RUSSIAN CONJUGATION: THEORY AND HERMENEUTIC

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The present study re-examines the data of contemporary Russian conjugation in the framework of a semiotic concept of linguistic structure based on markedness as the informing principle. Emphasis is placed on demonstrating the coherence of expression and content that allows grammatical facts to subsist as such. This is achieved by analysing in detail how the relational values of the pertinent grammatical categories are represented diagrammatically in their phonological and morphophonemic expression. Setting explication of grammar as its goal, rather than description or predictability, the analysis articulates a radically different and explicitly hermeneutic perspective for linguistic inquiry.

1. Russian conjugation has a rather special place in the history of linguistics, quite apart from its intrinsic interest as a topic of inquiry. Thirty years ago, Roman Jakobson published his celebrated 'Russian conjugation' (1948), which became the seedbed for an over-arching concept of language that was later known as transformational-generative grammar (cf. Birnbaum 1970:31, Halle 1977:141, Worth 1972:80).[1] That article was preceded by the equally important 'Zur Struktur des russischen Verbums' (1932), which focused on the grammatical categories of the Russian verb and analysed them in terms of markedness, while reserving treatment of morphophonemic alternations for a future study. The latter was, indeed, executed as Jakobson 1948; and the triptych was completed by Jakobson 1957, representing an innovative synthesis of the earlier panels.

Jakobson's application of the concept of markedness to morphology was utilized by Trubetzkoy in his path-breaking *Das morphonologische System der russischen Sprache* (1934), the 'first structural description of the morphophonemic system of a contemporary literary language' (Stankiewicz 1976:109). For all its merits, however, this short book makes no real attempt to integrate the fine discussion of grammatical categories with the thorough analysis of morphophonemic alternations.

In short, neither Jakobson nor Trubetzkoy appears to have implemented fully the requirement of a thorough-going, unified theoretical approach to the problem of form and meaning—specifically, in an explanatory rather than a purely descriptive framework. Unfortunately, the subsequent history of structural linguistics failed to make significant advances toward the solution of this all-important problem (cf. Andersen 1975). This is true no matter how broadly or narrowly the scope of 'structural' is construed. Contemporary linguistic practice of all persuasions is notably characterized by a preoccupation with rule formulation—in concord with the prevailing concept of language as rule-governed behavior, and the presumption that advances in theory are to be identified with the construction of formalisms of maximal generality and abstractness. Even when the overt aim

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[1] For a complete set of bibliographical references to Slavic language studies carried out on the Jakobsonian model, see Shapiro 1974:48–9 (cf. now also Čurganova 1973 and Thelin 1975).

is claimed to be the explanatory understanding of structure, the chief goal of linguistic research—MAKING SENSE OF GRAMMAR—has never effectively been at the forefront of theoretical concern (cf. Anttila 1975, 1977a).

In the last ten years, however, a concept of linguistic structure has emerged that places precisely this goal at the center of its research program. The fundamental assumption of this attitude toward structure is that LANGUAGE IS A SEMIOTIC, A SYSTEM OF SIGNS. Taking Jakobson 1949, 1965c, and 1970 as its basis, the research conducted under the aegis of this concept has striven to give practical substance to the assertion that 'language is ... a purely semiotic system. All linguistic phenomena —from the smallest components to entire utterances and their interchange—act always and solely as signs' (Jakobson [1970] 1971:703). This emphasis largely relies on Charles Sanders Peirce's theory of signs (cf. Hardwick 1977). As one modern student of Peirce has put it, 'The semiotical method is a kind of analytical interpretation which EXPLAINS THE SENSE OF ACCOMPLISHED COGNITION' (Buczyńska-Garewicz 1978:14; emphasis added).

1.1. My own explorations of language in a semiotic perspective (particularly 1969, 1972, 1974, 1976) are an attempt to amalgamate Peirce's thinking about signs with neo-structuralist work in linguistics (e.g. Andersen 1972, 1973, 1974a; Anttila 1977b). Three cardinal interconnected tenets inform this perspective: (1) semiotic universals—principles of organization—exist which govern the patterning of linguistic data; (2) the patterning is COHERENT, in the sense that the genuinely structured or motivated sets of facts (the STRUCTURE sensu stricto, as distinct from the rule-governed ADSTRUCTURE) are explicable as cohesions or correlations between expression-form and content-form (cf. Hjelmslev 1954); (3) the patterning of form/ meaning correlations owes its coherence to a mediating interpretative component of 'structural cement' that binds the facts together and allows them to subsist systematically alongside each other. This component is MARKEDNESS. Though contemporary semioticians have taken little notice of it, markedness will be seen to provide the key to the understanding of form/meaning correlations in grammar.

