity of the structure.

R. Jakobson

For theorists of verse, especially metric verse, the "dominant" in verse structure is undoubtedly the functional structure of the line. It "rules" in the sense that it is primary in the rhythmic sense, superseding demands even for real pause (as opposed to perceived pause). As A. Belyj aptly describes:

...pauzy javljajutsja osnovnym faktorom vo vnutrennej intonacii; oni – potencial'naja ènergija pred-udara, opredel'ajutsja siloj udara, sledujuščego za nej; nakonec: èta pauza možet i ne slyšat'sja; ona – pereživaetsja; ona – mogućij faktor ritma.[1]

Also, the line in verse includes a conditioning feature at the cognitive level, one which "determines" the line in the sense that it provides the framework within which equivalence obtains. The inevitable result of this determination is that the line in verse achieves agentive status. It is through the agency of the system of lines that meter is capable of operating, that rhyme can be set up, etc. Thus as the dominant, the line "rules, determines and transforms" the components of verse language and verse form.

Versification systems and metrical notions could not exist outside a system operating within the repeated boundary of line, and Russian syllabo-tonic verse is no exception.[2] In view of this, it is rather disconcerting when a scholar implies that the line is "purely typo-

graphical”[3] results in “a detour, a periphrasis, a play on words,”[4] or some kind of a *priori* segment.[5] Sometimes metrical theorists overlook the unit of line even while explaining it.[6] Often, the metricist claims that the verse-unit and the language-unit are identical, i.e., line = sentence. For instance, P. Kiparsky considers line-end to be the “patterned recurrence of sentence boundaries.”[7] His position, while greatly supported by quantitative research which corroborates that, “in verse language, the boundary S [sentence] is fixed by the end of the line, that is, is realized more often than in prose,”[8] is nonetheless incorrect. It is true that line-end and sentence-end frequently coincide in the structure of verse. This coincidence, though, marks the fact that the line is holding language according to its dictates, not that language is dictating the line. A sentence can easily end in the middle of a line with the next sentence resuming the line, and a line can easily end without completing a sentence. Mayakovskij diligently describes the process for making verses:

Staranie organizovat' dvizhenie, organizovat' zvuki vokrug sebja, naxodja ixnij xarakter, ixnie osobennosti, èto odna iz glavnyx postojannyx poetičeskix rabot — ritmičeskie zagotovki. Ja ne znaju, suščestvuet li ritm vne menja ili tol'ko vo mne. No dlja ego probuždenija dolžen byt' tolčok, — tak ot neizvestno kakogo skripka načinaet gudet' v brjuxe u rojale, tak, grozja obvalit'sja, raskačivaetsja most ot odnovremennogo murav'innogo šaga.[9]

From this description it is clear that rhythmic considerations are enormously important, hence, line-end features are significant; but rhythmic demands do not include grammatical or syntactic features such as the ending of a sentence.

Realized rhythm in meter is often greatly enhanced by divergences of language syntax and verse pause. Consider the beginning of *Mednyj vsadnik*:

Na beregu pustynnyx voln  
 Stojal on, dum velikix poln,  
 I vdal' gljadel. Pred nim široko  
 Reka neslasja. Bednyj čeln  
 Po nej stremilsja odinoko.

This example clearly illustrates that the boundary of line is not a function of sentence boundary.

Most incorrect in Kiparsky's position, though, is the idea that caesura and line-final pause are functionally the same phenomenon. Certainly it is clear that neither line nor hemistich is a condition of language. As M. Halle and S. Keyser point out, caesura may "occur whether or not it is syntactically justified by the text. The sequence delimited by the caesura, then, is not a syntactic entity; it is primarily a metrical entity postulated for purely metrical reasons." [10] S. Levin concurs with this position and underscores the value of the caesura by stating: "Regarding caesura as a syntactic break throws into jeopardy one of meter's most important aspects, namely, the tension developed between the abstract metrical scheme and the natural language dynamics." [11]

Caesura is like line-final pause in that it is not syntactically dictated; but it is radically different from line-final pause in its function in verse. In classical Greek, syllabo-tonic versification caesura could occur in the middle of a word, for example, in dactylic hexameter. However, line-final violations of word-boundary are unheard of in syllabo-tonic verse, both in the classical and modern forms. In fact, word boundary is the most frequent marker of line-final position and most often the obligatory feature of versification.

The line is a distinctive configuration in verse structure, and it is also a type of definition *sui generis*, hence, a meaningful unit in the semiotic sense. Line bounded units are markers of difference, showing both that a different kind of decoding principle from that of ordinary language is operating and that the equivalence procedure is operating. This decoding process is both progressive and regressive, beginning at line-initial position and back again at line-final. Thus a meaning is formed through "plural external recoding" [12] of the word to the surrounding words, the word to the sounds, and the word to the line-final pause. As a self-defined structure, the line has no linguistic relevance. As S.

Levin points out: "Moreover, once constituted, the line enjoys an autonomous status in poetry. It consists of a unit of length, with a beginning and an end." [13] Meter alone, if it should be considered to exist in non-bound contexts, would not be capable of achieving a distinction between verse and ordinary language. If the fundamental hallmark of versification distinguishing the language of poetry from the language of prose is, as Unbegaun observed, "based on the principle of a regular alternation of strong and weak syllables," [14] the question arises: in what respect and how? The "distribution of strong and weak syllables" is shapeless outside the system of line-assigned values as B. Tomaševskij demonstrates with an example from A. Belyj's prose:

"Drugie doma ne doperli; liš' kryši krivye kryžovnikovyx krasnoržavyx cvetov, v glubine tupikov provaljasja, truxlejut pod nebom;..."

Sledovatel'no, priznak razdel'nosti reči na otrezki-stixi suščestvenee priznaka naličija v stroe reči "metra" (vyražаемого zdes' v sisteme čeredovanii udarnyx i neudarnyx slogov.) [15]

That the critical feature of verse is the unit of line is well-demonstrated by the abundance of features which act to preserve the boundary at line-final position, a condition which is, in fact, unique to this position. As defined in the discussion of the second syntagmatic, the most significant feature of verse language is the feature of perceived pause, so persistent in its occurrence that it serves as a convincing argument for the canonical boundary. Thus a definition of verse must include mention of the boundary. C. Stutterheim writes:

Without a boundary the formal principle would not be a unit, nor would each verse be a unit; in other words: the verses would be non-existent. One or more other characteristics concern that which is contained between the beginning and the end of the unit. Now it is a striking phenomenon that the definitions of different types of verse take into account only the last-mentioned characteristics and are silent about the boundaries of the units. It seems to me that this is a mistake. [16]

All versification systems exhibit a regressive nature, some kind of verse line constraint. The most characteristic restraint is word boundary at line-final which, as dis-

cussed above, is predominant throughout verse. In some syllabic poetry, notably “folk verse” forms which are traditionally accompanied by a musical instrument and sung or chanted, line-final position is marked by a real pause where the performer can draw breath whether or not the pause is syntactically justified. This pause distinguishes verse unit from syntactic unit even at the physiological level.[17] Other features accommodating the prominence of line-final position include reassignment of word-stress, and not only for the sake of rhyme, though this, too, is a prevalent phenomenon. For example, in the Russian byliny, the final syllable in a line may change its stress to produce the sequence of long-short-long syllable preferred by this genre.[18] Other systems simply shun certain forms in order to conform to a given line-final demand; for example in the Serbo-Croatian *deseterac*, short vowels are ideally avoided in the penultimate position.[19] Or the system simply insists on certain forms at line-final position. In French syllabic poetry, line-final word-stress serves to mark the end of a line.[20]

Word stress as a line marker is a fundamental underlying feature of rhyme,[21] perhaps the most universally acknowledged feature of line-end.[22] Line end in metrical Russian verse depends on the final stressed syllable.[23] When the versification does not presuppose a clearly discernible metric or rhythmic effect, an increased stringency in rhyme requirements may compensate,[24] clearly a means of preserving the integrity of the verse dominant, the line. In the following examples from V. Xlebnikov’s “Zmei poezda – begstvo,” the erratic line-length and unpredictable stress distribution would create a completely different effect in the absence of rhyme:

1

My govorili o tom, čto sčitali xorošim,

Branili trusost’ i porok.

Poezd bežal, razumnym služa nošam,

2

Zmeěj kačaemyj čertog

Zadvizkami steol stukal

Satal podošvy nog.

14

I past' razinuta byla, točno dlja vstreči meča.

No set' zvezdami raspoložennyx ključek

Ispugali menja, i ja zaplakal ne kriča.

15

Vlasam podobnuju čitaja knigu, poputnik

Sidel na gade, černyj vran,

Usažennyj v koncax šipami i sotnjami žuček.

Majakovskij, who well understood the binding effect of rhyme upon verse lines[25] did not attribute this phenomenon strictly to the position of line-final:

Možno rifmovat' i načala strok:

ulica –

lica u dogov godov rezče,

i t.d.[26]

However, this kind of rhyme in the absence of line-final rhyme is extremely rare.

Verse line constitutes its own system of relations, one level of which is like language and another level of which is like rhythm. As B. Malmberg puts it, "the way of grouping syllables into larger units as well as the delimitation of units are the other effects of the peculiar syntagmatic structure of a language." [27] The added material element of zero-sound or "metric pause" in verse [28] complicates the linguistic procedure sufficiently to produce a separate syntagmatic. As in all language, a term in verse acquires its value only because it stands in opposition to everything that precedes it or follows it or to both. [29] The divergence and ostensible cause for the claim of an independent verse language proceeds from the heightened effect of the syntagmatic idiosyncrasy in verse. [30]

Some scholars claim that verse language is more conducive to the study of language than ordinary prose language:

The structure of verse points up and, so to say, "dramatizes" the problems which are also inherent in the structure of language; i.e., the relationship between the various levels and between the obligatory elements of language. The relationship of levels is far less conspicuous in linguistic systems than in verse.[31]

It is unlikely, though, that language in the verse syntagmatic would be more typical than prose language, even though its combination is more limited.

In verse, then, words stand in relation both to other words in the system of language, and to pause and the system of rhythm. Language syntax may work with verse line constraint or contrast with it, but it is verse before language, not vice-versa.[32] As B. Èjxenbaum pointed out, "syntax in verse" is 'articulated' not by thought divisions, but by rhythmical [divisions], now coinciding with them (line = phrase), now overcoming them (enjambement)."[33]

Perhaps the most striking effect of verse line is that the perceived pause, although it interrupts the flow of speech sounds rhythmically, does not destroy the unity of the poem. Quite the contrary, as the dominant, it is the feature which more than any other "guarantees the integrity of the structure." This phenomenon was described above by Lotman as "the red caftan" effect. Words retain tangible juncture features — morphological, lexical, and syntactic, even though they are subject to pauses of unspecified length.[34] Z. Dozorec attributes this ability to a "compensatory mechanism" operating in the substance of the poem:

The aforementioned forward and reverse dependences between syntactic boundaries testify to the operation of some kind of compensatory mechanism, which under all the segmenting of the text allows the entirety to be maintained, making it a unit and entirety of the whole text.[35]

The effect of the regressive principle, though, is very likely not dependent on language syntax as much as the plural decoding process described by Ju. Lotman. Since the line is



at once both a sequence of phonological units perceived as separate and a sequence of words perceived as coherent units of phoneme combinations, minimally two processes of decoding are involved in reading the text, perceiving the two hypostases of one reality.[36]

### 3.2 *Equivalence: the projection principle*

The verse line is the unit within which the “equivalence” of verse language takes place. Ju. Lotman sees equivalence as taking place at levels above language: “the rhythmic division of a text into isometric segments creates an entire hierarchy of supra-linguistic equivalences.”[37] R. Jakobson describes it as purely linguistic:

Equivalence is promoted to the constitutive device of the sequence. In poetry, one syllable is equalized with any other syllable of the same sequence; word stress is assumed to equal word stress, an unstress equals unstress; prosodic long is matched with long, and short with short; word boundary equals word boundary, no boundary equals no boundary; syntactic pause equals syntactic pause, no pause equals no pause. Syllables are converted into units of measure, and so are morae or stresses.[38]

The idea of equivalence has been proposed in many regards to different individual aspects of poetic language, e.g., that verse lines are essentially equal in durational (temporal) terms[39] or essentially equal in syntactic terms[40]

Equivalence in verse lines is the structural underlying feature which R. Jakobson assumes in his previously cited claim that “*the poetic function projects the axis of selection onto the axis of combination.*”[41] However, it is clear that this statement, while attractive both in terms of economy and scope of application, is flawed, if only because of the exclusively linguistic orientation equivalence has for R. Jakobson. If this statement is taken to mean that “*the syntagmatic recurrence of paradigmatically equivalent linguistic elements is the constitutive element of poetic form*”[42] – as P. Kiparsky convincingly demonstrates that it means from the type of linguistic statement R. Jakobson succeeds in making as a result of applying this principle[43] – then there is really no way to determine when the

operation of a projection of this nature is occurring. What in this function differs significantly from DeSaussure's where "spatial coordinations [syntagmatic] help to create associative [paradigmatic] coordinations, which are in turn necessary for analysis of the parts of the syntagm"?[44] The similarity between R. Jakobson's statement and DeSaussure's is too great to allow this distinction between the so-called poetic function and ordinary language: De Saussure is, after all, describing the function of ordinary language combination.

E. Stankiewicz is probably closer to the truth when he differentiates poetic and ordinary language as follows:

The poetic text further differs from the paradigmatic system of language (the "axis of selection") in that it does not, like the latter, merely involve either/or alternatives but combines, in the complex dialectics of poetry, the either/or with the both/and possibilities. The semantic equivalents, that is, do not follow each other in sequence like the parallel lines of a poem, but they interpenetrate and illumine each other.[45]

The strictly closed binary opposition of either/or, so common in the theories of R. Jakobson, must in fact be replaced with a more flexible system of greater than two possibilities; the open system of both/and must operate in verse language at the compositional and structural levels.

In light of the operation of a second syntagmatic of language concatenation, any position which rules out the complex system of dual-syntagmatic and two separate paradigmatics in verse language falls short. Linguistic and non-linguistic considerations enter the picture in verse formation. As a well-known linguist has noted, "our interest in equivalences in poetry is "extralinguistic." [46] This may be taken to mean that language operates both as a material and as a meaning-making system. In the formal respect of verse structure, the more important paradigmatic procedures develop from functions of the second paradigmatic rather than the first. Seen as such, there can be no doubt that R. Jakobson oversimplified in his famous dictum, that the poetic function projects the syntagmatic onto the paradigmatic. Equivalence is not strictly linguistic in verse form.

Consider Lermontov's poem, "Vyxožu odin ja na dorogu". This first line, responsible for setting the poet's contract for meter[47] as well as theme, has no syntactic or grammatical "equivalent" throughout the entire poem. Indeed, only three subsequent lines use first-person singular active verbs:

Ždu l' čego? Žaleju li o čem?

a question in parallel form;

Už ne ždu ot žizni ničego ja,

and

Ja išču svobody i pokoja!

The second line would be the best candidate for equivalence, but the point is moot whether it is the result of poetic function or not. What might be a syntagmatic recurrence of paradigmatically equivalent structures between the two lines is certainly of no greater significance than what might occur in ordinary speech; the lack of other supportive equivalences causes this gratuitous confluence.

Structurally, a better analysis of the poem might be obtained through allowing grammatical categories to create parallelisms which function as any other compositional "device" in the poem. For example, the category of present active/subjunctive (past-form) verb clearly marks off the first three stanzas from the last two. Effectually, then, three stanzas stand together as one part of the poem and two other stanzas function as the second part of the poem. This particular relation in poetry is frequently encountered, most notably in the sonnet where the first eight lines form the first part of the poem and the last six lines are the second part. In neither the sonnet, though, nor in this poem by Lermontov is there a perceived disunity between the two parts. Quite the contrary, they hold together not only by virtue of continuity, but also because of the unique relationship created among the parts of the poem. The final eight lines stand in relation to the first twelve lines of the poem in almost exactly the same relationship as the twelve lines stand to the

entire twenty lines of the poem. This creates the proportion of the Golden Section: the smaller segment is to the larger segment as the larger segment is to the whole, in this case, 8 : 12 as 12 : 20. This kind of symmetry is traditionally associated with aesthetics, not language. As B. Bosanquet explained

...Beauty consists in the imaginative or sensuous expression of unity in variety ... The relation of whole to part – a slightly more concrete expression for unity in variety – is represented in comparative purity by geometric figures, or again by rhythmic or spatial intervals that bear numerical relations to one another. [...]There is a degree of beauty belonging to every shape or structure which in any way affects perception with a sense of regularity or symmetry.[48]

Rhythmic procedures forming language into lines created the “intervals” in this proportion; but language has no rules which would cause it to form in such a way. Structural symmetry, though, is an integral feature of most musical works. Thus verse bears another resemblance to music at the compositional level and another formal divergence from non-verse language.

Other features which structure the poem undoubtedly proceed from the second paradigmatic. There is a marked tendency for an ‘accelerated’ first foot followed by caesura after the second (realized) ictus.[49] One of the most powerful features creating this caesura is not, as might be assumed, language syntax since this reinforcement occurs only twice,[50]but rather internal assonance created by the repetition of a vowel sound, notably, the stressed /a/ which occurs eight times in this position. Otherwise a full rounded vowel occurs in this position: stressed /u/ occupies this place four times and stressed /o/ another four times. Outside of this position, the stressed /a/ occurs in only four syllables.

There is no grammatically united feature causing the parallel lines to create a perceived deceleration between the third and fourth syllables: the case for syntactic demarcation is weak, word stress in the first syllable falls to the side (noč, spit) to allow the first foot to accelerate. Equivalence is certainly responsible, but it is, in this case, rhythmic or musical (rhythm plus sound) equivalence and not linguistic.

### 3.3 *Parameters of Russian Verse*

The procedure of operating in the paradigmatics is a dialectic of language between  $P_1$  and  $P_2$ . The present discussion will attempt to demonstrate that if language properties are tacitly included in the analysis, much of the scientific, i.e. duplicable, value of the analysis is vitiated.

One way to approach the problem of making assumptions about language from  $S_1$  on  $S_2$  is to examine the discussions of verse analysts. The following examples are taken from B. Unbegaun's standard text, *Russian Versification*. Since scansion is the primary and most accepted system of the formal analysis of verse, it must proceed within clearly defined parameters. B. Unbegaun sets out to describe as many types of considerations useful in the delimitation of verse form as possible. He states categorically: "The metrical stresses of the line must not be inconsistent with the natural stress of the word. A change of stress in a word to make it comply with rhythmic demands is not allowed." [51] On the other hand having expressed the criterion that pronouns do not warrant stress in verse, he finds it expedient to assign stress in the following manner: in the examples on pages 83, 84, and 85, the "accented" syllable in arsis (the metrically strong syllable) was not assigned stress in: *ego* (possessive, three occurrences; accusative, once); *on*, twice; *moja*, twice, *u nix* and *svoj* one time each. On the other hand, *náši*, *nás*, *negó* and *menjá* were assigned metrical stress concurring with appropriate word accent. [52] Judging from this distribution, it would seem that first person pronouns generally were regarded more as content words than third-person ones were. Certainly, though, this matter is not connected with ideal meter. Clearly, B. Unbegaun misinterprets some of his own system or somewhat misunderstands verse language itself in his scansion. Scansion, then, does not proceed in a systematically regulated manner, *per se*. but is more likely to be subjectively produced. This idea has been propounded by C. Stutterheim:

Scansion apparently has to be learned, it requires some practice. This means that for one formal element the distance between the level of consciousness of the theoretical reflection and that of the experience is greater than that for another. In other words: in the experience they are not equally manifest. And on account of this, I am inclined to say then they are not in the work itself either.[53]

If scansion proceeds from knowledge about material rather than from material itself, it must then be at least partly subjective. However, certain regularities prevail, so judgement must be formed from some common experience. Thus it is not surprising to find that the greatest source for confusion is systematic, occurring in the regular collision of the two syntagmatic axes of language described in this paper. As will be demonstrated, many factors which are regularly confusing in scansion result when assumptions made of  $S_1$  language features are included in the  $S_2$  system. These eventually contain some internal contradiction.

There are two major categories where assumptions normally occur in examinations of verse language realization. One involves the dialectic of word accent and verse ictus, and the other involves syntactically perceived pause and verse pause (line-final, caesura). Within a given scansion, a rather arbitrary alternation between the two systems,  $S_1$  and  $S_2$ , takes place. Misappropriated features of one system are assumed tacitly and uncontested with the final result that scansion seems too subjective and uncontrollable to be of more than limited value as a study of poetics.

There are virtually endless examples of the dichotic principle of verse segmentation, i.e., the difference between language syntax and metric pause. Metric pause sometimes does not supercede the limits of language syntax; neither, though, does language syntax necessarily efface metric organization. Consider this example from B. Unbegaun's discussion of caesura:

Tůčki nebésnye, || věčnye stránniki,  
 Stép'ju iazúrnoju, || cép'ju žémčuznoju,  
 \* Mčites' vy, búdto kak || já že, izgnánniki

S mílogo sévera || v storonu júžnuju.

Lermontov

In the verse above, caesura and line-pause coalesce with syntactic pause except in the starred line. This line ostensibly contains two syntactic pauses clearly marked by commas. If these pauses influence the phonetic structure of the line, then the caesura is probably:

Mčíteš' vy, || búdto kak já že, || izgnánniki

If both the metrical caesura and the syntactic pauses obtained, the line would read:

Mčíteš' vy, || búdto kak || já že, || izgnánniki

And if all the possible internal pauses are ignored, the rhythmic flow is virtually unchanged from the adjacent lines since, once formed, rhythm tends to continue in the mind of the perceiver.[54] Moreover, this last possibility brings through the greatest opportunity for the establishing of the internal assonance, *kak já ... izgná*. Nonetheless, since the line is undoubtably read as poetry by any speaker of Russian, there is no reason to doubt that all the potential rhythms are perfectly perceptible as well as the internal assonance.

The problems arising between accent and ictus stem from relationship of two paradigmatic organizing principles operating upon the same language material. Metrical stress and syntactic stress sometimes collide. Consider again the following lines, accented by B. Unbegaun to demonstrate hypermetrical stress in anapestic meter:[55]

Já, já, já. Čto za díkoe slóvo!

Neužéli von tót – èto já?

Razve máma ljubíla takógo,

Zeltosérogo, pólusedógo

I vseznájuščegó kak zmejá?

V. Xodasevič

This example displays many instances where inadequate assumptions about word accent and verse ictus are made in order to impose meter over language or vice-versa. The first involves the word /čto/. Unlike most words, /čto/ has two meanings formed by a stressed and an unstressed variant, the former being an interrogative pronoun and the second being a relative pronoun. Moreover, the idiom čto za is always stressed implying that the vowel quality should always remain within the stressed allophones of [o], not either [a] or [ə]. (The actual duration of the vowel is moot.)[56] Thus the assumption on B. Unbegaun's part is self-contradictory: the non-stress of /čto/ in the metrical system, i.e., arsis or weak position, nonetheless carries word accent the same as it would in regular speech.

In the same example, apparently without considering it contradictory, he has posited purely metrical stresses in certain polysyllabic words, among others, *pólusedógo*. This stress is morphologically and possibly phonetically[57] justifiable; however, the same should be said for *želtosérogo*. In fact it should have been marked *že<Ultosérogo*, not just by analogy, but since, as before, the stressed allophonic realization of /o/ is assumed.

The problem with assuming stressed allophones rather than unstressed ones in unstressed positions has been largely ignored even though it clearly occupies a unique and estimable status in the study of verse language. This problem deserves individual attention. Possibly an acoustic analysis of Russian and Russian verse might help to illuminate the problems of accent and ictus in the dialectic of verse and non-verse language. It might become clear that the tenuous balance between  $S_1$  and  $S_2$  values is struck via a sophisticated redistribution of suprasegmental features in verse. The three main prosodic features of accent — pitch, duration and intensity — which correspond to the three major types of musical accent — stress = dynamic, duration = agogic, and pitch = melodic (tonic) accent — may be capable of operating independently in Russian verse, as was suggested in the previous chapter. Certainly V. Žirmunskij believed so, particularly in the case of the



metrically unstressed question-word. In the phonetics of ordinary speech, the intonation center of a syntagm containing a question word (the *wh*-words, in English) is on the question word itself. It is inconceivable that such a word could exist in a context without stress. Therefore it is not unexpected that V. Žirmunskij wrote:

[...] the melodic accent is in some less frequent cases separated from the dynamic. Thus, the melodic rise of the voice marks the interrogative pronoun and adverb in the immediate vicinity of the stress. Eg., “Uvjal ... *Gde* žarkoe volnen’e?... *Gde* mnete vešnie cvety?... *kto* budet tam? – svoja sem’ja.

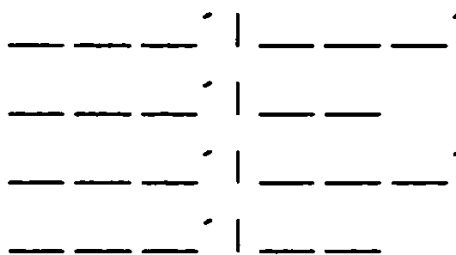
In demonstrative adverbs signifying an object at some distance from the speaker there is in any case a predominant musical accent (a *demonstrative* intonation); e.g.; *Tam* nekogda guljal i ja ... *Von* begaet dvorovyj mal’čik ... and others.[58]

In the previous examples from B. Unbegaun above, such consideration was never integrated. The resulting scansion seems like language systems randomly mixed and applied arbitrarily to the same material, seemingly regulated only by the “intuition” of the controlling consciousness of the analyst. There are cases where his randomness is actually contradictory to his system and the result tenable only by convention. Consider the following anapestic example, also assigned stress by B. Unbegaun:[59]

Osedláju konjá  
 Konja býstrova,  
 Ja pomčús’, polečú  
 Legče sókola

Although the cases B. Unbegaun cites where no stress on a normally stressed syllable is allowed, i.e., “secondary words, monosyllabic and disyllabic which are unstressed: they are either enclitic in that they are supported by the word that precedes them, or proclitic in that they are attached in pronunciation to the word which follows them”,[60]neither category would apply in the case of *konja* and *legče*. In *legče*, the stressed allophone /e/ is assumed even though the metrically unstressed vowel, which would reduce to /i/, is noted. Either this is a case where non-metrical stress is operating — and the author himself notes

“deviations gradually wear away the metre, and syntactical stress tends to replace metrical stress”[61] – in which case the disparity should be dealt with, or this is a case where non-metrically justifiable stresses occur in some distribution of accent features which is not a part of Russian phonetics *per se*. Surely these stressed vowels in these two words occur in their respective positions in the verse. Rather, though, than modify the scansion B. Unbegaun uses



it might be more profitable to assign either types of verse accent or degrees of word accent.

Another major conflict between the “Verstakt” and “Worttakt” conflict arises in the area of the dichotomous principles of pause operating in verse. Syntactic pause is considered by many scholars of utmost importance. Verse pause may be as hard to define and categorize as the pause of normal speech,[62] but there can be no question about line-final position as marked for pause. This is the most characteristic feature of verse form. In some cases, most notably in the case of caesura, other verse pause occurs, possibly to the same degree of realized pause. For the most part, it is expected that syntactic pause will provide the template for the operation of caesura in a particular work.

## NOTES

- [1] A. Belyj, *Ritm kak dialektika i "Mednyj vsadnik"*, Moscow, 1929, p. 42.
- [2] "The unit of Russian syllabic-accentual verse is the line (stix)." B. Unbegaun, *Russian Versification*, Oxford: Clarendon Press, 1956, p. 11.
- [3] B. Unbegaun, *ibid*, p. 71.
- [4] M. Riffaterre, *PTL*, vol. 2, No. 1, Jan. 1977, p. 1.
- [5] As J. Thompson does, in "Linguistic Structures and the Poetic Line," *Poetics*, D. Davie, ed. Mouton: the Hague, 1961, pp. 167-176.
- [6] No metricist has ever justified a line, only the constituent feet and the distribution of stresses therein.
- [7] P. Kiparsky, "The Role of Linguistics in a Theory of Poetics", *Daedalus*, 1973, p. 243.
- [8] Ż. Dozorec, "Russkij stix," *Slowiańska metryka porównawcza*, II, Warsaw, 1984 p. 83.
- [9] V. Majakovskij, "Kak delat' stixi," *Polnoe sobranie sočenenij*, vol. XII, 1961, p. 101.
- [10] M. Halle and S. Keyser, *English Verse: Its Stress, Its Form and Its Role in Verse*, Harper: N.Y., 1971, p. 153.
- [11] S. Levin, "Conventions of Poetry", *Literary Style: A Symposium*, Oxford, 1971, p. 185.
- [12] Ju. Lotman *Structure of the Artistic Text*, Ardis: Ann Arbor, 1976, p. 36.
- [13] S. Levin, *Conventions of Poetry*, *op cit*, p. 182.
- [14] B. Unbegaun, *Russian Versification*, *op. cit.*, Introduction pp. ix-x.
- [15] B. Tomaševskij, *Stix i jazyk*, Moscow-Leningrad, 1959, p. 11.
- [16] C. Stutterheim, "Poetry and Prose, Their Interrelations and Transitional Forms," *Poetics, Poetyka, Poètika*, 1961, pp. 227-228.
- [17] In Ob-Ugric versification, the sung poetry is also formally (grammatically) different from dictated verse. Thus R. Austerlitz can distinguish types of metrics by grammatical differences. In R. Austerlitz, *Ob-Ugric Metrics: The Metrical Structure of Ost-*

*yak and Vogul Folk-Poetry*, Helsinki. 1958, p. 15.

- [18] B. Unbegaun, *Russian Versification*, *op. cit.*, pp. 104-5.
- [19] R. Jakobson, "Studies in Comparative Slavic Metrics", *Oxford Slavonic Papers*, III, 1952, p. 31.
- [20] B. Unbegaun, *Russian Versification*, *op. cit.*, p. xi.
- [21] "As long as stress was ignored in verse, modern rhyme, which depends on it, was obviously impossible; it is the recurrence of stress, not of verse-ictus, which is needed for rhyme." W. Beare, *Latin Verse and European Song*, Methuen and Co.: London, 1957, p. 255.
- [22] B. Unbegaun calls it "most important characteristic of the end of the line," *op. cit.*, p. 71.
- [23] "Whatever the metre used, the regular succession of strong and weak syllables concludes with the last stress of the line. The final unstressed syllables following the last stress are completely independent of the metrical structure of the line." B. Unbegaun, *Russian Versification*, *op. cit.* p. 13.
- [24] Ju. Lotman, quoted by D.B. Johnson in the Introduction to Lotman's *Analysis of the Poetic Text*, Ardis: Ann Arbor, 1976.
- [25] "Rifma svjazyvaet stroki, poëtomy ee material dolžen byt' ešč krepče, čem material, pošedšij na ostal'nye stroki," V. Majakovskij, "*Kak delat' stixi*," *op. cit.*, p. 106.
- [26] *ibid.*
- [27] B. Malmberg, *Structural Linguistics and Human Communication*, Springer: Berlin 1967, p. 137.
- [28] "The line is demarcated by the completion of a metric figure, which is manifested by a *metric pause*; the line is sometimes also marked by rhyme." O. Ducrot and T. Todorov, *Encyclopedic Dictionary of the Sciences of Language*, Johns Hopkins University Press, 1979, p. 187.
- [29] F. DeSaussure, *Course in General Linguistics*, McGraw-Hill: NY, 1966, p. 123.

- [30] "The retreat from communication through language to the rules of the language system itself has found its counterpart in linguistic poetics in the postulate of a 'special poetic language,'" R. Posner, *Rational Discourse and Poetic Communication*, Mouton: Berlin, 1982, p. 125.
- [31] E. Stankiewicz, "Poetic and non-poetic language in their interrelation" *Style in Language*, T. Sebeok, ed. MIT Press: Cambridge, 1964, p. 18.
- [32] One may adequately perceive the operation of verse and even its meter in a language totally incomprehensible to the perceiving consciousness. This generally refutes such positions such as the claim that "poetic language is language before it is poetic." D. White, *Heidegger and the Language of Poetry*, University of Nebraska Press, 1978, p. 5.
- [33] B. Ėjxenbaum, *Melodika rusškogo liričeskogo stixa, O Poèzii*, Leningrad, 1968, p. 329.
- [34] Ju. Lotman, *op. cit.*, *Structure of the Artistic Text*, pp. 141-142.
- [35] "Otmečennye prjamaja i obratnaja zavisimosti meždju sintaktičeskimi granicami svidel'stvujut o dejstvii nekoego kompensatornogo mexanizma, kotoryj pri vsej drobnosti teksta, pozvoljaet soxranit' cel'nost' sostavljajuščix ego edinic i celostnost' vsego teksta". Ž. Dozorec, *op cit*, p. 84.
- [36] Ju. Lotman, *Structure of the Artistic Text*, *op. cit.*, p. 142.
- [37] Ju. Lotman, *Structure of the Artistic Text*, *op. cit.*, p. 117.
- [38] R. Jakobson, "Linguistics and Poetics," *Selected Writings*, III, Mouton: The Hague, 1981, p. 27.
- [39] This assertion seems to be quite valid for certain verse systems. I. Lehiste, as cited previously, reports from her acoustic analysis of Estonian poetry that "the poetic line is a unit of temporal programming". In "Rhythm in Spoken Sentences and Read Poetry", 1984, Unpublished, p. 2.
- [40] R. Austerlitz postulates for Ob-Ugric verse that line equals one of four kinds of sen-

tence. *op. cit.*, p. 25.

- [41] R. Jakobson, "Linguistics and Poetics," *op. cit.*, p. 27.
- [42] P. Kiparsky, "The Grammar of Poetry," *International Journal of Slavic Linguistics and Poetics*, XXVII, Supplement, 1983, p. 21.
- [43] P. Kiparsky points out the value of the equivalence principle for R. Jakobson in determining the similarity of language functions in vocative and imperative grammatical forms, *ibid*, p. 22.
- [44] F. DeSaussure, *Course in General Linguistics*, *op. cit.*, p. 128.
- [45] E. Stankiewicz, "Poetics and Verbal Art", *A Perfusion of Signs*, T. Sebeok, ed. Indiana University Press: Bloomington, 1977, p. 69.
- [46] S. Levin, *Linguistic Structures in Poetry*, Mouton: The Hague, 1973, pp. 28-29.
- [47] K. Taranovski demonstrates that the use of trochaic pentameter in Russian verse holds a special meaning of marching in his well-documented article, "O vzaimootnošenii stixotvornogo ritma i tematika", *American Contributions to the Fifth International Congress of Slavists* Vol. 1, pp. 287-322.
- [48] B. Bosanquet, *History of Aesthetics* Sonnenschein: London, 1892, p. 35.
- [49] K. Taranovski in the previously cited article, does not claim that the caesura is fixed, but rather that it is moving [podvižnaja cezura] which is not necessarily so. The feature of internal rhyme would undoubtedly be associated with caesura. The internal assonance in this poem, while not constant, is more than a strong hint of demarcation within the line at that point. See p. 297.
- [50] Or three times if the parenthetic *dyša* is included as a syntactic break. The complication is, of course, whether in that case the first syntactic boundary counts also.
- [51] B. Unbegaun, *Russian Versification*, *op. cit.*, p. 13.
- [52] B. Unbegaun, *Russian Versification*, *op. cit.*, pp. 83-85.
- [53] C. Stutterheim, "Poetry and Prose...", *op. cit.*, p. 231.
- [54] G. Cooper and L. Meyer, *The Rhythmic Structure of Music*, University of Chicago

Press: Chicago, 1960, p. 13.

- [55] B. Unbegaun, *Russian Versification, op. cit.*, p. 51
- [56] It is quite unfortunate that there are no acoustic studies of Russian accent available for inspection. While the features of accent are generally agreed to be stress, duration and pitch, there is no data by which to ascertain to what extent which feature must work in order to produce a perceptible language accent.
- [57] Scholars are in disagreement about so-called secondary stress in the combination of content morphemes.
- [58] V. Zirmunskij, *Introduction to Metrics: The Theory of Verse*. Mouton: The Hague, 1966, p. 91.
- [59] B. Unbegaun, *Russian Versification, op. cit.*, p. 50.
- [60] B. Unbegaun, *Russian Versification, op. cit.*, p. 16.
- [61] B. Unbegaun, *Russian Versification, op. cit.*, p. 50.
- [62] J. See Svartvik, *Survey of Spoken English*, Lund Series in English, 63, Liber Läro-medel Lund: Lund, 1982, for some interesting insights.

## Chapter IV

### **SERBO-CROATIAN SYLLABO-ACCENTUAL VERSE**

To je onda akcenatski stih (ne spretno zvan,  
po ruskom običaju, i *tonski*).

I. Slamig, *Hrvatska  
versifikacija*

It has been contended in the previous exposition, that language prosody and versification structures involve a dialectic interrelationship, the former conditioning the latter and the latter “deforming” the former. Poetry conditions a type of “paraphonology”, [1] as discussed, and prosody does not obtain as a set of unchanging conditions at the phonetic level. The contours of sounds in a verse line do not predictably demand a single type of concession from language. Thus, within a given phonology, there are options in the phonetic operations which create choices for making verse. On the other hand, verse structures are not obliged to adhere to either linguistic (first syntagmatic) or verse (second syntagmatic) function at any given point.

#### **4.1 Serbo-Croatian Phonology**

The phonology of Serbo-Croatian differs significantly from Russian, particularly in the vowel system. The three prosodic features which conjoin in a single accented vowel in Russian each participate separately in phonemic distinctions in S-C, [2] distributed within their separate phonological constraints. Looking at the three accentual features – stress, duration and pitch – the parameters in S-C accent present a complex picture. Stress is not wholly free, restricted from word-final position in words of greater than one syllable; [3]



The feature of pitch, since it has two distinctive contrastive possibilities, is also phonemic, but it is always assigned in conjunction with the word stress. The feature of vocalic quantity functions phonemically, that is, it is distinctively contrastive both in accented and post-accented syllables, but it is also a correlate of word accent in that accented syllables are quantitatively longer than their unaccented counterparts.[4] Another complication derives from the integrity of vocalic quality in S-C. The degree to which unaccented vowels reduce is generally insignificant, and certainly, unlike Russian, insufficient for conveying information regarding the placement of word accent.

Thus, the prosodic features ordinarily associated as integral parts in Russian accent – although they may be redistributed separately within a poetic line for the sake of meter or rhyme as discussed above – operate independently and quite differently in S-C. They are not always a part of accent at all – as in the case of post-accented vocalic length – and sometimes not defined entirely within a single syllable nucleus – as is the case of the rising tone.[5]

Phonemic distinctions among accented and post-accented vowels (including vocalic /r/) in S-C occur not only in vowel quality but also by the assignment of duration, pitch and stress in accented vowels, and of duration in post-accented vowels. Pre-accented vowels are not distinct prosodically. Accordingly, a three-syllable word may obtain in one of twenty different configurations:

´ – – ; ´ ¯ – ; ´ ¯ ¯ ; ´ – ¯  
 ˆ – – ; ˆ ¯ – ; ˆ ¯ ¯ ; ˆ – ¯  
 ˘ – – ; ˘ ¯ – ; ˘ ¯ ¯ ; ˘ – ¯  
 ˜ – – ; ˜ ¯ – ; ˜ ¯ ¯ ; ˜ – ¯  
 – ´ – ; – ´ ¯  
 – ˘ – ; – ˘ ¯

These twenty distinctions represent the potential for three syllable words within the štokavian phonology. While no three syllable noun or verb will exhibit all these variations, it is quite regular for a noun or adjective to undergo prosodic change in its declension and for the resulting forms to be distinct by purely prosodic features, e.g. *svedòka* (gen. sg.) /*svedòka* (gen. pl.).

At the phonetic level the situation is still more complex. Prosodic distinctiveness among certain syllables sometimes obtains to a lesser degree than its phonemic distinction would suggest. In continuous speech, stressed syllables contrast with both other stressed syllables, long and short, as well as with unstressed syllables. Since unaccented vowels do not reduce significantly in vocalic quality,[6] the burden of distinguishing accented syllables falls mainly outside the distribution of qualitative features of vocalic allophones. Although duration is a phonemic distinction (e.g., *pās* – *pâs*) it is still a correlate of stress, a long accented syllable being approximately 1.5 times as long as a long unaccented syllable.[7] But an unstressed long syllable may obtain with duration as great as or greater than a stressed short syllable,[8] limiting the distinction between two such syllables to two correlates, pitch and stress. Phonemically, the feature of stress is redundant since pitch always accompanies the stressed syllable. But phonetically, stress fully coincides with only one of the two tones, the falling one. In the rising accents, especially with the short rising accent, the highest point in the tone contour is usually produced in the adjacent post-accented syllable.[9] Since the duration values are approximately identical one might think that stress is actually more important than its phonemic redundancy would suggest. However, greater intensity – the feature most commonly associated with word stress – is often exhibited at the beginning of the post-accented syllable following rising tones.[10] The falling and rising accents, then, are much more different than their contrastive tones alone.

One reason Serbo-Croatian has often been dismissed as a tone language is because it does not display phonemic distinctions in monosyllabic words.[11] However, the real implication of the tonal pattern has been disregarded. The rising tone exists only within a two-syllable context: it stands to reason that the tone must be disyllabic.[12] The phonology of S-C is consistent with this condition. Once assigned, the rising tone is immovable. Proclitics do not affect the placement of the rising tone at all, and only the falling tones can be removed under the influence of a proclitic to a preceding syllable. Surely this fact signifies that at least part of the explanation for the conservation of the two-syllable environment of the rising tone is its disyllabic nature. The nature of the rising accent as disyllabic is not just a phonemic contrast with the falling tone, as it is in some minimally disyllabic pairs. Rather, it also contrasts with the falling tone in that it is non-monosyllabic.

This contention, though germane, is omitted from the descriptions of S-C phonology. As in Jakobson's depiction below, the priority to generalize most efficiently the phonology may have caused certain crucial phonetic peculiarities to be overlooked:

SYLLABLE			
		Final (including monosyllable)	Non-final
Distinctive Feature	Quantity	+	+
	Tone	-	+

and:

SYLLABLE			
		Final (including monosyllable)	Non-final
Bundle of Features	( <sup>˘</sup> ) & ( <sup>˘</sup> )	+	+
	( <sup>˘</sup> ) & ( <sup>˘</sup> )	-	+

The system consists of only binary oppositions. Thus posited, the assignment of rising and falling stressed syllable tones and long and short stressed and post-stressed contrast fails to address enclitics and proclitics.[13] Moreover, the system implies that only accented syllables are contrastive. Thus it ignores the contrast of duration between accented and post-accented syllables, particularly the short stressed syllables and post-accented long syllables. Also passed over is the pitch height in the post-tonic syllable following a short rising accent. The geminate tone in short rising syllables should be represented more accurately.[14] The depiction of the prosodic features is thus incorrect in some cases. Jakobson has been criticized for this, perhaps most pointedly by C. Bidwell:

Both Jakobson and Trubetzkoy were, of course, well aware of the phonetic nature of the SC "Tonverlaufkorrelation" involving a contrast of "Unvollsilbigkeit" versus "Übersilbigkeit des Betonungsgipfels" and on p. 172 [in "Die Betonung und ihre Rolle in der Wort- und Syntagmenphonologie"] Jakobson giving examples from a Japanese dialect explicitly recognized the possibility of an accent with a domain of more than one syllable: "Ist in einer Sprache die Korrelation zweimorige Betonung – einmorige Betonung vorhanden und kann eine einmorige Betonung sowohl auf einen Teil einer zweimorigen (langen) Silbe als auch auf eine einmorige (kurze) Silbe fallen, so kann auch eine zweimorige Betonung nicht nur auf eine lange Silbe, sondern eventuell auch auf zwei kurze Silbe fallen." [15]

There are cases in S-C where the very disyllabic nature of the distribution of tone is the distinctive feature. The most clear-cut case is, of course, the short rising tone and its subsequent syllable where the distinction occurs after the accented syllable. It is also possible that, perceptually, both tones in minimally disyllabic words are disyllabically distinguished. Tonal distinction is more frequently identified in contours over more than one syllable. In listening tests of synthesized S-C tones, it was demonstrated "... that the fundamental frequency pattern on the first syllable was not sufficient for identifying the accent." [16] Surely this disyllabicity is significant in S-C phonology and should be accounted for.

In S-C prosody, then, the complexity of features, the number of different configurations, and the all but indecipherable differences in phonetic realization clearly exceed that of Russian. Accent, a nebulous concept in any terms, attains an even greater degree of variation than in most languages due to the increased number of variables. It is no wonder that discussions of accent must involve great precision even for simple description; and for generalizing for other purposes such as describing verse language, the situation is even more complex.

#### 4.2 *Versification in S-C*

The diversity of versification systems made available in the phonology of S-C demonstrates both the wealth and the relative prominence of the prosodic features in the phonology of the language system. The phonology of the standard canonized novoštokavian dialect suffices to support at least four major types of versification: with its only partially restricted stress distribution, it could form accented and syllabo-accented forms; with its vocalic quantity in both accented and post-accented positions it could allow quantitative verse; and there is no restriction, of course, for forming syllabic verse. At least one scholar, I. Slamnig, mentions two other types of S-C verse: "*besjedovni (verbalni) stih*: njemu je osnovna fonetska riječ (akcenatska cjelina, prava ili neprava riječ), jednak ili približno jednak broj fonetskih riječi u stihu. Taj princip čest je u suvremenom pjesništvu..."[17] and "*stih skupina riječi (rečeničnih jedinica, sintagmatski stih)*." Djelovi rečenice nisu samo smislene, već i zvukovne jedinice, što u našem jeziku vidimo po načinu smještanja enklitika. Zvukovna narav djelova rečenice, njihov međusobni odnos može poslužiti kao osnova stiha."[18] The first type seems to correspond to isocolonic verse[19] according to the example given later in the text:[20]

Nisu ti ubijena  
da nisu ti ubijena  
nisu ti ubijena

da živa mi sta odvedena  
 živa sta odvedena  
 k caru Pajazitu na portu.

The second type would seem to be the *bugarštica*, again, as according to the example:

Odiljam se, moja vilo | Bog da nam bude u družbu,  
 plač i suze i moju tužbu | da bi znala, moja vilo!  
 Odiljam se, a ne vijem | komu ostavljam ličce bilo.  
 Pokle ti je služba mila | koju ti sam je činio,  
 a sad sam te ucivilo | ostaj zbogom, moja vilo!  
 Odiljam se, a ne vijem | komu ostavljam ličce bilo.[21]

The interesting aspect of this discussion is not the inclusion of special old forms of verse in the general description, but the claim that these types of verse are being used by modern poets. Either this scholar is over-generalizing, or the current need for descriptive terms adequate for modern forms of verse has encouraged him to extend these older ones to modern use.