The cardinal question is: WHY are certain specific expressions associated with certain specific contents? Expression and content cannot be compared directly, because the structure of language is such that purely diacritic signs (the ultimate units of phonology), which possess no meaning except 'otherness' (Jakobson [1939] 1962:304), are implemented to constitute content signs (more precisely, their signantia), which do possess a substantive meaning. Language overcomes this structural disjunction by means of an intermediary component of the sign situation: the semiotic value, Peirce's INTERPRETANT, which inheres simultaneously and uniformly in the expression-form AND the content-form. The structuralist thesis of isomorphism obtaining between all parts of grammar and lexis reposes on just this kind of concept.

The semiotic values that enable sounds and meanings to cohere in a pattern are markedness values. Just as the phonological structure is determined ultimately by the markedness relations between the sets of oppositions that comprise it, so grammatical and lexical categories organize themselves into a coherent system through oppositions of grammatical and lexical meaning informed by the evaluative

dimension that is markedness.[2] The common intermediary, semiotic value, bridges the apparent chasm between expression and content in language.

In an earlier article (Shapiro 1974), dealing primarily with anaptyxis (vowel/zero alternations) in the morphophonemics of Russian derived substantives, I pointed to a major impasse in contemporary linguistic theory brought on by the pervasive recourse to 'deep structure'. As is well known, this practice results in the positing of underlying forms, and the derivation of surface forms by a mechanistic application of ordered rules. Collocating the problem of morphophonemic alternation in an explicitly semiotic framework—that of markedness—I suggested the existence of certain principles of grammatical structure, and traced the means of their implementation in the Russian material. My concept of structure prompted me to substitute for the question 'How does one get from deep to surface structure?' the question 'WHY are the facts of grammar as they are?' Seeking the answer to such a radical question presupposes, naturally, the belief that 'surface' variations—the actual stuff of language—do not vary unsystematically, but rather organize themselves into a semiotic, a system of signs. Surface variants are thus seen not as mere agglomerations of data to be systematized by appeal to formalisms at a putatively deeper (hence 'truer') level of reality, but as entering into patterned semiotic relations with each other.

The principles of grammatical structure and the semiotic concept subtending them determine the account in Shapiro 1974. What follows here is an attempt to extend and ramify the markedness-based framework via an examination of the Russian verb.[3] The analyses of concrete data will presuppose a theory of grammar that addresses the actual variations of language as its proper explananda.

2. A good starting point is Trubetzkoy's outline of the grammatical categories of the Russian verb (1934:5–10), based on Jakobson 1932. Taking inflection in Russian as a whole, Trubetzkoy notes that the hierarchy of categories is dominated first of all by the opposition between verbal and non-verbal inflection; the former is then further bisected by the opposition of infinitive (unmarked) vs. all other verbal forms (marked).[4] The latter, in turn, comprises the opposition of participles (marked) vs. non-participial forms (unmarked), i.e. the finite verbal forms proper. At this point in the hierarchy, the 'purely verbal categories' part company with

[2] 'Every single constituent of any linguistic system is built on an opposition of two logical contradictories: the presence of an attribute ("markedness") in contraposition to its absence ("unmarkedness"). The entire network of language displays a hierarchical arrangement that within each level of the system follows the same dichotomous principle of marked terms superposed on the corresponding unmarked terms' (Jakobson 1972:76). For a view which emphasizes the axiological (evaluative) dimension of markedness, see Shapiro 1976.

[3] Following Jakobson 1948, I am limiting myself to an examination of the simple verbs (with unprefixed monoradical stems) and the purely verbal categories (the finite forms and the infinitive). Verb stems and inflected forms are cited in a way which is superficially equivalent to a morphophonemic transcription, but is actually phonological (in contrast to phonemic). Other items are transliterated. The prime denotes palatalization; the hyphen, grammatical boundaries. Definitions in §2.1 below are also based on Jakobson 1948.