Seen historically, S-C poets took advantage of their rich prosodic idiosyncrasy. They wrote quantitative verse along the patterns of Ancient Greek, using long syllables in ictus and disregarding word accent. Traditionally, they wrote syllabic verse very much in accordance with the principles established in folk verse with fixed caesura and standard numbers of syllables in groups. And they wrote syllabo-accented verse based on German patterns established by Saran and Gottschall and introduced in Yugoslavia by Trnski.[22] Quantitative verse never really flourished in S-C, though; pure stress verse in the Germanic style was never attempted, perhaps because of the strong tradition of syllabic forms. Syllabo-accented verse, the major focus of this chapter, enjoyed some degree of success in the nineteenth and early twentieth centuries and is still employed, although primarily for translations.[23] But tonal verse was never conceived, except insofar as tone is

a part of accent. In other words, there was never a rule regarding the type of tone that could occur in a verse line of a particular kind. Thus it seems that the tone features are not salient enough by themselves to support a system of versification.

Syllabo-accented verse was adopted only in the nineteenth century, adapted from artistic verse which followed syllabic principles.[24] The phonology of S-C is sufficiently complex to make it an unlikely candidate in some ways for using the syllabo-accented system, but poets still successfully composed their verses within the careful boundaries of stress distribution in regular alternation. However, as Košutić remarks:

Drugo je u Rusa. U njih je čista tonska metrika, od Lomonosova, pa, tako reći, do naših dana... A u naših pesnika što se dalje išlo od Branka [Radičevića], odstupanja su postojala pravilo, a čistota metra, u celim pesmama – slučajni izuzetak.[25]

Since verse lines vary in their distribution of stressed syllables, it may not be surprising that there is disagreement on such fundamental issues as the existence of “foot” in metric verse. F. Adelsberger claims that Matoš “thirty years after Trnski’s treatise measures rhythm by the rules which Trnski set down, but using stops.”[26] The stop is accepted at least in theory by many,[27] but categorically dismissed by others: “In Croatian stops are not needed, and to depict them with the mark of length and shortness is completely absurd.”[28]

Another disagreement centers on whether only stressed syllables can fulfill ictus or whether long syllables may substitute. It would be tempting to resolve the problem by saying that either type of syllable may realize ictus. And there is the convention of length substituting for stress in words where vocalic length is removed from the accented syllable by at least one intervening syllable. However, many situations involve long syllables adjacent to accented ones, and there is always a question in respect to fulfilling ictus through vocalic length. R. Dmitrijević, for example, explains how in more than one position a long syllable “acquires” the value of an accented syllable[29] even when adjacent to an accent. R. Košutić explains the relation between length and stress in realizing ictus

Ako se akcenat svuda podudara s metrom, a u stihu ima i koja dužina, akcenat, pojačan za mahom ritma, istači se iznad nje i samo on biće nosilac metra. Dužina će izgubiti u jačini i trajanju (na mestima, gde se ona inače gubi, može se i sasvim redukovati) pa neće metru smetati. Preko nje će brzopreći kao što se prelazi preko nenaglašanih slogova.

u troheju: Rãđost dođe, pa i prođe

u jambu: Na njenu licu | rãđost beše sjãla

...opet u jambu: Rãđost joj skide sumorinu s lica[30]

Long vowels adjacent to accent are not usually good candidates for fulfilling ictus since the relative prominence diminishes in this position. There is, however, a notable exception to this rule, which is discussed below.

### 4.3 *The Short Rising Tone and Post-accented Length*

As has been demonstrated previously, poetic language relies heavily on the phonic nature of its material. The phonic possibilities of the language are exploited by the poet to the extent of his/her talent and taste. The poet, then, having internalized the sounds of his language, proceeds to manipulate them for an artistic effect. Mastery of the sound system in S-C is not automatic for a great many writers since their native dialect may not wholly coincided with the canonized Štokavian S-C. Indeed, this is recognized by poets themselves as they lament, as V. Nazor did, that even prolonged study of the classical models could not change his rhythmic or phonic conception for his own poetry.”[31] Some of his verse was written in the Čakavian dialect and had to be completely accentuated to be anthologized. For example, from his poem, *Galiotova pesan*:

Põkle sú me prikovãli zlízanê za ove dãski,

Ja nisán već dôma vîdêl, ni svojê zaglêdãl májki.

Sí li cêlã mi, kũća bëlã? Sí l' mi, májko, prebolêla?

Mõre, mõre sínje!

Thus any discussion of syllabo-accentual verse in S-C must be cautious in its choice of authors and poems. The present exposition focuses mainly on Antun Gustav Matoš



(1873-1914) and Augustin Ujević (1891-1956) because they both wrote štokavian poetry and were conscious of the literary norms and the responsibility of the poet to write within them. Ujević sincerely exhorted: "The Croatian writer, no matter where he is born, must be completely familiar with the literary štokavian dialect as it sounds when read aloud." [32] Thus T. Ujević points up the importance of phonetic considerations for writing poetry in the complex prosodic system of S-C.

S-C contrasts with the systems of English, Russian or German verse. In these systems, dynamic accent easily manifests itself and at the same time presents many possibilities for diminishing itself for the proper cause (in weak position, for example). In S-C, accent is not always quite so prominent which effects a remarkable phenomenon where syllables which are prosodically very dissimilar but phonetically and perceptually similarly prominent are virtually "equalized" for accent. Most of this process is part of ordinary speech, but the propensities are not as clearly articulated in speech as in verse lines. For one thing, the relatively unreduced, unstressed vowels produce qualitative similarities between accented and unaccented syllables which are rarely obtained in English, Russian or German reduced, unaccented syllables. Also, the relative contrast of S-C syllables is seldom the result of a single operative feature (as  $+/-$  stress); and sometimes juxtaposed features in two or more adjacent syllables cooperate to produce a "flattening" effect among themselves. Durational values, as mentioned above, are both phonemically distinct and virtually identical phonetically in the case of short accented syllables and long adjacent post-accented syllables. This similarity can reduce the distinctiveness of a syllable under certain circumstances.

The most peculiar case of this sort is of the short rising accent followed by a long syllable. This phenomenon has been addressed by more than one scholar of S-C poetry. K. Taranovski devotes to it the most systematic attention in describing the prosodic complexity of S-C verse:

As regards the short rising accent, it is disyllabic and its expiring strength is the weakest [of the accents]; that is why it is most frequently [the accent] found in the upbeat. And here the unstressed length of the following downbeat comes to its aid. In such cases the accent is almost subdued and the ictus is realized by means of the length.[33]

K. Taranovski, then, claims that stress in this case may be realized *after* the accented syllable: the accent is effectually unstressed by virtue of the rhyme-word demand for ictus in the adjacent unstressed post-accented long syllable.[34]

Another scholar remarks a similar phenomenon in connection with rhyme, if only informally:

...u trećem stihu [Ujevićeve pjesme, "Noćas se moje čelo žari"] javlja se, – zbog rime, mogli bismo reći brzopletno – trenutani glagolski oblik *òzārī* umjesto očekivanoga *òzārā* ili *ozārāvā*. (Mogao bi se sad za volju "korektnosti" navlačiti neki aorisni oblik *òzārī*, ali bio bi sasvim suvišan, pedantski posao; da i ne govorimo kako se taj "daktil" nikako ne slaže s ostalim "trohejskim" rimama.[35])

This author claims then that the "dactyl" of *òzārī* would not be a fitting rhyme as is the presumed "amphibrach" *òzārī*. Of course, on the abstract phonemic plane, these two words are identical except for the opposing tones in the initial accented syllable. Yet, due to the nature of the rising tone, *òzārī* obtains for the sake of rhyme as an amphibrach, a feat *òzārī* would fail to accomplish.

Clearly the difference in the tonal accents is not just the contrast of tones. The falling accent remains firmly within the syllable, effectively marking the syllable under stress in a word-unit unambiguously. The rising accent, on the other hand, may not mark the stressed syllable, or may shift the correlates of accent from an accented syllable to the following unaccented long syllable: it remains ambiguous, and this makes it especially flexible in the system of verse.

Recent perception testing indicates that accent was regularly perceived after the accented syllable in words containing  $\acute{\text{---}}$ , by non-natives from dynamic accent back-

grounds.[36] This is not very surprising considering that correlates of word accent were present in both syllables. Acoustic phonetic research demonstrates the same phenomenon.

I. Lehiste and P. Ivič (1963) enumerate and describe many aspects of the same configuration  $\sqrt{V}_1 \nabla_2 \_ \_ /$  in trisyllabic words in their discussion. They conclude:

- 1) that although the greater duration of a syllable under the short rising stress is evidently sufficient to indicate that it carries the accent in words where it is followed by a short syllable, when it is followed by a long syllable the durational cues are ambiguous.[37](p. 29)
- 2) in the three-syllable words with initial rising accents, the third syllable – or that which follows the post-tonic length and not the syllable adjacent to the stress – resembles the adjacent post-tonic syllables in words with falling stressed syllables (p. 21).
- 3) in terms of vocalic quality, the long post-tonic vowel is invariably realized more like stressed allophones when preceded by a short rising accent; in some cases it appears that it is only after this accent that post-tonic vocalic quality may approximate stressed-vowel quality. (pp. 88-92).
- 4) the greatest intensity in a word containing  $\sqrt{V}_1 \nabla_2 \_ \_ /$  occurs at the onset of the long, unaccented vowel ( $V_2$ ) (p. 16.)

The acoustic information then demonstrates that (1) durational cues for accented syllables are significant, but in the case of the configuration  $\sqrt{V}_1 \nabla_2 \_ \_ /$  the long syllable and the stressed syllable are not distinguishable by this feature; (2) and (3) the syllables following the rising accent in this configuration are very similar to an accented and adjacent post-accented syllable; and (4) the vocalic intensity peak of the word is post-accentual which, since intensity is the feature most commonly associated with stress, would seem to put the greatest force of the stress in the post-accented long syllable as well. The collaboration of all these factors inevitably causes the normal accentual features to appear to be in the post-accented syllable.

This is not the case with any other accent, not even when followed by post-accented length. In some cases one or another feature which makes the short rising accent ambiguous likewise occurs, but in no other case do they all coincide.[38]

#### 4.4 *Phonetic considerations*

In the preceding chapter on Russian versification, it was demonstrated that word accent on nouns and verbs with falling tones regularly moves to a proclitic preposition or negative particle. Thus, the kind of prosodic reassignment that was proposed as a verse expedient in Russian occurs regularly in the phonology of Serbo-Croatian.

Nè sizē nam òku sīla

Nit nam sīzū izūmila

Otkrit tvòje dnõ:

Preradović

When this occurs, phonemic length, if originally present in the syllable, remains after the loss of stress takes place:

Tek slútnjõm glāsa i slàtkõg profila

Jâ prímih òd njē lābudova krīla

Sto nõsē pēān, zvījezdõ Vēnus, k tēbi!

A.G. Matoš

But just as Russian may “play” with an underlying knowledge of word-accent in verse composition, S-C may also play, indeed, to a considerably greater extent. Some features of S-C verse which are considered anomalous within the syllabo-accented system are no more deviant really than their canonized Russian counterparts. The case of monosyllabic words demonstrates this claim. In Russian it is conventional to disregard a word accent in the first foot of binary meter should it occur in the wrong place.[39] This could be called a function of meter. Later in the line such a deviation is noticeable; but at the beginning of a line it is acceptable and unobtrusive. Thus, when the realization of the word accent is of questionable relevance to the rhythm, it may occur in a weak position.

In S-C, where more than one factor operates in word accent, there may also be a function of some line consideration involved in the assignment of word accent. Wherever restrictions exist on the placement of accent, prosodic adjustment may take place. In syllabic poetry, there are few considerations affecting accentual placement. Nevertheless, in some instances, constraints on accent placement do exist. In these cases, prosody in verse is comparable to that of "artistic" verse. For example, in a folk line where two adjacent syllables may not be accented, the following has been seen to occur:

Da se jādna | za zèlen bōr hvātīm

For us here it is not important whether in diction, there will be a weak-  
ened accent or only unaccented length in the word *bor*; the essence is that  
in this way a known accent in a given monosyllabic word acquires the  
function of an unaccented syllable.[40]

By expanding this concept, other rules may operate in S-C verse which are not specifically imports from the foreign model, but rather reflect the phonetic/phonological reality of S-C.

Certainly S-C poets had to exploit the sound system of S-C in their work. In some ways this is clearly the case. Matoš, in his poem, "Lakrdijaš", demonstrates his consciousness of the dominance of the rhyme sound by ending every line with an identical rhyme sequence; at the same time he playfully exhibits his mastery of the sonnet form:

Těško i onom što na rimu "ruha"  
Mora sricat "čuha", "stuha", "gluha",  
Svršivši sonět u počast potepuha,  
Princa Karnevala, Petra Kerempuha.

Since S-C adopted the principles of syllabo-accented verse from the model of alternation accepted by the German versification theorists, rhyme must be a plausible verbal phenomenon in S-C. However, S-C rhyme differs from rhyme in other languages quite frequently and very systematically. Since the unaccented syllables preserve the integrity of their vocalic quality, they are frequently used to make a rhyme. In the case of the rising

accent followed by vocalic length, such a measure is clearly justified since the actual status of the syllable's accent is ambiguous, and may certainly obtain as ictus in either syllable. In other cases, the assignment of rhyme to an unaccented syllable is not as acceptable.

T. Eekman, in his lengthy and comprehensive treatment of rhyme, has pointed out that every Serbian or Croatian poet occasionally uses rhymes like *svôg – pēcenog, tî – mîlosti; stāli – ūpoznali*. He continues by remarking that: "The fact that Serbo-Croatian is pronounced without strong stresses and strong reductions of unstressed syllables has facilitated the acceptance of this habit of riming a fully stressed syllable with an unstressed one, two syllables removed from the main stress of the word." [41]: However, Eekman is claiming that there is a regular feature of secondary stress in S-C, which is why his examples concentrate on the rhymes formed by vowels occurring only two syllables following the primary stress. His argument is as follows:

...the problem of secondary accent in rime was discussed, especially in connection with Czech and Slovak poetry. A.V. Isačenko has demonstrated that the same rule of secondary stress is also applicable in Slovenian poetry. There is no doubt that in Serbo-Croatian, too, the rule is valid. It is only strange that it is not mentioned in any handbook or study on South Slavic poetics. [42]

No phonology of S-C has ever broached the topic of secondary stress. A word may have no accent, but as a rule, it may not have two or more accents. Except in the textbook examples of the superlatives and certain compounds where there are two regular tonal accents, eg. *nājbōljī, nājdalekovīidniī*, no more than a single accent occurs in a S-C word. Certainly secondary stress does not exist in S-C or some handbook or study would, indeed, include it as its subject. Such a phenomenon would not normally be one which could be successfully avoided by scholars of S-C phonology since, generally, secondary stress is assigned in relation to the primary stress of a word. Thus, the expedient of secondary stress cannot be accepted in S-C. It may be more useful to reassess the phonetic peculiarities of S-C and the ramifications to a bound verse form to describe some of the peculiarities of rhyme in S-C.

The deformation property of verse language would easily stretch a linguistic prominence to realize ictus; or, on the contrary, subdue one prominence to allow another to fulfil ictus. As described previously, a long syllable substituting for an accented one when removed from the accented syllable is a poetic convention for whose wide-spread acceptance there is ample phonetic justification: the long syllables are like short stressed syllables in two respects, allophonic and durational. This, of course, is not a secondary stress; it is not accent defined in relation to the primary accent. Moreover, since stress is prohibited by rule from word-final position, some very strong case for allowing it in certain circumstances would be necessary. In the case of the short rising accent followed by a long syllable the very notion of accentedness is ambiguous, but this is not secondary stress either. Generally, no rule of secondary stress would justify prominence for an immense number of rhyming syllables, for example, *mamùrluci – rúci* (Ujević) *izùmila – sīla* (Preradović), etc.

In a language where only monosyllables and certain rare loan words such as *lavabō* have word-final accent, the prospect of masculine rhyme presents quite an obstacle. Again, as in satisfying verse ictus, vocalic length is called upon to substitute for accent where, as R. Dmitrijević claims, it attains the value of an accent.[43] His example:

Ū suzama se kupa  
na joj sve trepti sjaj  
i povije s' u meki  
i topli uzdisāj

This example shows how length may become relatively prominent in a line of verse; it should not be mistaken for secondary stress, but neither should the resulting rhyme necessarily be disallowed or branded “nečist” as is so often the case.[44] It is legitimately a relative prominence which in the environment free from competing prominences is certainly salient. This is really all that verse ictus requires. As the versification rules of Košutić suggest, both length and accent are subject to redefinition in the verse line.

#### 4.5 *The Line and S-C Syllabo-Tonic Poetry*

Ritmička ljepota u jednoj hrvatskoj pjesmi ne ovisi od redovite izmjene naglašenih i nenaglašenih slogova koji bi se imali ređati prema shemi jampska, troheja, anapesta, itd. Kod nas može pjesma da bude jampska makar joj si pojedini stih počinje padajućim ritmom...Zašto mi tu izmjenu ne osjećamo kao neharmoničnu, nije lako dokazati.

Nehajev

As stated above, for all the irregularities of S-C phonetics, poets still succeeded in writing verses which contained alternations of accented and unaccented syllables within the dictates of Russian or German versification forms:

Vīdio sam, snívō sam – svējedno:  
 Sred palāzza, pūnōg slāvē, vīna,  
 Hīhōtā, kostīmā, harlekīnā,  
 Dīvnō čūdo, dīvnō čēdo jēdno,  
 Králjevōga pŕvōg sīna vŕijēdno,  
 Ispod skr̕letnōga baldahīna  
 Biistā pōpūz bībīskōga krīna –  
 Pored njē be sūnce bīlo bījedno!  
 Nà njōj svīla, tēškā krinolīna,  
 Kao na portrētu našeg svēca  
 (Nàime Rodríga Velazquéza),  
 Pa dok bjēsni bās i violīna,  
 Nīko nē znā – skāndāl i blamáza! –  
 Da pod sūknjōm nēko skrīvā ...pāza.

A.G. Matoš[45]

Clearly the structure of these lines is far more complex than simply the regularity of accentual assignment. The interesting part of the prosodic picture in this poem is not the



placement of the accents — as the majority of S-C scholarship fixes upon to study.[46] Perhaps all of the quantitative studies dutifully counting the number of accents per line position and word boundary in S-C verse are invalidated if only by the lack of conclusions drawn from them. Generally, they are used to demonstrate the relative success of the poet in achieving regular realization of meter and nothing more. If there is reason for accents to be placed uniformly in some fashion — in syllabo-accentual verse such a reason is assumed — and poets do not regularly conform, it should not be interpreted to be some fault of the poets. It must, instead, be believed that the poets wrote what to them sounded like poetry; and this poetry may have a structure within or even outside the syllabo-accentual norm which allows it to be successful even should it not attain a metrical ideal. An evaluative system which overlooks this aspect naturally fails to reveal the value of the structure under scrutiny. What kinds of prominences are achieved in the individual lines and in the poem as a whole, what traits are manifest *in praesentia* not what characteristics are missing should be the subject of study. It is necessary to turn attention to the contour of the verse line in syllabo-accentual verse form to determine, if possible, what the parameters of structure are and how they function in verse.

One prominence which may be enhancing to the verse line is the long syllable. It may simply add a richness by varying syllable length.

Iz sveta što je dosad rečeno (a imalo bi i još da se kaže) vidi se da su pogodbe za tonsku versifikaciju, u ruskom jeziku, kud i kamo bolje nego u našem, i da smo mi u tom puka sirotinja prema Rusima. Pa ipak naš jezik ima jednu odliku koju nema ruski: on je sačuvao dužinu nenaglašenog samoglasnika i njom su se naši pesnici obilato koristili.[47]

Vocalic length then has some properties which poets take advantage of. One artistic effect pointed out in modern scholarship is the ability to use syllables of different length to alternate tempi. It was demonstrated in Tadijanović's poem, *Dugo u noć, u zimsku bijelu noć*:

Zapravo, kvantiteta je raspoređena tako da možemo razlikovati odsječak stiha s bržim tempom:

Dūgo ũ nōć / U U U —

i odsječak s posve usporenim tempom:

u zîmskū glūhū nôć /U - - - - [48]

This is almost certainly a regular feature of S-C poetry used in varying degree for stylistic purposes. An elegiac or dramatic passage might be expected to vary in tempo from other types of verse. In T. Ujević's poem, *Žedan kamen na studencu*, the ninety-seven lines vary in their concentration of long syllables not just from line-to-line; rather, usually one section is more greatly saturated than another to a substantial degree. In the 24 twelve-syllable lines of the second section of the poem, the first twelve lines exhibit slightly greater incidence of long vowels than the second twelve lines.[49] The first twelve lines also differ slightly in rhythm from the second twelve. Although most of the lines are very similar, the final two lines of the first twelve contain more amphibrachic "feet" than the second:

A nēmā ni mālā čāša galalīta,  
ni stāklen tanjurić gdje křfetke sřču.

The distance between stressed syllables is one of the critical features of syllabo-accentual verse. By increasing the distance to two intervening syllables, a change in tempo is inevitable. In the present example, the increased distance effected by writing in amphibrachs rather than trochees or iambs, may be enhancing the subtle effect of 11% more long vowels. Or perhaps the greater frequency of the occurrences of long vowels is adding to the effect of the distance between accented syllables; but the coincidence of the two lengthening processes is probably not trivial.

The long syllable may be of the greatest use in substituting for an accented syllable in a rhyme. This is done so frequently that it is safe to call it a poetic convention in S-C. In the same poem by Ujević, there are the rhyming pairs *spōmenīci / sřīci*; *bolesnīka / dūhōvnīka*; *vōdostāju / krāju*. The poet of such creative rhymes as *Beduīni / sřīnī*, *zalepršā / mřšā*, *pomahnītā / řītā*, or *sjēne / Hipokréne* was not starved for rhyming material; these syllables were felt to be suitable for a rhyme.

Perhaps the most remarkable aspect of the long syllable, though, is the way it tends to equalize differences between accented and unaccented syllables. The long accented syllable is clearly marked by being about twice as long as a short unaccented syllable.[50] But a long accented syllable followed by a long unaccented syllable produces a temporal relationship analogous to the short accented syllable followed by a short syllable. The degree of the difference between the accented and unaccented adjacent syllable is essentially equal in both cases, about 1.5 : 1. Further, a short accented syllable and a following long syllable are durationally about equal.[51] This is another kind of equivalence brought about through the properties of the long vowel. In a more subtle vein, the long syllable following the short rising accent exhibits many of the features of a falling accent,[52] a fact well-known to accentologists. For example, in the word *Jugòslāvija*, the Stokavian norm is rarely realized.[53] Rather, the “deviant” pronunciation *Jugoslāvija* prevails except in the careful speech of television and radio broadcasters. The assignment of the short rising accent to the syllable preceding the non-normative falling accent of regular speech is also a kind of convention. The short rising accent comes closest to approximating the sound of speech without violating literary norms. The accent which is “least contrastive”[54] may be considered also least obtrusive, endowing greater flexibility in terms of prosodic or accentual respects to the relationships between adjacent syllables. And the feature of length in an unaccented syllable serves as an intermediate prominence between several otherwise highly contrastive syllables.