[4] The assignment of markedness values is not explicitly motivated by Trubetzkoy, but coincides with the well-argued one of Jakobson 1932, 1957.

the 'classes transitional to the adverbs and adjectives' (Jakobson [1948] 1971:119). Participles are split by the opposition of passive (marked) vs. non-passive (unmarked). The passive is further divided into predicative (marked) vs. non-predicative (unmarked), while the active (=non-passive) dominates the opposition between adverbials or gerunds (marked), and attributive forms (unmarked). In the other branch of the hierarchy, the non-participial forms are first bifurcated by the opposition of the imperative (marked) vs. the indicative (unmarked); secondarily, the latter splits up into preterit (marked) vs. non-preterit (unmarked). In schematic outline, the whole network of oppositions defining Russian conjugation is shown in Figure 1.
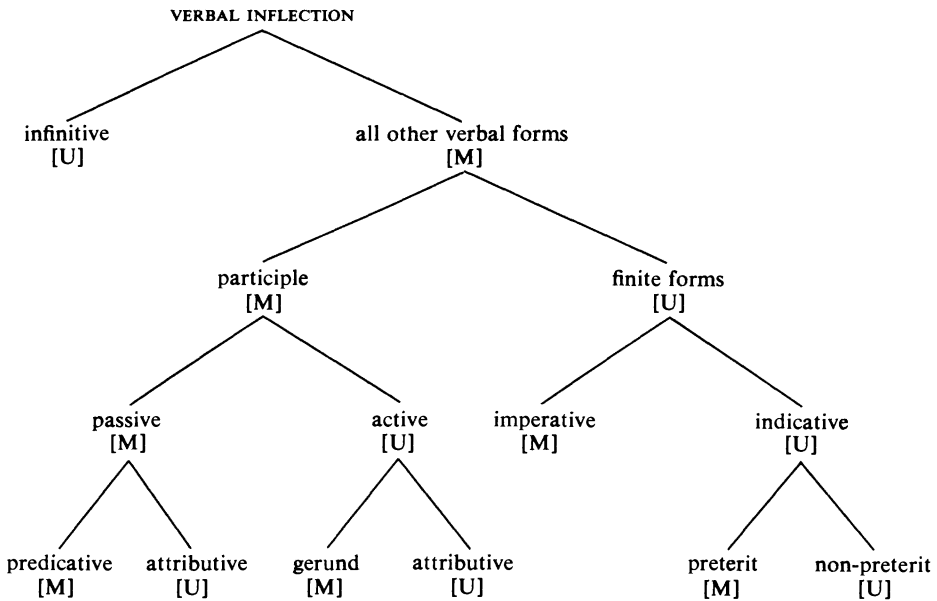

FIGURE 1.

It is particularly important to note the markedness values of the major and minor categories, for it is these values that will be seen to cohere with the values of verbal stems and suffixes in both their morphological and phonological aspects.

2.1. All Russian inflected forms consist of a stem and a desinence. A stem is defined as the portion of the form that lies to the left of (immediately precedes) the desinence. A desinence may consist of one or more suffixes (including zero). If there is more than one suffix in a desinence, any suffix but the final one is non-terminal, while the final suffix is free. Desinences consisting of at least one non-terminal suffix are complex, as opposed to simple desinences.

Russian verb stems are of two fundamental kinds, depending on whether they terminate in a vowel or a consonant. Because of its hierarchical status as maximally unmarked, the infinitive acts partly as a diagnostic in determining stem type. A stem is vocalic if it exhibits a vowel before the infinitive desinence that it lacks in

the non-preterit; this final vowel is its theme vowel.[5] A stem is consonantal if it exhibits a consonant before the non-preterit desinences that it lacks when immediately preceding the infinite desinence. Each stem type can manifest one or both of two stem shapes (alternants). Stem shapes which terminate in a vowel are called vocalic; in a consonant, consonantal.

The correct understanding of the notions 'stem' and 'stem type' is crucial. When the stem is characterized as being vocalic or consonantal, this means that the hierarchical status of a particular stem, and the set of morphophonemic alternations with which it is associated in the conjugational paradigm, are defined by whether it terminates in a vowel or a consonant. This fundamental division is hence not a classification for the convenience of the analyst, but an expression of the immanent patterned relations subsumed hierarchically by the stem. The invariance represented by the stem is thus IN THE RELATIONS (cf. Jakobson 1977a: 1030)—not in the form of the stem as we are forced to render it graphically, for lack of any other mode of representation. The importance of this understanding of invariance cannot be overemphasized for the theory of grammar. Our recourse to a kind of shorthand for purposes of exposition must not distort the fact that the notion of a stem INHERES IN THE WHOLE of the pattern of forms of which it is the designated representative, regardless of the concrete shape it assumes in any particular member of the paradigm.

Not counting miscellanea, Russian has seven stem types, all but one of which are vocalic. The vocalic stem types, designated by their stem-final vowel, are -*i*, -*e*, *Č-a*, -*u*, -*a*, -*o*. The stem type *Č-a* differs from -*a* in that the former necessarily has a palatal obstruent (*č*, *š*, or *ž*) or yod preceding the thematic vowel. Stems in -*u* are necessarily preceded by *n*, stems in -*o* by *r* or *l*. A large and productive class of stems in -*ova* will require special comment later.

The consonantal stems, designated by their final consonants, may terminate in any one of the following: -*s*, -*z*, -*k*, -*g*, -*b*, -*r*, -*v*, -*j*, -*t*, -*d*, -*n*, -*m*. Additionally, stems which drop the suffix -*nu* in the preterit may have the final consonant -*p* or -*x*.

2.2. Russian has two conjugations, the so-called First (IC) and Second (IIC). With the stems *v'od* 'lead' and *l'et'é* 'fly' as examples of these two conjugations, respectively, the non-preterit indicative paradigms look like this:

	SINGULAR		PLURAL	
1	*v'od-ú*	*l'eč-ú*	*v'od'-óm*	*l'et'-im*
2	*v'od'-óš*	*l'et'-iš*	*v'od'-ót'e*	*l'et'-it'e*
3	*v'od'-ót*	*l'et'-it*	*v'od-út*	*l'et'-át*

Barring the 1sg. desinences, which are identical, the difference between the two patterns in each case resides in the non-terminal desinential vowel. In IC it is *o* (2sg., 2pl., 3sg., 1pl.) or *u* (3pl.); in IIC it is *i* or *a*.

Thus, in addition to the categories represented in Fig. 1 above, Russian has person and number distinctions which find their fullest expression in the non-preterit indicative. The category of person is implemented by the opposition of

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[5] Verb stems in -*nu* (about which more below) form a special class. Also, consonantal stems may have vocalic shapes (alternants) before the desinence of the infinitive (*v'e-st'i* 'lead' etc.) which represent a 'truncation'; three cases in -*r* (*p'er'é-t'* 'push', *t'er'é-t'* 'rub', *m'er'é-t'* 'die') and one in -*b* (*šib'i-t'* 'hit', which does not occur unprefixed) represent an augmentation.

impersonal vs. personal. The former is realized by the 3rd person, while the latter is further split into 1st and 2nd person, as shown in Figure 2.

PERSON

IMPERSONAL   PERSONAL
3rd p.   others
[U]   [M]
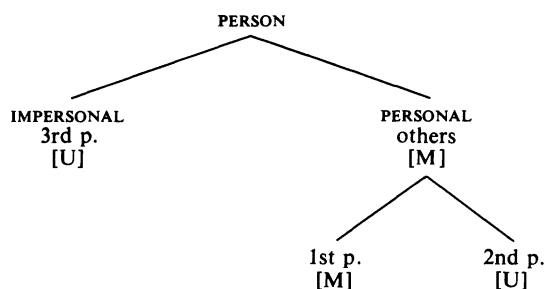
1st p.   2nd p.
[M]   [U]
FIGURE 2.

The markedness values are assigned in accordance with the discussion by Jakobson ([1957] 1971:137). Factoring in the category of number, for which singular is the unmarked value and plural the marked value, we get the SYNTHETIC DESINENCE VALUES shown in Figure 3 (where superscripts reflect the number of marked nodes comprising the specific personal form); values for the category of person are to the left of the hyphen, values for the category of number to the right.

SG   PL

1      $M^2 - U$ $M^2 - M$

2      $M^1 - U$ $M^1 - M$
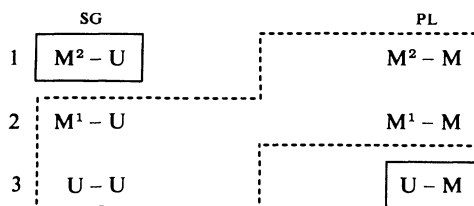
3       $U - U$ $U - M$

FIGURE 3.

Here 1sg. is the category with the greatest differentiation in value between its person/number constituents, and 3pl. is the category with the second greatest degree of differentiation.[6] The emphasis here is on internal difference. Given the value U for number, the highest degree of deflection for the category of person away from that value along the markedness continuum is M^2; that degree is realized in 1sg. Conversely, given the value U for person, the highest degree of deflection for number is M, realized in 3pl. This means that the semiotic structure of the desinences is different in each case—and that, moreover, 1sg. and 3pl. are conceptually the most marked ones because of their degree of internal differentiation. As a synthetic entity, 1sg. implements the maximally marked person and the unmarked number, while 3pl. implements the maximally unmarked person and the marked number. They are thus completely complementary in their structure with regard to the semiotic values which comprise them (this cannot be said of any of the remaining members of the Russian non-preterit indicative paradigm).