Thus in S-C a “flattening” effect of prosodic prominences is possible, particularly in verse which has no parallel in Russian. It is probably mistaken to analyze syllabo-accentual verse on the basis of accent placement alone since there are too many variables and possible intersyllabic contrasts to characterize such verse so narrowly.

## NOTES

- [1] P. Kiparsky, "The Rhythmic Structure of English Verse," *Linguistic Inquiry* 8, 1977, pp. 189-247.
- [2] This pertains in the "canonized" štokavian S-C. Bisyllabic *lijepo* would be *lepo* in another dialect of S-C. In the following discussion, only poems which were written in *ijekavski* dialect where *ije* counts as a single syllable will be discussed. This is not intended as any kind of value decision concerning either the S-C dialects or the realization of *ije* as a single syllable – since surely the case is that *ije* counts for one syllable even though there are two vowels with a syllable boundary between them. Neither will *ikavski* or *ekavski* poetry be addressed in this work.
- [3] At least in theory. Certain foreign words do have word-final stress such as *lavabo*.
- [4] I. Lehiste and P. Ivić. *Accent in Serbo-Croatian*, University of Michigan Press: Ann Arbor, 1963, p. 76.
- [5] E. Purcell finds different contours across two syllables in his acoustic investigation, "The Realization of S-C Accents in Statement Environments", Helmut Buske Verlag: Hamburg, 1973. Other investigators and theoreticians have described the short rising accent as appears in this text. See Peter Rehder, *Beiträge zur Erforschung der serbokroatischen Prosodie*, Verlag Otto Sagner, München, 1968; A. Belić, *Savremeni srpskohrvatski književni jezik, 1: Glasovi i akcenti*, Beograd, 1968, pp. 91-93.; C. Bidwell in "Phonemics and Morphophonemics of S-C Stress." *Slavic and East European Journal*, Vol. VII, No. 2, 1963, pp. 160-165; I. Lehiste and P. Ivić, *Accent in S-C*. University of Michigan Press, Ann Arbor, 1963; I. Lehiste and P. Ivić, 1972. "Experiments with Synthesized S-C Tones, *Phonetica*, 26, 1972, pp. 1-15. The geminate rising tone is a feature S-C has in common with many other Indo-European languages which use phonemic tone, cf. A. Grundt in "Syntactic Accent in Norwegian Morphology" *Studies in Stress and Accent*, L. Hyman, ed., Southern California Occa-

- sional Papers in Linguistics, No. 4, 1977, pp. 183-194, or E.Garding, "The Importance of Turning Points for the Pitch Patterns of Swedish Accents", *Studies in Stress and Accent*, *loc. cit.*, among others.
- [6] This has been physically demonstrated in the formant frequency relations in the long vowels; the short vowels do reduce somewhat, but not to schwa, on the average. I. Lehiste and P. Ivić, *Accent in S-C*, *op. cit.*, in their discussion pp. 87-130.
- [7] I. Lehiste and P. Ivić, *Accent in S-C*, p. 19.
- [8] I. Lehiste and P. Ivić, *ibid*
- [9] I. Lehiste and P. Ivić, *Accent in S-C*, *op. cit.*, see p. 20. E. Purcell occasionally found this configuration also, eg. p. 65, *The Realization of S-C Accents...*, *op. cit.*
- [10] I. Lehiste and P. Ivić. *Accent in S-C*, *op. cit.*. It does not occur very frequently in their corpus, but when it does, it follows only rising vowels, p. 71.
- [11] K. Pike, *Tone Languages*, University of Michigan Press: Ann Arbor, 1948, p. 18.
- [12] Another complication arises from skeptic research such as Magner and Matejka's *Word Accent in Modern Serbo-Croatian*. This book has unfortunately misled many scholars in thinking that the phonology of standard S-C does not describe operating prosodic features. Their investigation and all its results are unfounded and even false. For a reevaluation of their work, see Appendix 2.
- [13] P. Ivić, "The Functional Yield of Prosodic Features in the Patterns of S-C Dialects, *Word*, 17, 1961, pp. 293-308. p. 299-300; quotes Jakobson from *Travaux de Cercle Linguistique de Prague*, IV, 1931, pp. 175-176.
- [14] See footnote 3
- [15] C. Bidwell, "The Phonemics and Morphophonemics of S-C Stress, *op. cit.*, in footnote, p. 164.
- [16] I. Lehiste and P. Ivić. "Experiments with Synthesized S-C Tones" p.1.
- [17] "Speech (verbal) verse: the phonetic word (riječ) is basic to it (the accented whole, a real word or not), an equal or approximately equal number of phonetic words in a

- line. This principle is frequent in contemporary poetry..." I. Slamnig, *Hrvatska versifikacija*, Zagreb, 1981, p. 7.
- [18] "Verse of groups of words (sentential units, syntagmatic verse). Parts of the sentence which are not only sensible but also phonetic units, which in our language we see in the manner of the placement of enclitics. The phonetic nature of the parts of the sentence, their mutual relation may serve as the basis of verse." *ibid.*
- [19] R. Picchio. "On the Prosodic Structure of the Igor Tale," *Slavic and East European Journal*, 16/2, 1971, p. 149.
- [20] I. Slamnig, *Hrvatska versifikacija*, *op. cit.*, p. 16.
- [21] I. Slamnig, *Hrvatska versifikacija*, *op. cit.*, p. 17.
- [22] F. Adelsberger cites R. Gottschall, "Kratki pregled naše teorije ritma", *Hrvatsko kolo*, Zagreb, 1951, p. 371.
- [23] I. Slamnig, *op. cit.*, p. 72.
- [24] I. Slamnig points out that the earliest examples of syllabo-accentual verse are from the 17th century, *op. cit.*, p. 7. Its most popular period, though, is the late 19th and early 20th centuries.
- [25] "It is different with the Russians. They have a pure tonic meter, from Lomonosov to, as it's said, to our day... But with our poets in what was produced after Branko [Radičević], deviations became the rule; and the purity of meter, in entire poems is an accidental exception." R. Košutić, *O tonskoj metrici u novoj srpskoj poeziji*, Beograd, 1941, in the foreword.
- [26] F. Adelsberger, *Kratki pregled naše teorija ritma*, *op. cit.*, p. 371.
- [27] Though not in folk poetry. T. Maretić, *Metrika narodnih naših pjesama*, Zagreb, 1907, p. 7.
- [28] "U hrvatskom ne treba stopa, a označit ih biljegom dužine i kratkoće jest gotov besmisao." A. Senoa quoted in F. Adelsberger, *Kratki pregled...*, *op. cit.*, p. 371.
- [29] R. Dmitrijević, *Teorija kniževnosti sa primerima*, Beograd, 1960, p. 239, 243.

- [30] "If the accent coincides with the meter everywhere, but in the line there is any long vowel, the accent, strengthened by the beat of the rhythm, is emphasized above it [the length] and only it will be the carrier of meter. The length will fade in strength and duration (in places where it would otherwise fade, it is possible to reduce entirely) and not disturb the meter. It [the long syllable] will be rapidly passed just like passing across unaccented syllables." R. Košutić, *O tonskoj metrici u novoj srpskoj poeziji, op. cit.* pp. 19-20.
- [31] V. Nazor, *Eseji i članci*, II, Zagreb, 1942, p. 9.
- [32] Ujević, "Nova metrika g. Nehaeva," *Sabrana Djela*, VII, Znanje: Zagreb, 1967, pp. 21-22.
- [33] K. Taranovski, "The Prosodic Features of S-C Verse," *Oxford Slavonic Papers*, No. 9, 1959, p. 1.
- [34] K. Taranovski demonstrates the matter in the case of rhyme (which is effected by realized stress) with the example where *osmèhîvā* rhymes with *snîvā*. *ibid.*, p. 6.
- [35] I. Frangeš, "In the third line [of Ujević's poem, 'Nočas se moje čelo žari'] there appears — because of the rhyme we could say casually — the instant verbal form *ozari* in place of the expected *ozara* or *ozararava*. (I could now for the sake of "correctness" bring out some aorist form *òzārī*, but it would be completely an extreme, pedantic task; and we are not saying how this "dactyl" in no way agrees with the remaining "trochaic" rhymes. I. Frangeš, "Nocás se moje čelo žari", *Croatica* 1980-81, XI-XII, 15-16, p. 45.
- [36] See Appendix 1.
- [37] The duration of a long post-accentual vowel is greater than that of the short rising tonic syllable by a proportion of approximately 1:1.2 . I. Lehiste and P. Ivić, *Accent in S-C*, *op. cit.*, p. 19.
- [38] The authors submit that their data is insufficient for drawing any conclusions regarding this matter. Only one subject, P. Ivić himself, was assigned words with

initially stressed short rising accents followed by vocalic length and a short syllable.

I. Lehiste and P. Ivić, *Accent in S-C*, *op. cit.*, p. 16.

[39] B. Unbegaun *Russian Versification*, Oxford: Clarendon, 1956, p. 56.

[40] "Za nas ovde nije važno pitanje da li će u dikciji na reči *bor* biti oslabljen akcent ili samo nenaglašena dužina; činjenica je da ovako u pogledu akcentu podređena jednosložna reč dobija u stihu funkciju nenaglašenog sloga." K. Taranovski, "O jednosložnim rečima u srpskom stihu", *Naš jezik*, II, 1951, p. 29.

[41] T. Eekman, *The Realm of Rime*, Hakkert: Amsterdam, pp. 251-2.

[42] *ibid*, p.251.

[43] R. Dmitrijević, *O teorije književnosti*, *op. cit.*, p. 239.

[44] For example, R. Dmitrijević, *ibid*, p. 243.

[45] Thanks must be given again to Đurđa Škavić for assigning accents to the verses in this paper.

[46] For example, M. Franičević, "O nekim problemima našega ritma," *Rad JAZU*, 313, 1957, 3-147.

[47] "From what has been said until now in the world (and there may be more to be said) it is seen that the conditions for tonic versification are better in every way in Russian than in our language, and that we are in this respect simply paupers in relation to the Russians. But our language has one characteristic that Russian has not: it has preserved length in unaccented vowels, and our poets have abundantly made use of." R. Košutić, *O tonskoj metrici...*, *op. cit.*, pp. 19-20.

[48] J. Melvinger, "Prozodijske duljine u stihovima Dragutina Tadijanovića," *Jezič*, 30, 1983, p. 34.

[49] 52/144 syllables vs. 36/144 syllables.

[50] I. Lehiste and P. Ivić report about 1.8:1. *Accent in S-C*, *op. cit.*, p. 19.

[51] As stated above, sometimes the long post-tonic vowel is actually greater than the accented vowel in duration. *ibid*.



- [52] I. Lehiste and P. Ivić, *Word Accent in S-C*, *op. cit.*, see the discussion, pp. 87-130.
- [53] A. Belić, *Savremeno srpskohrvatski književni jezik*, *op. cit.*, p. 230
- [54] K. Taranovski, "The Prosodic Features of S-C Verse", *op. cit.*, p. 6.

## Chapter V

### *ACOUSTIC-PHONETIC INVESTIGATION OF PROSODIC PECULIARITIES IN VERSE*

The previous two chapters have pointed out some discrepancies between normal and poetic phonetic realizations of prosody. The latter realization has been attributed to the subjective factor involved in the interpretation of verse material, as scansion. As Koch wrote:

Characteristically enough, the question 'how are we to read (pronounce) poem X' is far more commonly encountered than the parallel question 'how are we to read the prose-text Y'. The concurrence of structures and ambiguities inherent in poetry produce a greater indecision as to the phonic realization than can be found in merely topically oriented, less cryptic texts.[1]

Because some of the factors involved in scansion must be determined according to rules or conventions, tacit assumptions underly all scansion procedures. Without these, there could be no system. The logical alternative, then, is an "objective" approach, one that would make a "scientific" investigation of verse language. Research in verse language has, in fact, been conducted on the actual verse material. Scientific investigations have been made which are based on real instances of verse which are not a function of scansion. However, immediately the problem of the abstract or "phonetic" text presents itself. J. Lotz discussed this problem, writing:

Another approach to verse is the 'objective approach,' which takes its departure either from the physical recording of the event itself, [...] or from a phonemic description such as that employed by modern American structuralists. The idea that it is possible to reduce these phonetic data to significant units without making any special assumptions is an untenable oversimplification of phenomena employed by pure phoneticians and behaviorists. Only by pre-established rules is it possible to produce satisfactory results in metric analysis.[2]

Examples from studies conducted through a method involving this “untenable oversimplification”, though, have produced very interesting results, thus indicating that it may not be wise to dismiss scientific studies so summarily.

As has been demonstrated in the present paper, verse has the phonetic realm of language as its basis. It deforms natural language categorically and, considering the prosody of the operating language, not always predictably. Thus it is not surprising that the methods available to acoustic phonetics have been used to explore the characteristics fundamental to this level of verse. However, as could be inferred from J. Lotz’s criticism above, there are some obvious pitfalls in an “objective” approach.

J. Lotz warns that rules should not be confused with measurements of actual performances. Because performances can be made in a prosaic manner or in a manner that emphasizes the metric structure,[3] the variables involved are ostensibly too great to make a unified general statement of much validity. However, a poem is an organized message, the elements of which must recur in any performance.[4] No doubt the similarities of performance outweigh the differences, even when two radically dissimilar techniques of recitation are involved, so long as the text is recognizable in the performance.

The major problem with analyzing a poem “objectively” is that the verse text *per se* has no sound. As B. Eijzenbaum pointed out, “The printed text is not a fact, but a problem.”[5] One may not assign invariant sounds to a written text, yet some rendering of the text is implicit in the text. Paul DeMan describes the dichotic process of rhetoric which he has defined as the study of tropes and figures; it “is a disruptive intertwining of trope and persuasion or — which is not quite the same thing — of cognitive and performative language.”[6] Gončarov relates that “The special phonic quality of verse is realized in its specific pronunciation, under which influence phonic peculiarities appear in verse language.”[7] Assuming him to be correct, the reading of verse is something very different

from the reading of other written texts or from speech. There are therefore two primary variables: the reader and the reading (the *delivery instance* in Jakobson's terminology.) One constant prevails, though, and that is the values for which the components of written text stand. The poem must have vocal and/or subvocal realization.[8] These performances must have certain features in common. The challenge of the investigator of the phonetics of verse is to delimit the parameters of verse instance sufficiently to address verse constants. Then, "in dealing with a poem, we distinguish its metrical characteristics from the various devices employed in its declamation, which may depend to a considerable extent on the completely separate *art of the performer*." [9] The variability of voice and performance should not detract from the constant of the text.

If the limitations of a particular scientific approach are acknowledged, the scholar may find much utility through it. The capacity to quantify and compare precise measurements compels the scholar to accept the feasibility of the scientific approach even to a humanistic subject. The physical reality of terms such as meter or stress can be tested experimentally. Such concepts as the line or isosyllabism can be likewise addressed.

### 5.1 *Acoustics and Poetics*

For a scientific account of the nature of verse language, the enormous variability of performance is a crucial problem. It is hard to delimit the parameters of performed sound in any objective sense either from a single instance or from a series of instances. Nothing less than a verse delivery universal would be the result of such successful delimitation. However, it must never be forgotten or overlooked that the convention of the text is a kind of verbal score, it could be called a script for an assumed performance, vocal or subvocal.[10] Thus there are two levels of the poem: the abstract invariant — the text — and the variant — the performance. Each performance, though, should include all the "notes" that the "score" calls for.

J. Lotz calls it "untenable oversimplification" to describe the abstract from the empirical. Very likely, he assumed that performance is infinitely variable. But the actual degree of variability is surely an analogy to the problem of phonemics and phonetics:

As to the theoretical requirement itself [of a phonemic analysis without sound consideration] it arose from the assumption that, in language, form is opposed to substance as a constant to a variable. If the sound substance were a mere variable, then the search for linguistic invariants would indeed have to expunge it. But the possibility of translating the same linguistic form from a phonic substance into a graphic substance, e.g. into a phonetic notation or into an approximate phonemic spelling system does not prove that the phonic substance, like other 'widely different expression substances', is a mere variable.[11]

The simple fact emerges that there are both variables and constants in verse performance. Some of these depend on the verse tradition itself as well as on the features of the natural language used in it.

Both language and verse have the production of speech as their fundamental interest.

Thus D. Abercrombie places the study of verse within his domain, phonetics:

I claim prosody as part of my subject, because verse is verse as a result of the way certain aspects of the sound, or rather perhaps the sound-producing movements, of speech in all its aspects, and of the bodily movements which produce the sound, is the province of phonetics. Phonetic techniques of observation and analysis can be applied to verse structure as successfully as they can to any other aspect of language where the sound is important.[12]

Indeed, much that can be said about verse through phonetic approaches can help elucidate matters of language itself by contrast. The great linguist, R. Jakobson, derived considerable profit from the study of poetry.[13]

One of the greater problems of variability involves simple factors such as the variability of the human voice, both from one speaker to the next as well as from one occasion to the next in the same speaker. The crux of this problem, though, involves the interpretation of the constants of pronunciation (or recitation) of poems by readers. There is sufficient reason to consider the task of reading a verse text. "The whole difficulty is to

produce real givens, those which are invested in the poetic text, but not to bring in those things which are not proper to the text.”[14]

For the scientist, it may be of greater profit to take as a point of departure that the fashion of speaking or the manner of self-expression is probably not a chimera of style; definitions for such ‘fallacies’ are found in all the monolingual dictionaries “qui suggère que la même phrase peut être prononcée de différentes manières, ou, plus exactement, qu’il est impossible de la dire à deux reprises exactement de la même façon.”[15]At the same time, developing a methodology for “objective” research must involve clearly recognized limitations concerning performance, regardless of the precision of measurement achieved in the work.

## 5.2 *Previous Research in Acoustics and Poetics*

There are relatively few scholars who have attempted acoustic phonetic research on poetry. Those who have done such research have all used various procedures, largely in keeping with the state of technical development in the field of acoustics, and have had various goals and intellectual foci. Each scholar, though, has achieved some perspective through his or her efforts which has been of some reward to general literary scholarship.

Precise measurement was the object of the pioneer in acoustic phonetic investigation of English verse, Wilbur Schramm, in his *Approaches to a Science of English Verse*, published in 1935. He worked with an oscillograph, a high-speed output level recorder and a strobo-photographic camera[16] The measured films were then adapted to a musical scale accompanied by a grid for relative amplitude (in decibels) He wrote that “the forces of sound have been harnessed and measured” and, while cautioning that his results of his monograph is tentative rather than final, he insists “it is a step in the direction of the exact and organized knowledge which will someday make clear to us the nature of literary

form.”[17] While Schramm may not have achieved the auspicious beginning to the science of verse that he thought, he did make many interesting observations about syllables, accent, rhythm and rhyme some of which are still intriguing. One such interesting datum is the tendency for rhyme words to follow a similar pitch pattern – he reports that there is common pitch, the same musical notes, or a cadential relationship in more than 60 percent of the rhyme cases studied:

...The rime helps to organize the melody of the line. In more than half the cases, the melodies of riming lines end on a common pitch or on pitches which bear to each other a cadential relationship. The melodies of the lines will, whether or not at the conscious will of the speaker, form into pleasing relationship to the riming pitches.[18]

Another group of acoustic phonetic research is the Hungarian team of Drs. Kecskés and Kerek, the latter of whom has continued to work in the U.S. Dr.Kecskés has himself written a lengthy monograph on Hungarian verse which, unfortunately, remains untranslated from the original Hungarian. An abstract of this work appears in English from which it can be ascertained that Dr.Kecskés has been measuring for intensity, fundamental frequency and duration, those three measurements associated with the prosodic features of amplitude, pitch and length.[19] However, without access to the original work it is not possible to determine how this scholar compensated for language prosody in his study of verse prosody nor what his objectives were.

The person currently associated with research in acoustics and poetics is Prof. Ilse Lehiste. Her studies include Estonian, English and Serbo-Croatian poetry.[20] Her work is directed toward investigating the reality of isosyllabism as a function of isochrony. She has found what she believes indicates the fundamental construction of isochronous organization:

Temporal compensation between the parts of a line suggests the presence of an overall temporal program for the line. The evidence adduced above makes it possible to conclude that the ten-syllable line of the deseterac does indeed constitute a unit of temporal programming.[21]

For Estonian poetry, too, the pattern was seen to provide evidence for the status of the poetic line as a unit of temporal programming.[22] However, for English poetry, she found that there was no systematic progression in the variability as there was in Estonian. Prof. Lehiste mentions that the difference may result from the difference of the two languages or other factors; however, it would seem very likely, indeed, that it is the effect of differences in the prosodic systems of the two languages themselves, since in Estonian, syllables are of some predictable temporal relationship to each other by nature.

D. Abercrombie does not use machines to conduct his research on verse language. Rather, he confines himself to phonetic transcription and deductive logic. He maintains that the rhythm of verse is, ultimately, the rhythm of bodily movements since all speech is sound-producing movement on the part of the speaker. The natural question arises: how does the speaker's rhythm exist for the hearer? D. Abercrombie turns to the analogy of music where, as he quotes P.E. Vernon, "rhythm is an aspect that is more of a bodily than an auditory nature." D. Abercrombie relates that this author also points out that probably every musical performer perceives music in terms of their hands at the piano or other instruments.[23]

In the case of speech rhythm, D. Abercrombie continues, every hearer who is proficient in the language is also a performer. He coins the term "phonetic empathy" for the process where the hearer identifies with the speaker to a sufficient degree to perceive the speaker's rhythm.[24]

Overall, acoustic studies of poetry are few, far between and of various foci and examine dissimilar language prosodies. It should come as no surprise that phonetic treatments are really not very comparable to each other as yet.



The following experimental study of S-C poetry was conducted primarily to investigate the possibility of verse deformation of language prosody in the acoustic-phonetic realm. As must be the case, the indications of the study are tentative in nature, and may provide only general tendencies rather than concrete results. However, the study of tendencies is not without merit, so it is hoped that the study will be of some value to future scholarship. The limitations of acoustic analysis, as of any single method of analysis for such a complex material, are admitted in advance: As H. Gross stated: "Analysis itself brings us far from "knowing" the poem's rhythm. The dissection of a human brain can tell us very little about the intelligence of the owner; prosodic analysis points out only general rhythmic anatomy."[25]

### **5.3 *The present study***

The present acoustic-phonetic study focusses on the word-level of prosody and addresses the effects of context upon language prosody. In order to conduct an investigation of the very subtle features of word prosody, a series of acoustic-phonetic experiments were done examining duration, pitch and intensity of vowels. There were assumed to be two major phonological features attributed to the accented vowel: pitch and length. Pitch is the positive or negative slope of the fundamental frequency patterns of the vowel corresponding to rising or falling. Length is the correlate of duration, phonemic in accented and post-accentual vowels in S-C. Thus there are supposed to be four accents, the long-rising, the long-falling, the short-rising and the short-falling.

A series of preliminary studies addressed the fundamental issues of the acoustic correlates of these phonological features. Previous research in S-C acoustic phonetics has been done by three different investigators, I. Lehiste and P. Ivić (1963), E. Purcell (1973), and P. Rehder, (1968). Lehiste and Ivić's study concentrated on words in frame

sentences. The same frame was used by Purcell. Rehder examines words in context.[26] The different studies have yielded similar results with respect the kinds of variation of tone-accent realization; all of them found differences between rising and falling accents both long and short. However, the interpretations have focussed on different particularities of the accented vowel contours. I. Lehiste and P. Ivić claim that the  $F_0$  movement in the short accented syllable is phonologically irrelevant, but that an acoustic difference appears in two-syllable configurations.[27] Purcell, though, claims that the significant  $F_0$  movement for the accented vowel is manifest in the accented syllable.[28] Rehder who found essentially the same types of  $F_0$  movement in his minimal pairs as the others was basically more interested in the interaction of prosodic features in their combination both in accented and unaccented syllables than in the simple measurements of accent alone.

The present study represents another look at the acoustic realization of accents in S-C. The first experiments are of a general nature to determine the parameters of accent within the speaker group of this experiment. The predictions for the latter experiments were based upon the general hypothesis that acoustic realizations will conform with the psychological expectations of the speaker. Hence, there should be significant differences between sentence and poetic contexts. The differences should be noticeable since they should occur at every level of the utterance, including word-level. Thus “deformation” of poetic language is both theoretically and physically present. Before going into details of the experiments and their indications, it is first necessary to describe briefly the choice of material, the speakers, and the methods of analysis used.

#### **5.4 Method**

The experiments focus upon three physical correlates of language prosody: amplitude (intensity), duration (length), and tone height (pitch). Amplitude is the perceptually rele-

vant measure of the size of the speech wave, that is, its pressure.[29] Its measurement is customarily denoted in decibels, units of sound measured in a progression related to actual amplitude. However, relative amplitude values are usually what are important.[30] The present study employs a computerized logarithmic scale using relative values.

The measurement of fundamental frequency,  $F_0$ , is the first harmonic of a periodic waveform measured in cycles per second, Hz.[31]  $F_0$  corresponds to the acoustic correlate for the perceptible pitch contour of speech.

Duration was measured from the first glottal pulse following a preceding consonant, if there was one, through the onset of the following consonant, or in one case, vowel.

These three features were examined in the speech of six native speakers, three of whom were professionally trained and produced the words in three separate language functions: citation form, sentential form and verse context. Three other speakers were natives of a similar dialect but not trained in elocution. The latter set produced only two types of speech: words in citation and sentences.

#### 5.4.1 *The corpus*

The corpus consisted of fifty words which were selected at random[32] from all the nouns, verbs and adjectives contained in eight poems written by Tin Ujević and Antun Matoš. These particular poems became the sources because they conform in significant ways to the norms of the Western syllabo-tonic tradition which is the subject of interest of this investigation. Their authors wrote masterfully and in full consciousness of this Western tradition. The extracted fifty words were then used in sentences in a minimally intonation-affected environment.[33] For example, the genitive singular adjective: *To su zvuci seoskoga kola*. There's the sound of a village wheel. Or the third singular verb: *Na obzoru pomalja se sunce*. The sun appears on the horizon. Of course, no graphic distinctions of any kind appeared on the test pages.

After all 750 tokens were measured, all 15 occurrences of the same word, *stràsna*, were rejected. The word appeared in the frame sentence: *Ona je strasna djevojka*, She is a *passionate* girl. In the design of the experiment, it was necessary to keep the context of the target word neutral. However, after examining the contours, this sentence was not produced as a neutral statement. Instead of achieving the indefinite short-rising contour, the emphatic long-falling obtained for all six speakers.[34] The remaining 735 tokens became the corpus under investigation.

#### **5.4.2 Speakers**

The speakers were chosen on the basis of their native dialect: they are native speakers of the Štokavian dialect of Serbo-Croatian. Five of the six speakers are from the areas of Slavonija and Bosna-Hercegovina. One speaker is a native of Zagreb, a Kajkavian dialect area, but her parents are from Slavonija; the speaker's Štokavian dialect is native. The professional speakers are actors/actresses at the Croatian National Theater in Zagreb. The non-professional speakers are students or graduate students at the University in Zagreb who are involved in the linguistics programs, but have not been trained as professional speakers or actors.

#### **5.4.3 The recordings**

A Nagra 4.2 recorder with a Shure SM 81 microphone was used for all recording. Low-noise tape was used at a recording level of 7.5 ips. The speaker was positioned in a soundproof room at the University in Zagreb with the microphone approximately 10 – 12 inches from his/her mouth. The tape recording was briefly interrupted at the end of each page and turned off for short rest intervals after sections and after each poem in the case of the professionals. All the recording of any speaker was made at a single session.

Each of the members of the professional group read several poems as described above including the eight from which the target words were extracted: 50 sentences containing the target words as described above, twice, and the 50 words in citation-form, twice, in that order. The sentences constructed for this experiment were different in meaning from the contexts of the poetry. In reading the citation form, the speakers were asked to read as though they were reading from a dictionary. The control group read the sentences twice and then the citation form words twice, in that order. They, too, were asked to read the citation words as though from a dictionary.[35]

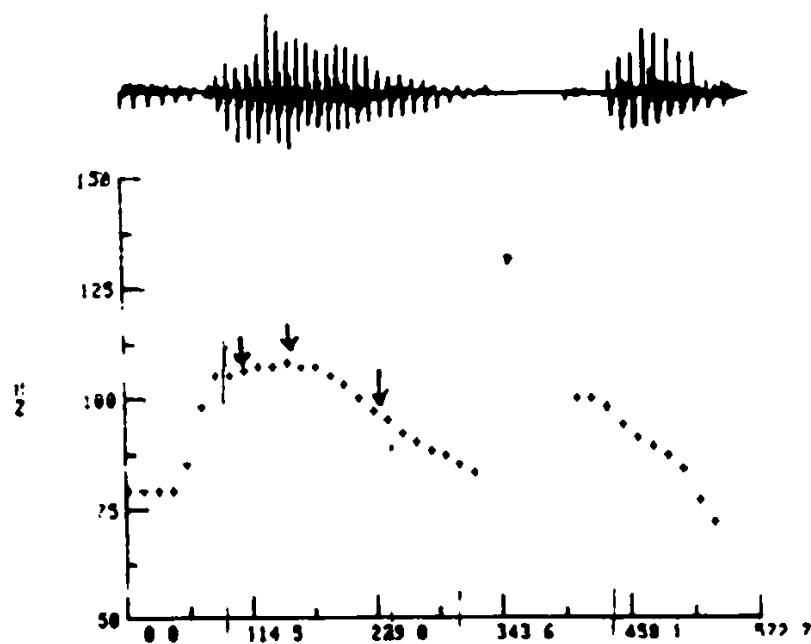
The recorded responses were digitized onto disk via a PDP 11-34 computer and edited from the waveform display at the Brown University Phonetics Laboratory. Tokens were sampled at a 10 kHz rate with a 4.5 low pass filter setting and 10 bit quantization.

Through the use of the WAVE pitch extraction program developed by J. Mertus (1977), an algorithm that uses an autocorrelation procedure accurate to within 3 Hz, the intonation contour for each word was derived and stored as a pitch file for which a hard copy was obtained. The window size was set at 40.0 ms (or 26.6ms for those speakers with a sufficiently high fundamental frequency for this window to average at least two whole pitch periods). A plot of unit energy was made at the same time.

The waveform was displayed on a screen where it was examined for all information available about the change of sounds in the continuum and listening to the playback of the sounds, both in continuum and in the edited form. Cursors were then moved to excise the portion of the waveform corresponding to the individual segments. For  $F_0$ , the segment corresponding to the vowel was defined as the second glottal pulse after the preceding consonant through the onset of subsequent consonant or vowel sound. This is a conservative measurement, but it served to minimize any interference from the transition frequencies of the preceding consonant. The segment corresponding to the consonant was defined as the

beginning of noticeable turbulence in the waveform, the duration of aperiodic frication, if present, or the prevoicing or closure, if present, until the onset of the vocalic transition. The segment corresponding to the sonorant was defined as the low energy level periodic portion of the waveform until the onset of the vocalic transition. A sonorant may precede or follow the vocalic segment, but not occur between two consonants. Thus in Figure 8 below, the *lj* in *biljke* is a resonant, but in *rasprskane*, the second *r* is a vowel. For all stimuli, segmentation was completed only after making a thorough visual inspection of the waveform *and* confirming this by auditory means.

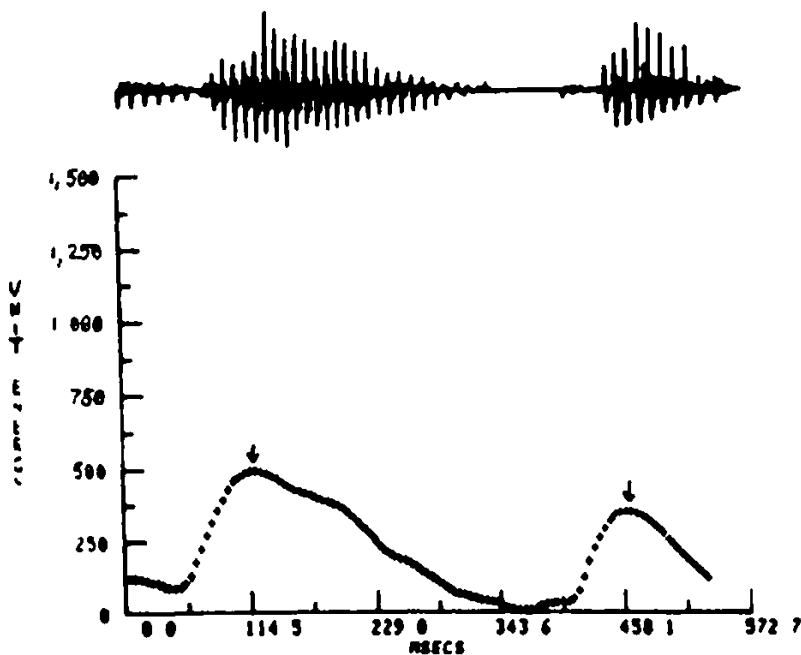
Figure 8: The Pitch Contour of BILJKE in sentence environment by Speaker I



Arrows indicate the points measured for the computer database.

Duration measurements were then transferred to the energy hard copy. An example of the energy plot is in Figure 9.

Figure 9: Example of intensity curve for BILJKE in sentence environment by Sp. I



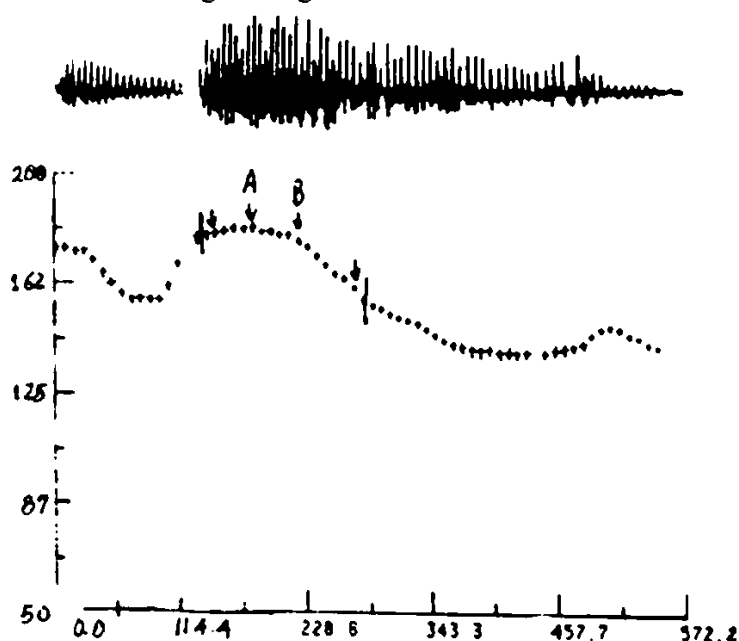
The duration of the sounds was measured whereby the intensity pattern necessarily conformed. Thus, the two points marked by arrows indicate the peak of the two vowels of BILJKE.

#### 5.4.4 Setting up the database

The correlates for the vowels were used in the database. Accented and adjacent post-accented correlates were quantified and then entered numerically into a data file which contained information about the pitch correlates of the vowels in  $F_0$ , the duration of all the sounds of the word in milliseconds, and the intensity of each segment in numeric form in conformance with the greatest intensity of the vowel. Intensity values were entered in percentages with 100% conforming to the point of greatest energy recorded in a token. These numbers were also put into the computer program. The two-vowel analysis was elected to try to support the two-vowel contour of the rising accents.

The medial  $F_0$  value of the vowel was either measured or computed automatically by the computer program. If the pattern was uninterrupted, either rising, falling or steady, no medial point was measured and the computer assigned one. If, however, the pattern was interrupted, eg., rising-falling or falling-rising, the medial point was measured. The medial point, then, whether assigned by measurement or by the computer program, may not necessarily represent the middle of the syllable in the sense of time. The reason for recording the medial point was to establish the shape of the vowel  $F_0$  contour, not to measure the center of the vowel. Otherwise a slope like Figure 10. would appear to be flat before falling rather than the rising-falling contour considered normal for a long-falling vowel.

Figure 10: Contour of a long-falling vowel.  $\hat{B}OLA$



The point A represents the placement of the medial point by measurement. Point B is the actual mid-point of the vowel.

In this way the contour was preserved.



### 5.4.5 Preliminary results

All 735 original tokens analyzed by a computer program where the correlates of word prosody were recorded. The formula used was (in Hz.):

$$V_1(1) - [V_1(3) + 3]$$

where V represents the accented vowel and points (1) and (3) represent the first and last measurements of the accented vowel and the phonological expectation (rising, falling) is realized. A minimum difference of 3 Hz was used to determine the rise or fall of the token because the pitch extraction program is accurate to within 3 Hz.

#### 5.4.5.1 Categories rising and falling ( $F_0$ )

##### *Falling*

Two types of acoustic contours were interpreted as a falling tone when they occurred in a syllable under the phonologically described falling accent. One was a "steady fall", where all movement in  $F_0$  was in a continuous decline from  $V_1(1)$  to the  $V_1(3)$ . This obtained acoustically 229 times representing 66% of all phonologically described falling vowels.

A second type of contour was also classified as falling: the rising-falling. The equation

$$V_1(1) > V_1(3)$$

(where  $>$  implies by at least 3 Hz.) Thus a contour such as that in Figure 10 was recorded as rising-falling, preserving the description of the vowel contour, but also preserving the essential falling nature of the accent. This contour occurred 35 times or 10% of the total phonologically described falling vowels. The rising-falling contour is classically designated as the proper form for a long accented vowel. The majority of occurrences, 62%, did obtain in long-falling vowels.

##### *Rising*

There were also two classifications for the rising vowel. One was a "steady rise"

$$V_1(1) < V_1(3)$$

where the rise was fairly continuous across the accented vowel. This obtained 163 times, 42% of the phonologically described rising accents.

Another category of vowels were interpreted to be rising. These were “geminate rise” where the contour of the accented vowel was not a steady rise, but the onset of the adjacent post-accentual vowel was a significant rise from the accented vowel. The formula

$$V_2(1) > V_1(3)$$

was used, where  $V_2(1)$  is the  $F_0$  value of the onset of the adjacent post-accentual vowel and  $>$  implies a difference of at least three Hz. This contour obtained in rising-expected cases where  $V_1$  had not risen significantly 79 times or 20% of the total rising expected category of the corpus. This contour was interpreted as rising because the phonological expectation for rising vowels is geminate and implies a disyllabic effect.[36] Also, the empirical evidence from these data tends to demonstrate that the rising tone contrasts with the falling tone by tending to rise over a syllable boundary; the falling tone does not. The falling accent rose over a syllable boundary in a total of 7% in the corpus, and thus supports the view that: a rise in  $F_0$  across the boundary into the subsequent post-tonic vowel is characteristic of the rising accents. In the rising accents, the adjacent post-accentual vowel was greater at onset than the end of the accented vowel 169 times or 43%. While in itself not a significant percentage, in relation to the number of actual cases where the adjacent post-accented syllable was greater than the end of the preceding accented syllable, it may be interpreted as significant.

#### 5.4.5.2 Fundamental frequency and duration

Contrary to any claims that no distinct accents occur in modern S-C,[37] four distinct accents were observed which could adequately be described as long-rising (LR), long-falling (LF), short-rising (SR), and short-falling (SF). Of the total 735 accents attempted by the speakers, 70% obtained with a significant rise or fall in  $F_0$  in agreement with their phono-

logical description. The long-falling (LF) accent was achieved 93% with an average fall in  $F_0$  of 22 Hz and an average duration of 179.5 ms. The long-rising accent (LR) was achieved 72% with an average rise in  $F_0$  of 12 Hz for the category  $V_1(1) < V_1(3)$  and an average rise of 10 Hz for the category  $V_2(1) > V_1(3)$ . Duration was calculated for the accented vowel position only. The average duration of the accented vowels ( $V_1$ ) was 178.5 ms. The short-falling accent (SF) was achieved 66.2% with an average fall of  $F_0$  of 16 Hz and an average duration of 104 ms. The short-rising accent (SR) was achieved 53% with an average rise in  $F_0$  of 8.4 Hz in the category  $V_1(1) < V_1(3)$  and 11 Hz for the category  $V_2(1) > V_1(3)$ . The average duration for the accented vowels ( $V_1$ ) was 100.2 ms.

*Figure 11:* Distribution of phonological accents and their realization

	ˆ	/
LONG	92.6% 179.5 ms.	72.4% 178.5 ms.
	˝	\
SHORT	66.2% 104.4 ms.	53.3% 100.2 ms

### 1.1 Group data

The intonationally biased material, i.e., the poetry, was not used in this stage of the experiment.[1] Two groups of speakers were used. The group of non-professionals represents the control. Their sentential and citation form words were compared to those of the professionals to determine whether the speech of the professionals would conform with other speakers of the dialect. It was assumed that if the words produced by both speaker groups

in these two categories were basically similar, then the measurements of the professionals for the experimental material, the poetry, could be considered generally meaningful rather than group-specific.

### *1.1.1 Analysis of variance (N = 6)*

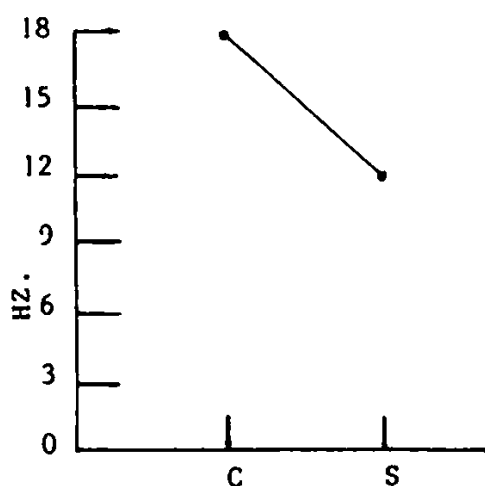
For duration and  $F_0$  a three-way analysis of variance (ANOVA) was conducted ( $F_0$  Accent x Condition [environment] x Group). Energy was treated with the same type of ANOVA. Additionally, a test for energy of the adjacent post-accentual vowel was conducted.

### *1.1.2 Fundamental frequency ( $F_0$ )*

The main effect for subject was not significant: [ $F(1, 4) = .27, p < .7$ ]. While this may not be categorical proof of the similarity of the two groups of speakers, this is unquestionably a strong suggestion that the two groups are not dissimilar. Approximately the same number of vowels had been achieved by the two groups of speakers and averaged in the ANOVA. Of the accents calculated in the ANOVA, the professionals (Group A) produced 45% of the long-rising accents, 50% of the short-rising accents, 34% of the long-falling accents and 48% of the short-falling accents.

The data also showed a tendency for Condition [ $F(1,4) = 5.8, p < .08$ ]. This is represented in Figure 2.

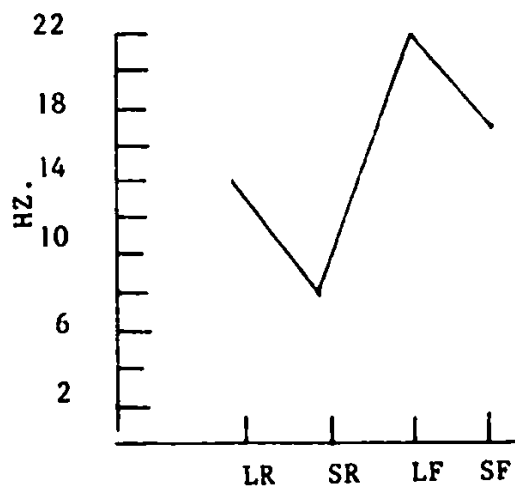
**Figure 12** Trend in Condition for  $F_0$  in all speakers



No significance would be contradictory to the prediction of language sounds conforming to their attendant psychological expectations, some of which are contextual. The "trend", though, may indicate some degree of influence by context. Perhaps with a greater speaker sample, significance would obtain by Condition.

There was a significant main effect for Accent [ $F(3, 12) = 8.81, p < .003$ ]. Had the input numbers represented a positive or negative fall, for example, this significant effect might seem predictable. However, variation in  $F_0$  was not entered according to its direction, but only as the difference between  $V_1(1)$  and  $V_1(3)$ . Thus, an average of 10.6 would represent a rise in  $F_0$  in a rising accent or a fall in  $F_0$  for a falling accent. The difference in Figure 3 represents the degree of the fall or rise in the respective accents.

Figure 13: Significant variation in  $F_0$  Accent, all speakers



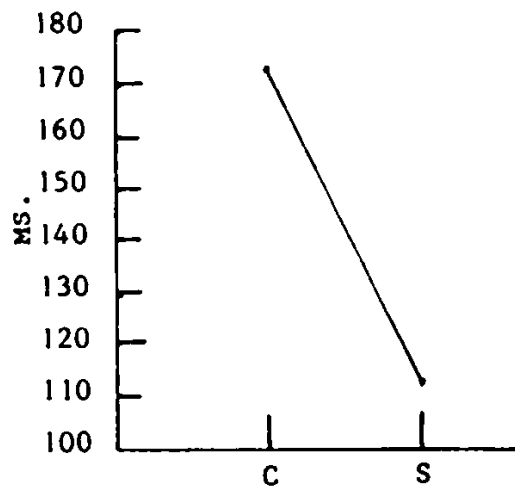
A highly significant first-order interaction between Condition and Accent obtained [ $F(3, 12) = 13.33, p < .0004$ ]. A Duncan post-hoc test was performed to assess further the contribution of Condition and Accent. It was determined that only in the SF accent was there a significant variation according to context.

### 1.1.3 Duration

The main effect for Group was not significant [ $F(91, 4) = .2653, NS$ ]. There was, however, a significant main effect for Condition [ $F(1,4) = 36.09, p < .004$ ]. The configuration of this variation appears in Figure 14.

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**Figure 14:** Significant effect of Condition for all speakers

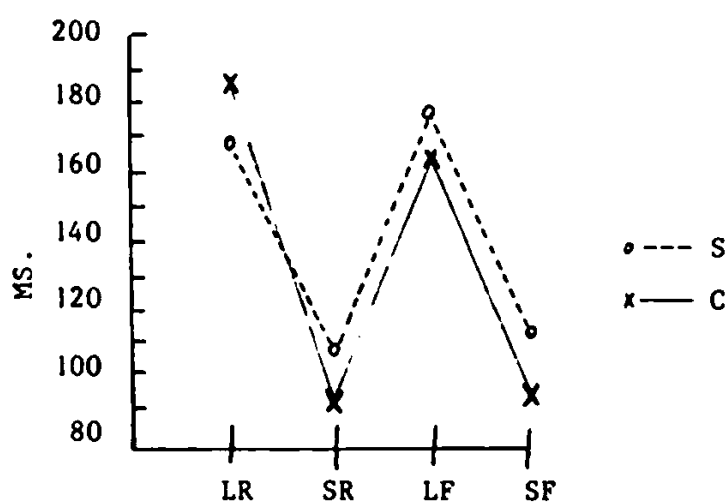


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There was also a significant main effect of Accent [ $F(3, 12) = 139.6, p < .0001$ ]. This difference is predictable since the accents are called long and short with respect to their greater and lesser average duration.