This complementarity is evidently one of the fundamental and ubiquitous series of complementarities that inform the structure of Russian conjugation. Congruent

[6] For lack of better names, the categories in Fig. 3 enclosed in solid lines are referred to here as 'outer', and those enclosed in dotted lines as 'inner'.

with the principle of markedness complementarity (enunciated in Shapiro 1974:34), opposite-valued stems normally combine with opposite-valued desinences; as a corollary, identical-valued stems and desinences normally do not so combine. In Russian inflection, desinences are marked if they begin with (or are constituted by) a consonant; they are unmarked if they begin with (or are constituted by) a vowel. The reverse is, grosso modo, true of stems: they are marked if they end in a consonant, unmarked if they end in a vowel. The structure of any inflected Russian form thus normally reflects the fusion of two complementary entities. However, as will be seen below, the markedness values of stems do not hinge simply on the identity of their final segments; thus the complementarity can be of several kinds.

The distribution of the two conjugations according to stem type is as follows:[7]

FIRST CONJUGATION (o/u)	SECOND CONJUGATION (i/a)
cons. stems	i and e stems
u stems	$\check{C}$-a stems
a stems	
o stems	

The difference between the vocalic stems centers on the final consonant, i.e. on the character of the consonant which immediately precedes the theme vowel. In those stems which are subsumed by IC (cons., -u, -a, and -o), the final consonant is necessarily non-sharp; in those subsumed by IIC, the consonant is necessarily sharp. Given that [+shp] = [M shp], and [−shp] = [U shp], the operation of the principle of markedness complementarity makes it reasonable to conclude that IC and the stem types subsumed by it are marked, while IIC and the stem types subsumed by it are unmarked. Furthermore, as we shall see below, -a stems (with a distinct class of exceptions) and -o stems have characteristics that necessitate their being understood as hypermarked, i.e. having a degree of markedness over and above the other IC stems.

2.3. The paradigm of the non-preterit indicative shows a fundamental complementarity between unmarked and marked stem types as regards the alternation of the final consonant(s) in the stem. Any Russian consonant other than j and l which appears in pre-desinential position can alternate in the feature [sharp]; this process is called *neperexodnoe smjagčenie* 'bare softening' by Russian grammarians. It results in the following possible pairs of sounds in the non-preterit indicative: $k \sim k'$, $t \sim t'$, $d \sim d'$, $s \sim s'$, $z \sim z'$, $p \sim p'$, $b \sim b'$, $f \sim f'$, $v \sim v'$, $m \sim m'$, $n \sim n'$, $r \sim r'$.[8] But there is also a second type of alternation, *perexodnoe smjagčenie* 'substitutive softening'; here, rather than have a simple shift from

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[7] This apportionment of desinences by stem structure has several exceptions. Among -a verbs, monosyllabic *mčá* 'drive', *gna* 'herd', *spa* 'sleep', and *ssá* 'piss' belong to IIC; *b'ežá* 'run' is mixed, with IIC in the outer forms and IC in the inner; *ržá* 'neigh', *sm'ejá...s'a* 'laugh' are IC. The -e stems *r'ov'é* 'howl' and *xot'é* 'want' are IC.

[8] For a complete set of correspondences (extending to non-verbal alternations), consult Jakobson ([1948] 1971:126). Hard labials appear as alternants of soft labials in the infinitive and the non-present forms of the indicative, but also in 1sg. (e.g. *spl'ú* 'I sleep' ~ 2sg. *sp'i-š* etc.) The motivation for the 'epenthetic *l*' appears to be that it marks a stem which would otherwise be unmarked for all the first four features in the Russian consonant hierarchy (labials are unique in this respect). The *l'* is, notably, marked for vocalicity and for sharpness.

hard (unpalatalized) to soft (palatalized), with no other changes in the character of the consonant, there occurs 'a concomitant change in the basic place of articulation (shift of velar or dental to palatal) or a change of one phoneme into a cluster (epenthesis of a palatalized consonant)' (Jakobson [1948] 1971:126). This second type of softening adds the following pairs to the non-preterit indicative: $k \sim č$, $sk \sim šč$, $g \sim ž$, $zg \sim žž$, $t \sim č$, $st \sim šč$, $d \sim ž$, $zd \sim žž$, $s \sim š$, $z \sim ž$, $p \sim pl'$, $b \sim bl'$, $f \sim fl'$, $v \sim vl'$, $m \sim ml'$.