There was also a significant first order interaction of Condition by Accent, [ $F(3, 12) = 16.1, p < .0003$ ]. This interaction can be represented in Figure 15.

**Figure 5:** Significant interaction (Condition by Accent) in duration, all speakers



#### 1.1.4 Energy

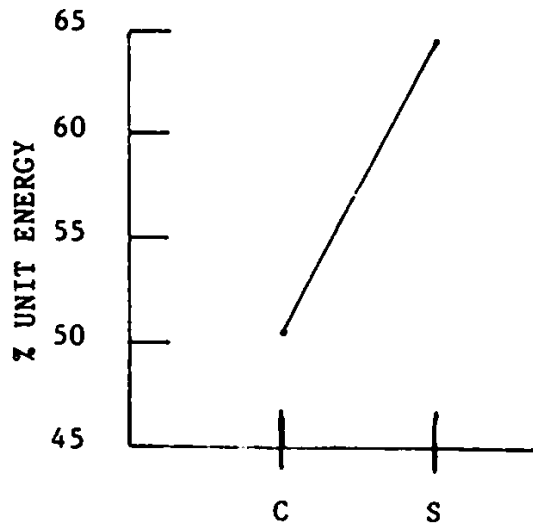
Two ANOVAs were conducted to measure energy, one of the accented vowel where greatest energy was expected, and the second one of the adjacent post-accented vowel where deviation was expected.

The energy values for the accented syllables were predictably indistinct with no average intensity for any accent in any context or group being under 90%. Certainly this indicates that energy is a primary and predictable correlate of S-C accent.[2]

The energy values for the adjacent post-accented syllable were quite different. There was a significant main effect for Subject, [ $F(1, 4) = 7.9, p < .05$ ]. There was also a significant main effect for Condition [ $F(1, 4) = 16.14, p < .02$ ] as represented in Figure 6.

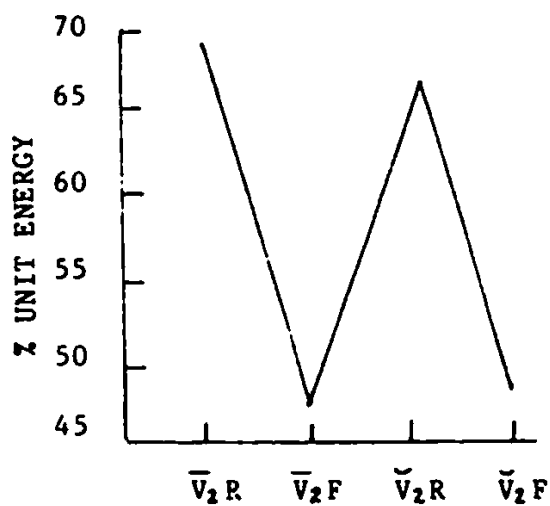


**Figure 6:** Significant Condition in energy, all speakers



There was also a significant effect for Accent [ $F(3, 12) = 7.5, p < .005$ ] as shown in Figure 17.

**Figure 17:** Significance by Accent in post-accentual energy



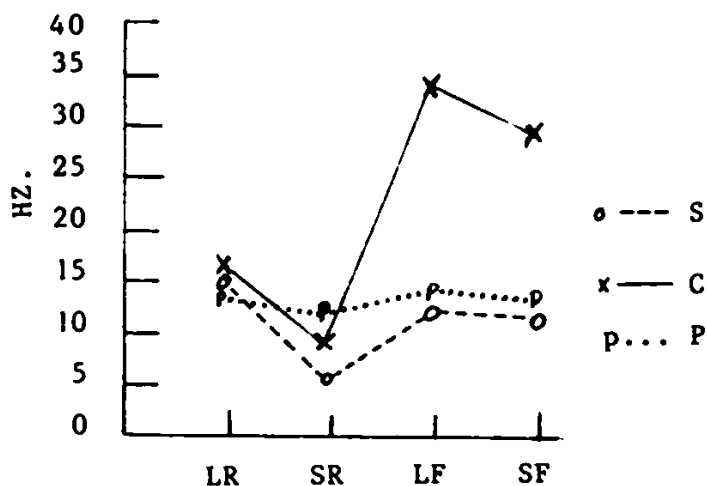
## 1.2 Verse context ( $N = 3$ , experimental)

Assuming from the results in the first set of tests that the two groups performed similarly for the first two contexts, citation and sentential, all the data including poetic condition for Group A (professionals) analyzed by a two-way analysis of variance (ANOVA), Condition by Accent. Since the non-professional speakers (Group B) could not be included in the analysis, the results of this analysis are based on only three speakers and are, therefore, preliminary.

### 1.2.1 $F_0$

The results of the  $F_0$  ANOVA on the professional group revealed that there was a "trend" in Condition [ $F(2, 4) = 6.2, p < .06$ ], another "trend" in Accent, [ $F(3, 6) = 3.9, p < .08$ ] and a significant interaction between Condition and Accent, [ $F(6, 12) = 3.05, p < .05$ ]. This interaction appears as in Figure 8.

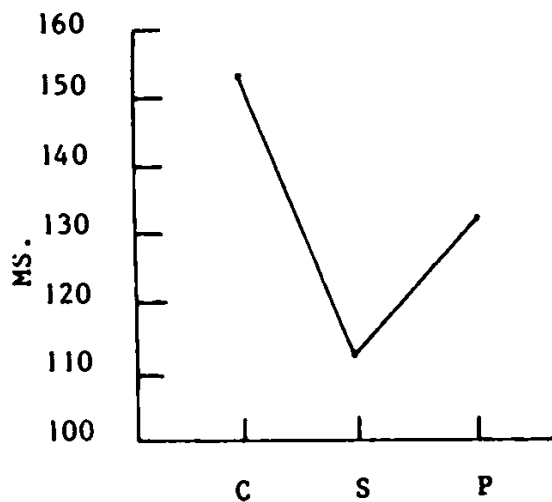
Figure 8: Significant interaction in  $F_0$  of Condition by Accent ( $N = 3$ )



### 1.2.2 Duration

Condition was significant [ $F(2,4) = 11.11, p < .03$ ]. This appears as in Figure 19.

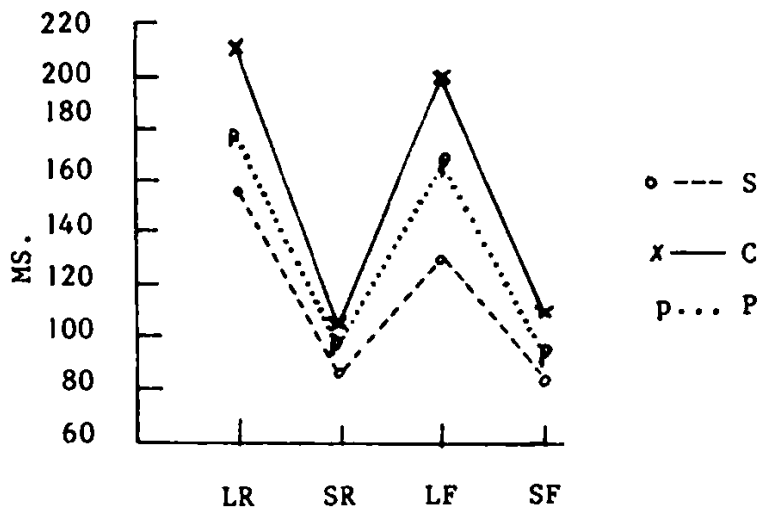
Figure 19: Significant Condition in duration for professionals



Through the Duncan post-hoc test, it was determined that the difference between the long-falling citation form and the long-falling poetic form was significant ( $\alpha = .05$ ); also the long-falling poetic form was significantly different from the long-falling sentential form ( $\alpha = .05$ ). This may be a step toward the predicted variation by context.

Accent was significant, [ $F(3, 6) = 308.95, p < .0001$ ], again, a predictable outcome judging from the average durations of long and short accents. There was also a significant interaction between condition and accent as shown in Figure 10 [ $F(3, 12) = 16.1, p < .0003$ ].

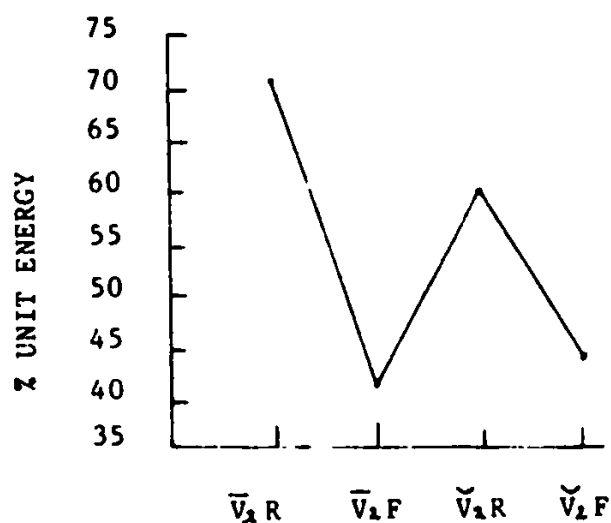
Figure 20: Significant interaction between Condition and Accent of professionals



### 1.2.3 Energy

Two ANOVAs were done as in the previous test. The accented syllable yielded no distinctions, as before. Neither, though, did the post-accentual category yield many significant results. Accent in the post-accentual vowel was, however, significant [ $F(3, 6) = 10.8$ ,  $p < .008$ ]. A graph of the distribution of this feature appears in Figure 21.

Figure 11: Significant accent in poetic  $V_2$



A Duncan post-hoc test showed that the difference of LR – SR is significant ( $\alpha = .01$ ); likewise the difference between LF – SF ( $\alpha = .01$ ). This pattern is consistent with that for non-poetic distribution of energy in  $V_2$ .

### 1.3 Summary

While this study was preliminary, some tendencies should be regarded as generally indicative of the patterns of speakers from the dialectal and professional groups represented in this study.

The categories of “rising” and “falling” both obtained in terms of  $F_0$  slope in the accented vowel. The categories of “long” and “short” also obtained in terms of the relative duration of the accented syllables. These categories then can uphold the traditional accentual distribution of long-rising, long-falling, short-rising and short-falling accents. However, not all accents obtained equally well. The long-falling accent obtained to an impressive degree whereas the short-rising obtains scarcely above the level of chance. The rising

accents are generally not as distinct in terms of  $F_0$  change as the falling. LR is 63% as great a change as LF; SR is 46% as great a change as SF. However, to maintain that the rising tone does not obtain significantly would be an exaggeration as the case of the long-rising accent demonstrates.

Both groups of speakers appear to produce very similar accentual contours which speaks strongly for the prevailing S-C tonal long and short accents. This also offers a basis for comparison of the  $F_0$ , duration and energy values for all six speakers.

Analysis of variance ( $N = 6$ ) was conducted through 3-way ANOVAs. The "trend" in  $F_0$  Condition indicates some influence by context upon the production of the test words. A significant main effect for Accent indicates a general difference between the degree of rise in the rising accents and the degree of fall in the falling accents in  $F_0$ . The falling accents are significantly more distinct. The first-order significant interaction between Condition and Accent in  $F_0$  revealed that, contrary to prediction, the distribution of accents in the two contexts was extremely similar, except for the short-falling accent.

The ANOVAs conducted on duration revealed a significant main effect for condition. Sentential forms are significantly shorter than citation forms.

The first order interaction of Condition by Accent revealed that the distribution of accent in the contexts of sentence and citation is very similar. In this respect, duration values mirror  $F_0$  values.

The energy ANOVAs showed that no significant difference obtains for any accented syllable, which supports the position that greater energy is an inherent feature of accent in S-C. In the adjacent post-accentual vowels, the main effect for Condition shows an opposite effect to the  $F_0$  and duration Conditions in the accented vowel: greater energy is present in sentential form than in citation.

The syllables following rising accents had significantly higher energy than those following falling accents. The long vowels following a rising accent were of significantly higher energy than the long vowels following falling accents ( $\alpha = .01$ ); likewise the short vowels following the rising accents were of significantly higher energy than the those following the falling accents ( $\alpha = .01$ ). The significant main effect for Accent clearly indicates a qualitative difference between adjacent post-accentual vowels following the rising and the falling accented syllables.

The ANOVAs conducted for the analysis of verse language used only three speakers. Consequently, only a few significant results obtained. Among these was a significant interaction between Condition and Accent in  $F_0$ . Unlike the results of the previous test, there was little distinction between poetic and sentential contexts; the significant effects were of the falling accents in citation form.

In duration, there was a significant effect of Condition. Citation form was significantly higher than poetic context; poetic context was significantly higher than sentential. This separation may be interpreted as a movement toward the predicted variation by context. The significant first order interaction of Condition by Accent shows a marked tendency to differentiation by context. The difference in the long-falling accents is statistically significant.

A significant effect in post-accentual energy obtained for accent. The results indicated a difference between the rising and falling accents.

### **1.3.1 Conclusions**

Generally, the categories corresponding to tone were not as well realized in accented syllables as those corresponding to duration. In post-accentual vowels, though, greater energy followed the rising accents than the falling accents. Thus, the two features of tone and length are both very significant at the two-syllable level.

The initial results of this experiment are ambiguous in relation to those of I. Lehiste and P. Ivić, (1961). They claim to have produced "unambiguous proof" that the  $F_0$  contour of the two short accented vowels is phonologically irrelevant.[3] While the rise in the SR is not significant, the fall in SF does not obtain dramatically differently from the long-rising accent. If I. Lehiste and P. Ivić are correct in their analysis, the long-rising accent would also fall into ambiguity, something which contradicts their findings. Thus the  $F_0$  change in the short-falling accents in this corpus is viewed as being phonologically relevant. On the other hand, the post-accentual energy results would support the two-syllable accent.

The disparity between the results of these six speakers and those in I. Lehiste and P. Ivić's study may be caused by many factors. One such factor is precisely the same one as I. Lehiste and P. Ivić found operating within their own results: the dialectal differences of region and profession. Some of I. Lehiste and P. Ivić's speakers came from the north-eastern corner of Yugoslavia near Novi Sad, and were radio announcers; the speakers in the present corpus came from the Western regions of Slavonija and from Bosna-Hercegovina, and half of them were professional actors. Perhaps the initial findings of this corpus should remind all investigators of S-C of the profound complexity of dialectal variation in Yugoslavia even within the so-called standard dialect.

In the professional group, the difference between the citation form falling accents is not paralleled in the rising accents, one of the asymmetrical distributions of the rising and falling accents. The similarity between poetic and sentential contexts is evident. This is contrary to the prediction but not sustained through all the prosodic categories.

The interaction between Condition and Accent in professionals revealed a significant difference between the figures for LF, poetic and sentential. The distribution in the graph would seemingly indicate that the movement for poetic context has begun for all the accents. Despite the very small sample, the LF difference ( $\alpha = .05$ ) is significant, the first



sign that the predicted encoding of language can be demonstrated empirically. Thus, poetic context can be seen to strive for a “deformed” condition.

The conclusions presented are not dramatic, taken by themselves. However, these tests were conducted at word level. The words were randomly selected from a given corpus. It might be inferred, then, that tendencies similar to those manifest in this analysis would also appear in all the words in the given recordings.

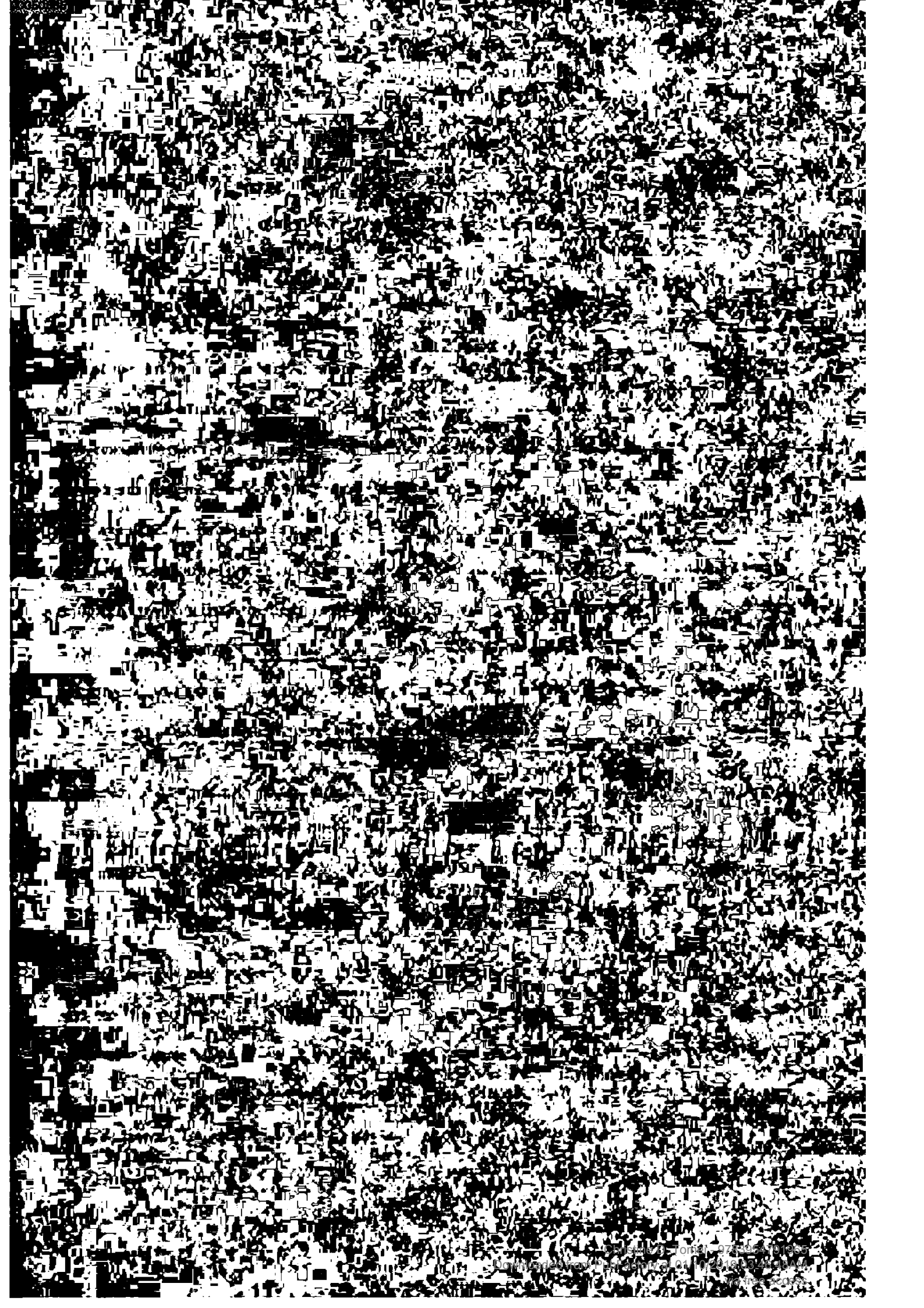
The preliminary data, then, seem to indicate the possibility that the main hypothesis is supportable by empirical means. Future research of more data may determine the extent to which this theory is viable.

## NOTES

- [1] The words were not in themselves marked for poetic speech. These are the words used, listed according to accent:

blato	dâna	zâljūbljena	gláva
čaša	plâvih	râsprškâne	lâvež
kapljē	trâžē	nèznâ	mláčna
gledām	vrâtīm li	vidīk	plávo
neba	bīljē	prīstīžu	žárī
seoskōga	bōla	pomahnītā	bunára
izglēd	zōvnu	pōmaljā	šétnje
stignē	spūštā	pōsljednĵā	žédni
golēt	būdě se	tūđi	žédajū
zvona	cvijeća	zaleprša	síva
pločnīci			gradīci
cura			bolesníka
drugovi			rúža
			budúcnōst
			dijete
			svijetao

- [2] Some scholars of tone accents dismiss the energy measurement. Usually the distinction between a tone language that is a "true" tone language and a pitch accent is the feature of stress. Stress, if it always accompanies the feature of tone, is the accentual parameter most significant in that system. J. McCawley in *Tone*, V. Fromkin, ed. Academic Press: N.Y., 1978.
- [3] I. Lehiste and P. Ivić, p. 20 and elsewhere.



## Appendix A

### *PREVIOUS EXPERIMENTS (1983)*

Two tests were conducted. The first test (A) involved the production of 84 words containing the accentual configuration /  $\hat{V}_1 \hat{V}_2$  / by a native speaker of Serbo-Croatian. The words were chosen from a Serbo-Croatian-English dictionary.[1] The main criterion was the accentual configuration; however, an attempt was made to represent all the vowels both in tonic and adjacent post-tonic positions. The speaker, a native of Sarajevo who attended the University of Belgrade, pronounced the tokens in a sound-proof room and was recorded on a Nagra 4.2 tape recorder. The words were read in citation form, although they appeared in the frame sentence, "Forma \_\_\_\_\_ data je kao primjer." Accents were not marked on the test sheet. The speaker was asked to provide accents for the words involved, but was extremely perplexed at the prospect and unable to comply.

A PDP11 computer was used for the analysis of unit energy, an amplitude measurement, and pitch contour.[2] The sampling rate was 10,000 Hz using a 25.6 ms. full hamming window; the pitch contour of the entire word[3] was extracted in this fashion and hard copies were made of the visual display

After all these tokens were analyzed a group of rough correlates was derived for the target configuration /  $\hat{V}_1 \hat{V}_2$  / and a perception test (B) was devised based upon these criteria. Thirty-eight words were taken from test A and used in test B. The words were chosen on the basis of the relationship in amplitude between the two target syllables /  $\hat{\quad}$  / ( $V_1$ ) and /  $\tilde{\quad}$  / ( $V_2$ ). It was decided to test words that were of visually unequal values:  $V_1 >$

$V_1$  ;  $V_1 < V_2$  ; and of evidently very similar values:  $V_1 = V_2$ . The stimuli were included three times and randomized by the program developed by John Mertus at the Brown University phonetics lab. The interstimuli interval was three seconds with blocks of ten stimuli separated by five seconds. Test B was designed to be used on naive listeners who, preferably, had some experience in transliteration[4] and whose native language has phonemic stress[5] to ascertain whether the features isolated were perceptually salient. The test was presented to the listeners on AKG headphones; the tape was played on an MCI tape recorder. The answer sheet included the test words listed numerically. Oral instructions were given for the listeners to assign perceived stress to the corresponding syllable by a mark / ˈ / or / ˘ /. It was requested that perceived secondary stress be marked by the number "2" over the corresponding syllable. The ten listeners who participated were all advanced graduate students in modern languages and literatures at Brown University, some with knowledge of a Slavic language, but with no background in S-C.

## V. RESULTS IN PRODUCTION

Because it is as yet undetermined exactly which features are salient in matters of stress it is not possible to discuss the absolute values of all the words (in test (A)). The present study will be limited to the analysis of those 38 words which were also used in the perception test (B).

### 1. TARGET / $\hat{V}_1$ $\hat{V}_2$ \_\_\_ /

Of the 38 words in test (B), 23 represented / $\hat{V}_1$   $\hat{V}_2$  \_\_\_ / where / $\hat{V}_1$  / is word initial, the configuration nominally addressed by Lehiste and Ivić in their study on accent (1963). 22 words were successfully produced with a rising intonation.[6]

### A. Pitch

In these 22 words,  $V_1$  tended to rise in frequency an average of 3.35 Hz from the onset to completion.  $V_2$  always fell in frequency an average of 21.57 Hz from onset to completion.[7] The medial interval was invariably rising from  $V_1$  to  $V_2$ .[8] The average increase was 13.45 Hz.

### B. Amplitude

In the chosen test words,  $V_1$  tended to be of greater amplitude than  $V_2$ ; this was the case in 14 or 63.64% of the tokens.  $V_1$  was greater than  $V_2$  7 times or 31.84% of the time;  $V_1$  equalled  $V_2$  in one case or 4.54%.

When  $V_1 > V_2$ ,  $V_2$  was approximately 76% the amplitude of  $V_1$ .

When  $V_1 < V_2$ ,  $V_1$  was approximately 70% the amplitude of  $V_2$ .

In this respect the two syllables are not significantly different from each other; the disparity between greater and lesser vowel amplitude is not a function of syllable position.

### C. Duration

In the chosen test words, a pattern emerges from the data in terms of what values are associated with greater duration in a specific syllable.

Although the average duration of vowels was approximately equal,  $V_1 = 85.6$  ms. and  $V_2 = 90.54$  ms., the two vowels were actually of equal duration (within 10 ms.) only 22.73% of the time;  $V_1$  was greater than  $V_2$  31.82% of the time; and  $V_2$  was greater than  $V_1$  45.45% of the time.

When  $V_2 > V_1$ ,  $V_1$  is on the average only 58.76% as long as  $V_2$ . The difference in duration in this case is significant.[9] When  $V_1 > V_2$ ,  $V_1$  averages 72.43% the duration

of  $V_1$ . While not all vowel-initial words contained a  $V_1$  of greater duration,  $V_1$  tended to be vowel-initial when it exceeded the duration of  $V_2$ .

In the six cases where the syllables conformed to (C) $\nabla_1$ C $\nabla_2$  and the /C/ between  $V_1$  and  $V_2$  was unvoiced and not a cluster, none of the  $V_1$  duration values exceeded those of  $V_2$ .

TARGET /(  )     $\nabla_1$   $\nabla_2$

The six words with word final /  $\nabla_1 \nabla_2$  / will be treated together. Although the words are not all of equal length – four are trisyllabic and two are tetrasyllabic – the values for these two configurations closely resemble each other and can be interpreted most efficaciously together.

#### A. Pitch

Following either one or two "empty" syllables, the pitch in  $V_1$  tended to rise on an average of 1.33 Hz.  $V_2$  invariably fell an average of 26.83 Hz. Between  $V_1$  and  $V_2$  the medial interval tended to rise an average of 1.83 Hz. Although there is no correspondence between absolute values previously assigned to the / $\nabla_1 \nabla_2$ / configuration, in terms of general direction of pitch, the pattern is identical.

#### B. Amplitude

In the chosen test words the amplitude values for the two target syllables tended to be very similar. When  $V_1 < V_2$ ,  $V_1$  was approximately 86.25% the amplitude of  $V_2$ . When  $V_2 < V_1$ ,  $V_2$  was approximately 88.24% the amplitude of  $V_1$ .

#### C. Duration

The duration of the two vowels tended to be similar with the average of  $V_1$  and  $V_2$  being within 10ms. of each other:  $V_1$  was 86.98 ms.;  $V_2$  was 96.83 ms. in average values.

### 3. TARGET / $\hat{V}_1 \hat{V}_2 \_ \_ /$

Four tetrasyllabic words were analyzed and yield a pattern basically identical to that of /  $\hat{V}_1$  /-initial trisyllabic words. All the test words in this pattern ended with the abstract noun morpheme / -ija / (equivalent to English -ion.)

#### A. Pitch

The tendency was for  $V_1$  to rise an average of 4.5 Hz.; for  $V_2$  to fall an average of 21.0 Hz and for the medial interval to rise an average of 16.7 Hz.

#### B. Amplitude

The sample is too small to make any conclusions regarding amplitudinal tendencies. However, it would appear that further research would reveal the same pattern as that found in the trisyllabic configuration discussed above:  $V_1$  seems to represent a smaller syllable than  $V_2$ ; when  $V_1$  was greater than  $V_2$  it was by much less of a proportion than was  $V_2$  in relation to a greater  $V_1$ .

#### C. Duration

In the four test words, the vowels were of the same duration (within 10ms.) 75% of the time; otherwise  $V_2$  was less than  $V_1$ , constituting 78.24% of the accented syllable's duration.

### 4. TARGET / ( $\_ \_ \hat{V}_1 \hat{V}_2 \_ \_$ )

Four words were included in the test which conformed to the target diagrammed above.

A. *Pitch* This configuration yielded the only case of a  $\hat{V}_1$  which usually fell in pitch (although the average still appears to rise 1.5 Hz.)  $\hat{V}_2$  tended to fall slightly less than in



the other patterns, an average of 15 Hz. The medial interval was similar to the other patterns at an average rise of 15 Hz.

### *B. Amplitude*

The amplitude of the chosen test words in this configuration tended to be extremely similar with the greatest difference between a  $V_1$  and  $V_2$  being only of 20% and averaging less.

### *C. Duration*

The average duration of  $V_1$  was slightly less than of the other configurations at 76.2 ms.  $V_2$  was virtually the same as elsewhere at 89.42 ms.

## Results of the Perception Test

The predicted relationship between greater amplitude and the perception of a stressed syllable did not materialize. Words like *bàkārñī*, where the duration is essentially the same and the amplitude is clearly greater in  $V_1$ , serve as demonstration of this fact. Neither is the combination of both greater duration and greater amplitude necessary for the perception of stress as words like *bèlōjka* – where the duration and amplitude of  $V_2$  are both significantly less than those values of  $V_1$ , yet stress was unambiguously assigned to  $V_2$ . Words where durational and amplitudinal values are basically the same such as *òrūžje* and *bròdārskī* tend to demonstrate most clearly that pitch is the most important factor in perceiving stress. Since the nature of the short rising accent is disyllabic with a sharp decrease in pitch following its peak in  $V_2$ , stress may regularly be manifested in  $V_2$ .

## GENERAL INDICATIONS

In the perception test of 38 words, except for the case of one token, the word *òbīlan*, the listeners all assigned stress extremely uniformly to a single syllable in a word. In all the 37 cases, stress was assigned with at least 70% regularity with the average uniformity being an astonishingly high 92.34%. Of these 37 words, 36 were successfully produced rising patterns with adjacent post-tonic vocalic length. All these 36 words had stress assigned to the post-tonic syllable.

The extremely high agreement among the listeners in the assignation of stress to the vowel which does not bear the traditional accent is indication that for the formal analysis of syllabo-tonic poetry written in S-C, stress may not belong to the accented syllable in the target configuration. Whether stress can be assigned with any regularity to the post-tonic syllable remains to be resolved.

## NOTE FOR INTERPRETATION

The following figures represent the values of both the production and perception test. The token is listed on the left of the page underneath the configurational target that it conforms to. The perceptual results are listed below the token. The figures correspond to the syllable of the word: for primary stress after "P" and for secondary stress after "S". The medial interval is the value marked by "MED." and represents the change between the end of  $\hat{V}_1$  and the onset of  $\hat{V}_2$ . Whenever a mistake was made by the listener and more than one accent was assigned to a word or whenever none was assigned, no response was recorded for this occurrence of the token. The percentages in the text nevertheless are based on 30 responses constitute 100%.

## INDIVIDUAL WORD VALUES

$\nabla_1 \nabla_2 \_$	DUR.	AMPL.	PITCH	CHANGE
òbzòrje $V_1$ P. 5-25-0 $\nabla_2$ S. 3- 2-0	107.8 95.79 —	12 11 6	102-110 120- 98 — MED. +10	+8 -22 —
òbīlan $V_1$ P. 15-11-2 $\nabla_2$ S. 1- 6-0	131.0 64.2 72.9	13 12 6	104-111 118-109 80- 75 MED. +7	+7 -9 -5
òsvēcen $V_1$ P. 0-29-0 $\nabla_2$ S. 5- 0-0	130.1 92.8 —	7 9 2	108-111 125-109 — MED. +14	+3 -16 —
àlātka $V_1$ P. 3-25-2 $\nabla_2$ S. 1- 2-0	99.7 68.1 —	6 9 3	100-104 119-119 90 MED. +15	+4 0 —
òrūzje $V_1$ P. 0-30-0 $\nabla_2$ S. 0- 0-0	116.2 113.7 —	11.5 10 3.5	102-115 124-101 — MED. +9	+13 -23 —
prèkāljen $V_1$ P. 5-25-0 $\nabla_2$ S. 2- 0-0	58.5 103.5 —	8 5 1	119-118 129-108 — MED. +11	-1 -21 —
òrāšje $V_1$ P. 0-30-0 $\nabla_2$ S. 2- 0-0	95.6 112.4 —	6 8 1.5	111-113 120-100 — MED. +7	+3 -20 —
èstètskī $V_1$ P. 2-28-0 $\nabla_2$ S. 0- 1-0	90.7 73.4 —	8.5 10 3	110-109 132-120 — MED. +23	-1 -12 —
èsnāfskī $V_1$ P. 1-28-0 $\nabla_2$ S. 1- 0-0	99.9 76.7 —	6 8 2.5	110-118 128-120 — MED. +10	+8 -8 —

	DUR.	AMPL.	PITCH	CHANGE
òkvìrnì V P. 26-2-0 ↘ <sub>1</sub> S. 1-5-0	90.8 74.4 —	14 6 1.5	119-120 120-110 — MED. 0	+1 -10 —
ìslūzen V P. 1-29-0 ↘ <sub>1</sub> S. 0-1-0	72.2 109.5 52.8	10 19 7	107-115 130-98 75 MED. +15	+8 -32 -23
bjèlōjka V P. 2-28-0 ↘ <sub>1</sub> S. 2-0-0	102.4 63.9 —	9 6.5 2	110-111 125-110 — MED. +14	+1 -15 —
ìgrāckì V P. 0-30-0 ↘ <sub>1</sub> S. 0-0-0	59.5 95.3 —	3 8 2	103-103 108-92 — MED. +5	0 -16 —
òsnōvan V P. 2-28-0 ↘ <sub>1</sub> S. 3-0-0	96.5 100.5 —	14 9 1	105-108 125-92 — MED. +17	+3 -33 —
pōhvāljen V P. 0-28-2 ↘ <sub>1</sub> S. 1-0-0	57.1 138.9 —	7.5 9 2.5	110-109 132-98 — MED. +23	-1 -34 —
ètāznì V P. 1-29-0 ↘ <sub>1</sub> S. 1-0-0	79.7 166.2 —	4 8.5 1.5	105-105 128-91 — MED. +23	0 -37 —
bitānga V P. 0-30-0 ↘ <sub>1</sub> S. 0-0-0	55.9 126.2 —	7.5 9 3	108-108 126-99 — MED. +18	0 -27 —
dūševnì V P. 1-29-0 ↘ <sub>1</sub> S. 0-1-0	72.5 110.0 —	9 10 4	110-120 134-100 — MED. +14	+10 -34 —
dūhāckì V P. 0-30-0 ↘ <sub>1</sub> S. 1-0-0	68.3 98.2 —	5 7.5 1.5	115-120 140-108 — MED. +20	+5 -32 —

	DUR.	AMPL.	PITCH	CHANGE
ispīsan V <sub>1</sub>	78.4	8	112-111	-1
P. 0-30-0 V <sub>2</sub>	72.1	16	138-105	-33
S. 0- 0-0	79.6	6	100-60	-40
			MED. +27	
brōdārskī V <sub>1</sub>	82.0	7.5	110-112	+2
P. 2-28-0 V <sub>2</sub>	87.3	7.5	123-111	-12
S. 1- 2-0	—	1.5	—	—
			MED. +11	
bākārnī V <sub>1</sub>	73.7	8	106-110	+4
P. 9-21-0 V <sub>2</sub>	76.7	5	125-110	-15
S. 3- 3-0	—	2	—	—
			MED. +15	
sūmrācje V <sub>1</sub>	55.6	7	126-127	+1
P. 5-25-0 V <sub>2</sub>	113.7	7.5	115- 80	-35
S. 3- 2-0	—	3	—	—
			MED. -12	
TARGET ( _ ) _ _ V <sub>1</sub> V <sub>2</sub>				
bakrēnjāk	40.1	7	100-103	+3
P. 0-0-29 V <sub>1</sub>	91.6	7	110-113	+3
S. 6-2-0 V <sub>2</sub>	90.5	6	112-94	-18
			MED. -1	
akūšēr	83.9	6.5	104-103	-1
P. 0-5-25 V <sub>1</sub>	106.1	9	120-120	0
S. 2-2-0 V <sub>2</sub>	90.0	9.5	124- 85	-39
			MED. +4	
batinās	58.8	8	109-100	-9
P. 0-2-27 V <sub>1</sub>	49.7	6	119-115	-4
S. 4-0- 0 V <sub>2</sub>	111.5	6.5	120- 90	-30
			MED. +5	
emīsār	78.1	5.5	109-108	-1
P. 6-1-22 V <sub>1</sub>	45.8	6.5	110-115	+5
S. 0-1-3 V <sub>2</sub>	95.8	8	120- 93	-27
			MED. +5	
arhipēlāg	93.9	5	110-110	0
P. 0-0-2-27	30.4	3	116-116	0
S. 2-1-2-0 V <sub>1</sub>	141.7	8	120-112	-8
V <sub>2</sub>	101.9	7	110- 85	-25
			MED. -2	
bikarbōnāt	46.8	3	108-108	0
P. 1-1-1-26	50.9	5	108-108	0
S. 0-2-2-0 V <sub>1</sub>	87.0	6	101-113	+12
V <sub>2</sub>	91.6	7	112- 90	-22
			MED. -1	

$\nabla_1$ $\nabla_2$ _ _	DURATION		AMPL.	PITCH CHANGE
indīcija $V_1$	72.8	9	109-110	+1
P. 0-30-0-0	$\nabla_2$	79.8	16.5	120-111 -9
S. 0- 0-0-0	79.8	6	—	—
	—	2	—	—
			MED. +10	
ākācija $V_1$	91.9	8.5	110-118	+8
P. 1-29-0-0 $\nabla_2$	102.3	7.5	141-118	-23
S. 1- 1-0-0	—	2.5	95	0
	—	1.5	—	0
			MED. +23	
infūzija $V_1$	99.3	6.5	110-117	+7
P. 1-29-0-0 $\nabla_2$	105.2	13.5	140-100	-40
S. 0- 1-0-0	—	6.0	—	—
	—	4.0	—	—
			MED. +23	
āmbīcija $V_1$	88.7	8	111-113	+2
P. 0-28-0-1 $\nabla_2$	69.4	10	124-112	-12
S. 0- 0-0-1	—	3.5	102	0
	—	1.5	—	—
			MED. +11	
TARGET ( _ ) _ _ $\nabla_1$ $\nabla_2$ _ _				
izopāčen	36.9	2	108	0
P. 0-1-29-0 $V_1$	89.5	7	113-113	0
S. 2-4- 1-0 $\nabla_2$	93.9	7.5	135-110	-25
	—	2	—	—
			MED. +22	
akādēmskī	—	3	—	—
P. 0-1-29-0 $V_1$	58.0	8	113-111	-2
S. 1-0- 0-0 $\nabla_2$	59.1	7	126-112	-14
	—	1.5	—	—
			MED. +15	
alūmīnij	88.9	7.5	105	0
P. 2-1-26-0 $V_1$	102.6	7	110-121	+11
S. 0-0- 0-0 $\nabla_2$	112.1	8.5	128-120	-8
	—	4	—	0
			MED. +7	
arhitektōnskī	60.4	7	105-105	0
	34.8	2	—	—
P. 0-0-1-28-0 $V_1$	54.7	5	105-102	-3
S. 9-0-0- 0-0 $\nabla_2$	92.6	4	118-102	-16
	—	1	—	—
			MED. +16	

TOTAL AVERAGES		
TARGET	DURATION	CHANGE (Hz)
$\nabla_1 \nabla_2 \_ \_$ [22 words]		
$\nabla_1$	85.6 ms.	+3.35 Hz.
$\nabla_2$	90.54 ms.	-21.57 Hz.
		MED. +13.45 Hz.
$( \_ ) \_ \nabla_1 \nabla_2$ [6 words]		
$\nabla_1$	86.98 ms.	+1.33 Hz.
$\nabla_2$	96.83 ms.	-26.83 Hz.
		MED. +1.83 Hz.
$\nabla_1 \nabla_2 \_ \_$ [4 words]		
$\nabla_1$	88.18 ms.	+4.5 Hz.
$\nabla_2$	89.18 ms.	-21.0 Hz.
		MED. +16.75 Hz.
$( \_ ) \_ \nabla_1 \nabla_2 \_$ [4 words]		
$\nabla_1$	76.2 ms.	+1.5 Hz.
$\nabla_2$	89.43 ms.	-15.75 Hz.
		MED. +15 Hz.



## NOTES

- [1] M. Benson, *Srpskohrvatsko-Engleski Rečnik*, University of Pennsylvania Press/Prosveta, Beograd, 1971.
- [2] The relative amplitude and pitch extraction programs were developed by John Mertus at Brown University's phonetics lab.
- [3] When the amplitude fell below a certain point, the pitch program failed to register a true representation of that syllable. This happened frequently in the case of word final syllables removed by at least two syllables from stress, but in no other case. Otherwise, the margin of error in the pitch program for impulses with a fundamental frequency in the range of the present speaker is  $\pm 1$  Hz.
- [4] The orthography of S-C is the the Latin alphabet with certain fairly standard diacritical marks. S-C is virtually phonetic. A person acquainted with transliteration required no explanation of certain sounds, and it is assumed, did not become confused between visual and auditory signals.
- [5] One listener's native language is Bengali which has no phonemic stress.
- [6] One word, *òkvīrni*, was produced with a falling tone and will not be discussed at present.
- [7] *Ālātka* is the only exception and the tone did not rise. See Appendix.
- [8] The token *sūmrāčje* would seem to be an exception since the interval decreases. However, it is thought that the nasality of / u / as it is produced in this instance, has caused the pitch of  $V_1$  to register higher than otherwise. That no other  $V_1$  produced in *any* word exhibits as high a  $F_0$  seems to support this contention.
- [9] J. Morton and W. Jassem reported that when one syllable of a two-syllable utterance was -40% duration "it was unusual in that a high proportion of responses placed the stress on the shorter syllable." They are clearly inferring that this durational difference is associated with stress perception. "Acoustic Correlates of Stress" *Language and Speech*. Vol. 8, Part 3, 1965, pp. 159-181.

## Appendix B

### *A REAPPRAISAL OF "WORD ACCENT IN MODERN SERBO-CROATIAN"*

In 1971 Pennsylvania University Press published a book written by Thomas Magner and Ladislav Matejka (M&M) called *Word Accent in Modern Serbo-Croatian (S-C)*. The review was rather bad, pointing out some obvious problems in the book.[1] Nevertheless, the scholarly community has continued to accept the work, and its findings are often quoted.[2]

M&M claim that the four tone-accent system of the Stokavian dialect which includes phonemic post-accentual length no longer functions in a meaningful way in the urban areas of Yugoslavia. They claim that listeners do not correctly identify the target words in sentences. The method used to prove this was to have two speech specialists produce words containing various combinations of prosodic features, some of which are minimal pairs. The resulting tape recordings were played in high school classrooms to Yugoslav school high school children who were asked to identify the token. Groups of two, three or four tokens were composed. If every token within a group was correctly identified by the listener, all the tokens were counted as correct. If any one of the tokens within the group was incorrectly identified, all the tokens were counted as incorrect. Presumably, the urban school children displayed a poor degree of feature recognition. Therefore, M&M claim that the features do not operate in any meaningful way, but are "so much static".

No sufficient cause is presented, though, to believe any of M&M's conclusions. First of all, the actual hypothesis is flawed, that is, they purport to test the perception of fea-

tures presumed not salient. Secondly, the degree of insubstantiation in their preparation and presentation as well as the inconsistencies in their arguments easily controverts M&M's position. The conclusions, based on a negative hypothesis, are confusing to the careful reader, self-contradictory and false to the initiated reader, and infuriating to the specialist. Inevitably, therefore, the unpleasant task of categorically discrediting this book is absolutely necessary.

The major points of objection in the present paper are (1) the lack of previous or referenced research in perception testing, coupled with an incomplete understanding of the relationship of speech production and speech perception; (2) the method of their perception testing; it is not modelled upon any other perception test; it lumps all prosodic features together indiscriminately without testing for relative salience; nor are there any controls on other conditions to assure the accuracy of the results; (3) the method of M&M's perception evaluation; they "grade" either completely correct or completely incorrect all of the responses of a subject; the series of possible responses varies in size from two to four members, no two of which are identical;[3] and (4) the geographical and dialectal distribution of the test areas where non-native Štokavian speakers were tested for their perception of prosodic features which were not part of their native dialects. Because of the failures in these four areas, it will be demonstrated that M&M fail to cast any justifiable doubt on the operation of the Vukovian prosody in the accentual system of S-C.

### ***B.1 Perception testing and perception vs. production***

In terms of theoretical flaws, the lack of research in previous perception testing is the most damaging. M&M do not cite a single perception test, not of noises, not of words and not of accents in their bibliography, nor do they mention any proficiency on the part of their speech production specialists. They simply expect 100% correct identification. Nor will they "excuse any error, whether psychological, biological or technical"; they "simply assume that the functionality of the distinction tested is revealed by correct identification

while errors show deficiency of the distinction tested.”[4] Disregarding the psychological and biological factors, the technical factor is their own responsibility. It will be shown below that they were appallingly remiss in this respect.

While M&M purport to try to “investigate the accentual situation in urban Yugoslavia in as an objective a way as possible”,[5] they set out to prove that the Vukovian system of accents in words was not operating, thus proposing a negative hypothesis. They state this characteristically as follows: “Prosodic minutiae may be convoluted to a marvelous degree but, if they have no meaningful impact on the receiver, they are only so much ‘static’”.[6] They assert success in proving the insignificance of prosodic features by citing results from acoustic analysis conducted by Lehiste and Ivić (1961). They claim: “The traces burned on the spectrogram paper by the stylus provided data, the interpretation of which runs counter to the conclusions of the fathers of the four accents in S-C.”[7] But they never discussed how the features should have appeared, they never said how the sounds of speech are somehow perceived by reference to the way they are generated,[8] that is, they neglect to address the relation of speech production and speech perception. They move blithely through phonological to acoustic phonetic research making points like the one above, without addressing their own field, feature perception. It sounds ludicrous, but it is certain that M&M conducted a test presumably to determine the salience of very subtle prosodic features without demonstrating the slightest proficiency or knowledge in the field of speech perception.

One concrete demonstration of how M&M confuse their subject matter is their inability to distinguish the act of speech identification from speech discrimination. The task of speech discrimination is one where two stimuli are given and the listener is asked to identify one (A, B); or else the task is to listen to three stimuli and determine which one of the first two stimuli the third stimulus approximates (A, B, X). M&M introduce their experiment as follows:

An attempt to approach the matter of Serbo-Croatian accentuation from the point of view of the receiver was made by the authors in 1966 when they

carried out a large-scale investigation in the speech area of Yugoslavia:[9] some 1600 people (mostly high school students) were tested in their ability to discriminate forms according to the Vukovian accentual norms.

The specialist in speech perception automatically assumes a test of the type (A, B) or (A, B, X) to follow. But M&M continue describing their tests:

After consultation with Yugoslav linguists and after some experimental testing, a set of 100 sentences was devised. Each investigated distinction was tested by two sentences at least; some distinctions were tested by means of 3 or 4 sentences. The individual sentences were so mixed that no direct comparison was possible. Thus, the distinction between *para*, "steam," and *pàra*, "money," occurred in the following order:

Sentence no. 50 - I danas *pàra* igra ulogu.

Sentence no. 95 - I danas *para* igra ulogu.[10]

The authors were careful not to make this a discrimination test, but were, unfortunately, not aware of the difference. Statistically, the task of identification is far more improbable than discrimination. Perhaps they would have relaxed their inappropriate expectations of 100% accuracy if they had recognized the difficulty of the task.

Moreover, however much the authors spoke about prosodic features, they nonetheless declined to design their tests according to features. The *para* / *pàra* test should be a test of tone (it is a minimal pair by tone). However, there is no indication that they constructed their tests according to any specific design other than that the same or similar string of letters should follow each other. What this type of comparison might reveal is not clear. Some of the words which have the accent on the same syllable are different by as many as three features. eg. *izbora/izbora* ; *jezika/jezika* ; *Mârkom/markom konja/konja* ; *Lukom/lukom* There were also words that were differently accented altogether, eg., *od kosti/od kosti* ; *crvena/crvena prijatelja, prijatelja* and *imena, imena*. This is not a test of prosodic features *per se* but the presence of word accent in general. What the implications of non-perception of these sets would mean is never mentioned; M&M assume it to be part of the same test, but the question of accentedness itself is implicated. Some fundamental misunderstanding of the problem is evident here. M&M misunderstand the relationship of production and perception of word-accent, the issue of "sound" and "prosody".[11]

Part of the problem may result from lack of research in the field of speech perception as well as the area of prosodic features. There is a certain "burden of proof" placed on the authors for them to explain their subject and the course of their procedure. The authors, then, are expected to offer at least some rudimentary explanation of their concept of the perception of *word accent* in relation to at least some of the pertinent available literature. For example, one would certainly have expected to see a title such as "Vowel Recognition as a Function of Duration, Frequency Modulation and Phonetic Context." [12] Also of interest would have been "Duration and intensity as physical correlates of linguistic stress," [13] These studies address the relation of perception and production of speech. Another reference could have been, "Some experiments on the perception of synthetic speech sounds," [14] since in synthetic speech the control is substantially greater than in natural speech. *Acoustico-phonetic studies in the intonation of Southern Swedish*, [15] might also have been useful since Swedish is another language which uses phonemic tone and distinguishes accented syllables by it. M&M simply do not address the greater issue in their experiment, namely what are the prosodic features they are testing at the perceptual level and what constitutes word accent at the perceptual level.

The perceptual parameters of accent particularly in relation to what might be expected in S-C are absolutely ignored. This is not because the subject of speech perception was not well defined before M&M wrote their book. General parameters of accent are discussed in many articles before the publication of M&M's book, e.g., by Liberman, Harris and Grubb (1958), Liberman (1957) Liberman, Delattre and Cooper (1952), Stevens (1960) and others. But they are not discussed by M&M or even acknowledged. M&M are not aware of any of this literature as their bibliography indicates.

It is clear from the lack of relevant research alone that the contents of the book written by M&M are entirely dubious. It is not possible to vouch for the findings of any tests which do not even consider the parameters they are supposed to be testing. M&M are very presumptuous to claim to have conducted a perception test. However, much more in

M&M is essentially flawed as their fundamental misunderstanding of the subject as will demonstrate.

## ***B.2 Method: broadcasting production material for perception***

M&M flatly refuse to allow for technical error. Therefore, one would think, the technical aspects have been carefully considered and all possible interference with subject perception has been foreseen and forefended. Perhaps, the perception tester would think, the researchers have electronically produced tapes in controlled conditions. Careful pretesting of select groups would have been monitored to detect any inconsistency in the test tapes. Sound-proof rooms and adequate headphones would be used for administering the test material to the controlled group of subjects.

In the case of M&M's experiment, the specialist would be absolutely wrong if s/he believed any of the above. The tapes were, of course, electronically recorded, but the speed and the control of the recording are not mentioned. The pretesting was of the experts who recorded the tapes themselves which left no room for adjustment if any token(s) were produced ambiguously. A close inspection of their report implies there was, in fact, some technical problem as will be discussed in the 'učiteljja' test section below.

No mention of any test controls is made in the book. Tape recorded signals were broadcast somehow in school rooms of varying sizes with varying numbers of subjects involved and no room was allowed for technical error. Without being facetious, M&M could be disclaimed simply by pointing out that signals broadcast in large city classrooms with wide-open windows would naturally be less correctly perceived than signals broadcast in small town classrooms with wide-open windows due to the degree of acoustic interference typical of urban and rural areas. Furthermore, the simple broadcast of a signal is no guarantee of the distribution of the acoustic material throughout any area. Bell Laboratories discontinued broadcast perception tests in the fifties because of the variability of acous-

tic information even within a soundproof room. M&M operated in absolute ignorance of this fact.

How many subjects were tested at once could easily affect the quality of sound transmission at a given test administration. In a given place, M&M tested between 26 and 116 students. The number listening to one transmission at a time most certainly varied.

Other variables could complicate the interpretation of results of perception testing when the controls are not stringent. The amount of traffic on the streets adjacent, the sounds in the hallways, all these conditions cause inevitable variability during the uncontrolled broadcasting of sounds. But M&M expect 100% perception, and anything less than 90% will be taken to mean that some accentual configuration is not significant in modern Stokavian S-C. Again, one may only conclude that M&M conducted tests without understanding their material. The administration of their tests is far below acceptable perception testing standards, particularly where such a high degree of accuracy is demanded.

### ***B.3 Method of perception evaluation***

It has been mentioned above that the expectation for correctness was an extremely high 100%. It was not explained, though, that the percentage was not arrived at by simple tallying of correctly identified tokens. M&M actually use the evaluation method which yields the least percent of correctness. This is how they present their evaluation technique:

For example, if 50 students in a locality are tested on two sentences which present the contrast pas vs. pās, the results could be the following:

Place A	item pas	item pās	interpretation
50 students tested	48 correct identifications or 96% correct	42 correct identifications or 84% correct	average 45 or 90%

Or we could simply take the lower percentage, 84%, and say that not more than 84% identified the basic prosodic difference as presented in the two items. A more exact method would be to check the scores, student by student, in which case the following situation might result:



Place A	item pas	item p <sup>â</sup> s	interpretation
50 students tested	students 1 through 48 correct, students 49 and 50 incorrect	students 9 through 50 correct, students 1 through 8 incorrect	80%

In this latter situation only students numbered 9 through 48 (or 40 out of 50 students) got both items right and thus we can say that only 80% of the students tested in Place A actually succeeded while 20% failed. (M&M, p. 96.)

Their counting procedure, then, yielded the following results:

Thus, in Belgrade 43 out of 61 students failed by making altogether 72 errors, while only 18 students succeeded in identifying all four occurrences correctly. Consequently, the performance in Belgrade amounts to 30% of correctness (or 70% of errors). In terms of averages, of course, the total of 72 errors in response to four occurrences would represent 31% of errors per occurrence.[16]

If 65% correctness is considered significantly above the level of chance, M&M admit that the prosodic distinction is, in fact, salient. Actually, even if 70% correctness is required, the salience holds because 72 errors in 244 occurrences is not 31% of errors per occurrence as M&M calculated, but 29.5%, making the correctness above even 70%. However, considering the difficulty of the required task, 65% is probably sufficient for determining the salience of a token. M&M themselves inadvertently allow distinctions to prevail at the 70% level since a passing grade extends to 70%. Perhaps accidentally, this figure represents an acceptable level of perceptual salience. Thus the "grading" – which is like academic scores: 90 - 100 = A; 80 - 89 = B; etc. – part of the procedure can be overlooked for its pedantry. But M&M did not allow correct identification to count in this percentage unless the same subject correctly identified other previous and following occurrences of the sequence being tested. Wayles Browne points out very succinctly, "the method used to compute scores is unsound...three right out of four is just as much a failure as two or even zero out of four. This requirement loses information and makes the computed percentages artificially low." [17] Significant operation of prosodic features may obtain, but M&M will not discover it with their scoring.

Actually, M&M's tests point out a distinct tenacity of the four tonal-accented words described in traditional S-C grammars. Using their own test of *učitelj* as it was broken down (see appended chart), very few cities failed to clear 65% correct perception including Sarajevo and Titograd.

An interesting, perhaps technical, problem presents itself in this breakdown. Although there were supposedly two occurrences of the same stimulus, *učitelj*, there were really two utterances of the word. There was more than 150% the errors of the second utterance in the first. Similarly, there were two utterances of the stimulus *učiteljā* and there was more than 150% the error in the second occurrence than in the first. This statistic does not result from some "blurring by raw averages, as M&M charge; in almost every case, the group of students performed identically, that is, the greater occurrence of error corresponds with the average. However, M&M never learned this fact themselves because they disallowed error in general.

M&M refuse to address the variables in the perception of prosodic features of their subjects. Another problem related to their ignoring these variables is in the test material itself. Some of the test words are proper nouns. This part of speech is usually disallowed in perception tests, since proper nouns do not have any semantic distinction *per se*, but rather an arbitrary referential significance. *Lûkē* was offered in contrast with *lûkē*, which pair is minimal only according to prosodic distinctions. In terms of semantic distinction, the words are entirely dissimilar. Only one of the words has a semantic content. For *Lûkē* the listener is asked to identify, "There is Luke in the distance," completely out of the context of the reference; *Luka* has not been previously introduced. Thus the distinction task is not simply a semantic choice of "port" from some other thing, but also referential jump. *Jéla* was offered as contrast to *jela*. This pair is not minimally distinct even prosodically and the same problem with the proper noun as in previous example pertains

Thus neither the material nor the administration of the test is valid. Likewise, the grading procedure is profoundly flawed not just because it is unjustified, but also because it obscures the very results that M&M purport to be investigating.

#### ***B.4 Geography and Dialect***

M&M's tests do substantiate rather forcefully that the Vukovian system is operable in most of Yugoslavia, the city of Niš being the exception. To the specialist, the salience of post accentual length in Zagreb cannot be expected because the dialect is absolutely devoid of the feature. The Zagreb Kajkavian dialect, to quote another of Magner's works, does not use a feature of post-vocalic length.[18] The test of post-accentual length in Zagreb was, therefore, badly conceived. Unfortunately, this is one of the targets of M&M's research since it represents the urban area.

The same thing applies for Niš. P. Ivić places this city in the area of the Torlakian dialects[19] These dialects have no rising or falling tones, no phonemic vocalic length and may have word-final stress. None of these features belongs to the Štokavian dialect. But M&M were testing for the Štokavian features, despite their non-existence in this dialect. Moreover, any investigator with the results of M&M's test as presented in the appended tables would automatically suspect some problem with the Štokavian dialect in this area; the average perception is only about the rate of chance, lower than for Zagreb.

M&M do not address the differences in the dialectal areas when there might be some reason to suspect that their tests were inappropriate, except when it was a negative expectation. Thus, apparently surprised that the students had performed so well, M&M rationalize: "Some of the students tested in Zagreb and Belgrade were born elsewhere, or their parents migrated from the classical areas of Vuk's prosodic system and the families apparently managed to retain, at least partially, the regional prosodic characteristics." (p. 104.) So much is wrong with this statement – why is it Vuk's prosodic system if these students use it, why do the families "manage" to retain instead of simply retain, why are they talk-

ing about the students' backgrounds and speech acquisition only in this respect – that it can scarcely be coherently criticized. One thing is clear: M&M have an operating bias. They are not investigating for the sake of finding something out, they prefer to prove something whether or not it is right.

Their bias is actually manifested in all aspects of their investigation: their choices in related literature, their lack of care or consistency in administering the tests, their disregard for the material involved in the testing, and their condescending tone which is maintained almost unremittingly throughout the book. Despite all attempts to do otherwise, demonstrate convincingly the tenacity of the Vukovian accentual norm in Stokavian S-C. This should be their conclusion, not the reverse.

## NOTES

TABLE 1

učiteljja	%error			
	1	2	1	2
Gacko	0/31	1/31	0	3.2
Stolac	1/27	0/27	3.7	0
Travnik	2/28	0/28	7.1	0
Dubrovnik	0/30	0/30	0	0
Mostar	3/37	1/37	8.1	2.7
Sarajevo	6/91	5/91	6.5	5.4
Banja Luka	3/50	3/50	6.0	6.0
Titograd	5/26	3/26	19.2	11.5
Sisak	4/55	4/55	7.2	7.2
Zagreb	1/36	2/36	2.7	5.5
Beograd	12/61	10/61	19.6	16.4
Loznica	31/116	16/116	26.7	13.8
Niš	24/43	13/43	55.8	30.2

## učiteljja

	%error			
	1	2	1	2
Gacko	0/31	2/31	0	6.4
Stolac	2/27	0/27	7.4	0
Travnik	2/28	1/28	7.1	3.6
Dubrovnik	2/30	4/30	6.7	13.3
Mostar	2/37	4/37	5.4	10.8
Sarajevo	10/91	11/91	11.0	12.1
Banja Luka	3/50	6/50	6.0	12.0

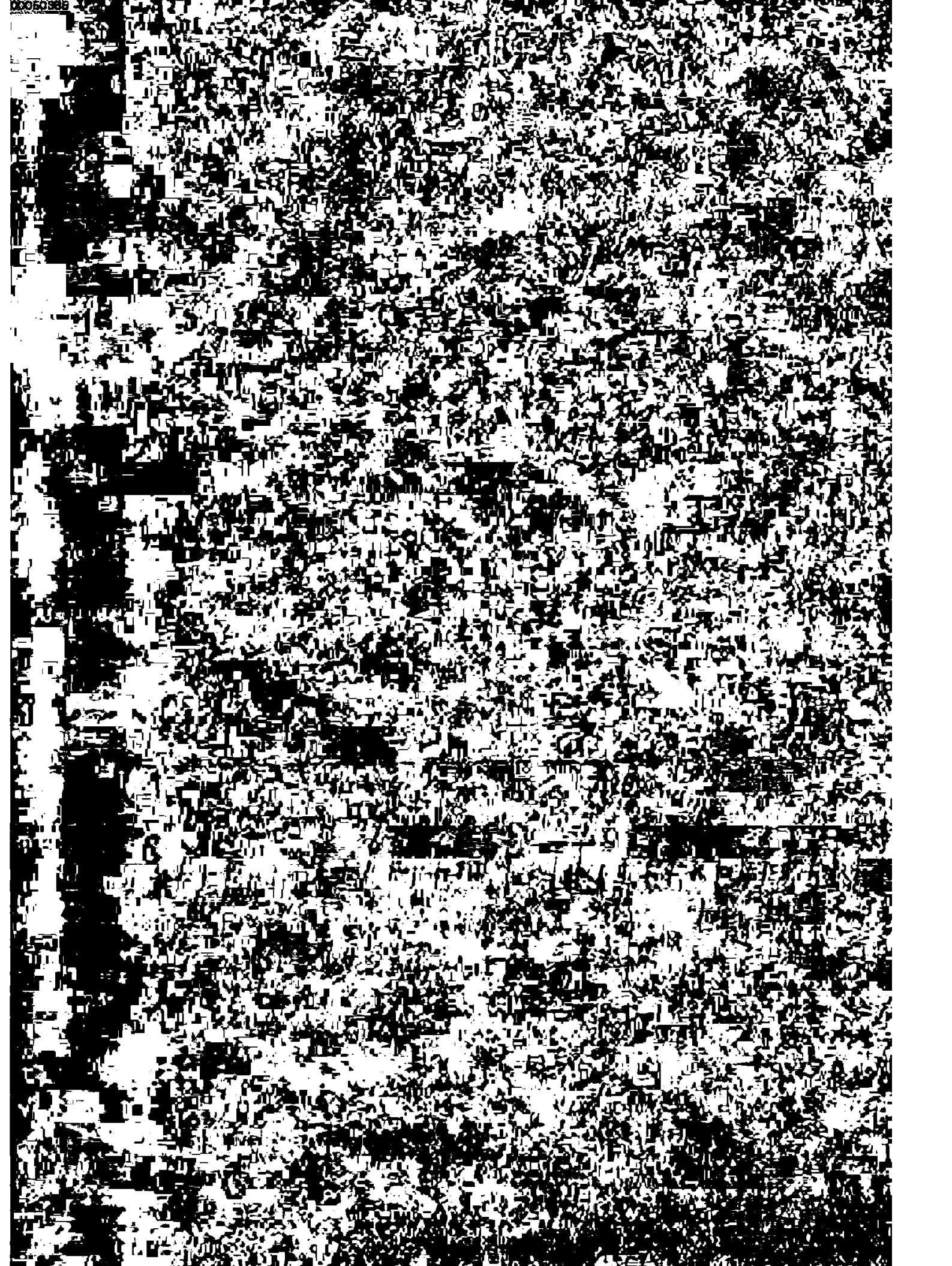
Titograd	1/26	3/26	3.8	11.5
Sisak	10/25	13/25	18.3	23.6
Zagreb	11/36	21/36	30.5	58.31
Beograd	21/61	29/61	34.4	47.5
Loznica	17/116	36/116	14.7	31.0
Niš	21/43	26/43	48.9	60.5

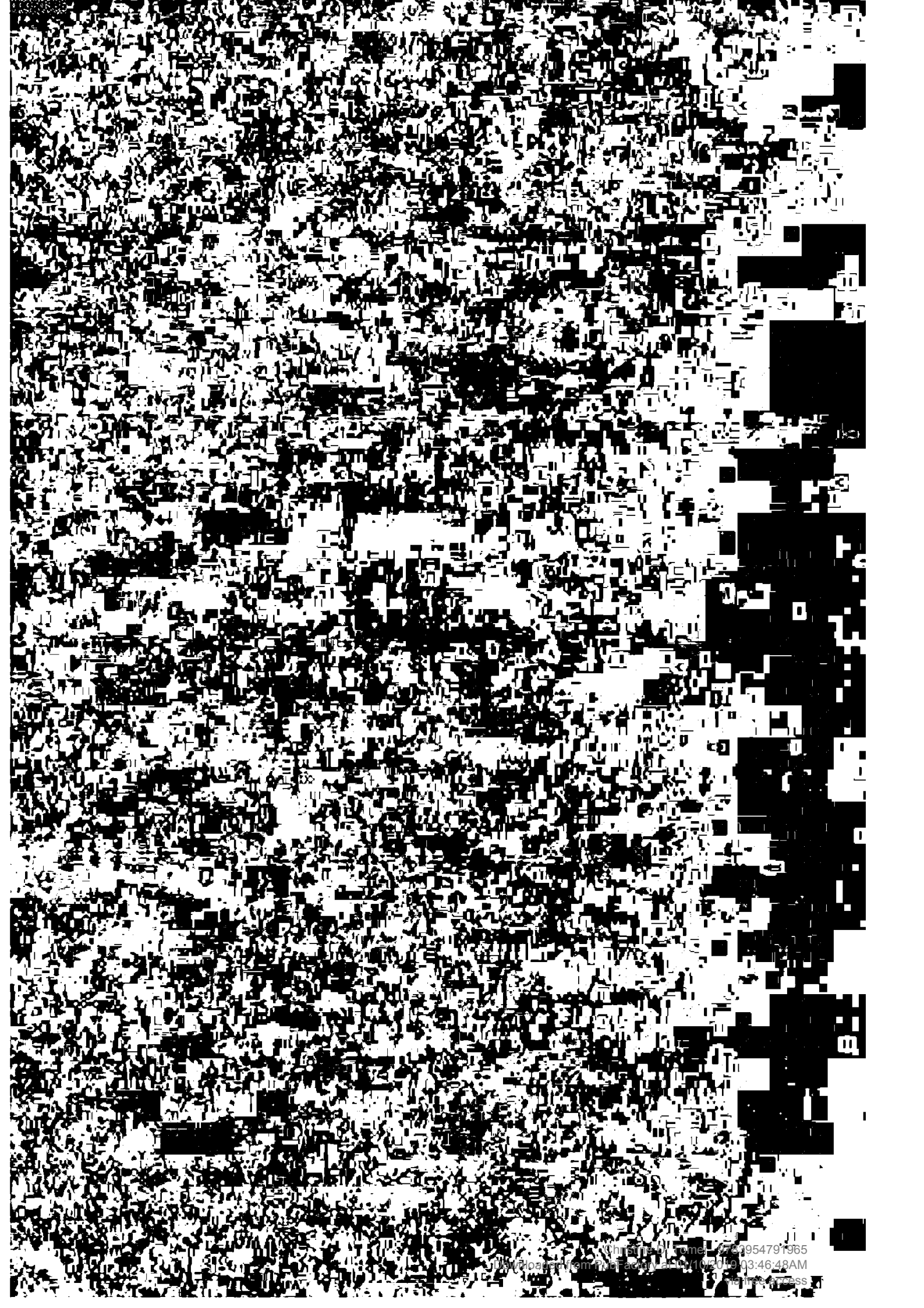
## NOTES

- [1] Wayles Browne in *Slavic and East European Journal*, pp. 503-508.
- [2] The Yugoslavs themselves have at least occasionally quoted this book, eg., M. Kravar in his article, "Uz recidiv sumnje u naš četveroakcenatski sistem, *Jezik, god 30, br. 2, 1982, p. 40*. To me this is most perverse since the findings, if taken seriously, imply that Yugoslavs are stupidly producing prosodic features of no value to their linguistic understanding.
- [3] Tokens which were used more than once were produced the same number of times by the speaker; there are no identical tokens.
- [4] M&M, p. 96.
- [5] M&M. Introduction.
- [6] M&M, p. 79.
- [7] M&M, p. 29.
- [8] Liberman, et al, *Models for the Perception of Speech and Visual Form*, 1967.
- [9] Is there a non-speech area of Yugoslavia? Another typical error in M&M's composition.
- [10] M&M, p. 79.
- [11] J.R. Firth, *Papers in Linguistics, 1934 - 1951*, London, Oxford University Press, 4th ed., 1964, p. 123; this whole article might have been valuable to a researcher in perception of language prosody.
- [12] William R. Tiffany, *Journal of Speech and Hearing Disorders*, v. 18, 1953, pp. 289-301.
- [13] D.B. Fry in *Journal of the Acoustic Society of America*, 35, 1955, pp. 765-769.
- [14] F.S. Cooper, P.C. Delattre, A.M. Liberman, J.M. Borst, and L.J. Gerstman in *Journal of the Acoustical Society of America*, 24, 1952, pp. 597-606.
- [15] K. Hadding-Koch, *Acoustico-phonetic studies in the intonation of Southern Swedish*, Lund, Sweden, 1961.
- [16] M&M, p. 98.

- [17] W. Browne, Critique in *SEEJ*, *op cit*, p. 505.
- [18] Magner, *Zagreb Kajkavian Dialect*, *Pennsylvania State Studies*, 18, 1966, pp. 21-23.
- [19] See his map in *Der Serbo-Kroatische Dialekte*, I, Mouton: The Hague, 1958.







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