Now, regarding the distribution of the alternants, unmarked stems (-i, -e) manifest the alternation in only one of the 'outer' desinences (see fn. 6), namely the 1sg.; *nos'í* 'wear' (*noš-ú*), *l'ub'í* 'love' (*l'ubl'-ú*), and *v'ert'e* 'twirl' (*v'erč-ú*). The 'inner' forms are unchanged:

noš-ú	nós'-im	l'ubl'-ú	l'úb'-im	v'erč-ú	v'ért'-im
nós'-iš	nós'-it'e	l'úb'-iš	l'úb'-it'e	v'ért'-iš	v'ért'-it'e
nós'-it	nós'-at	l'úb'-it	l'úb'-at	v'ért'-it	v'eŕt'-at

However, marked stem types, i.e. cons. and -u, but not the hypermarked -o, $Č$-a,[9] manifest the alternation in all the 'inner' forms and in NEITHER of the 'outer'. Examples are *p'ok* 'bake', *živ* 'live', and *gnu* 'bend':

p'ok-ú	p'oč-óm	živ-ú	živ'-óm	gn-ú	gn'-óm
p'oč-óš	p'oč-ót'e	živ'-óš	živ'-ót'e	gn'-óš	gn'-ót'e
p'oč-ót	p'ok-út	živ'-ót	živ-út	gn'-ót	gn-út

If we understand the presence of a palatalized consonant in final position as signifying a marking of the stem (because of the [M shp] value of the cons.), and an unpalatalized consonant as signifying an unmarking (because of the [U shp] value of the cons.), then the complementarity is defined as follows:

(1) In UNMARKED stem types, only ONE of the 'outer' desinences causes MARKING of the stem.

(2) In MARKED stem types, BOTH of the 'outer' desinences cause UNMARKING of the stem.

The hypermarked stem types manifest an altered stem shape (vis-à-vis the infinitive) throughout the non-preterit indicative paradigm. Examples are *poro* 'rip' and *p'isa* 'write':

por'-ú	pór'-om	p'iš-ú	p'íš-om
pór'-oš	pór'-ot'e	p'íš-oš	p'íš-ot'e
pór'-ot	pór'-ut	p'íš-ot	p'íš-ut

In the light of the complementarity of the unmarked and marked stem types, the hypermarked must be evaluated as unmotivated. Historical evidence (Vinogradov & Švedova 1964:155–65; cf. Krysin 1974:199–207) confirms that -a stems have a long and decided tendency to convert to -aj stems, i.e. to cons.; e.g. *gloda—glodáj* 'gnaw', *poloska—poloskáj* 'rinse', *maxa—maxáj* 'wave', *kápa—kápaj* 'trickle' etc. The -o stems have also tended to change their non-preterit indicative conjugation during the last 50–70 years by joining the class of IIC [sic!] verbs (Panov 1968:142). Since they are all stem-stressed in the 'inner' forms and in the 3pl., the difference between the two conjugations comes down to the 3pl., where the desinence -ut is being replaced by -at. In other words, -o stems (unlike any other IC verbs) are beginning to be conjugated like unmarked stems, because of

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[9] Exceptions are discussed in the next section.

the constant presence of a stem-final soft consonant. This is supported by the irregular behavior of three -*a* stems: *gna* 'herd', *sípa* 'pour', *spa* 'sleep'. In each one, the non-preterit indicative is conjugated as a IIC verb: *gon'-ú/gón'-at*, *sípl'-u/síp'-at*,[10] and *spl'-ú/sp'-át*. In fact, potentially, any 3pl. which has stem stress and whose stem-final consonant is soft can join IIC, e.g. *stla* 'spread': *st'el'-ú/st'él'-at* (instead of the orthoepic *st'él'-ut*), etc. Given this tendency, it becomes understandable why the Old Muscovite pronunciation of CSR *gón'-at*, *l'úb'-at*, *nós'-at* etc., reflecting structures *gón'-ut*, *l'úb'-ut*, *nós'-ut* etc., was short-lived in the recent history of Russian, and has nearly been purged from the standard language altogether (Avanesov 1972:159; cf. Panov, 137–43).

2.4. A further relation of complementarity informs the structure of the non-preterit: between the character of the theme vowel and that of the stem-final consonant. In those stems whose final consonant can vary in accordance with the alternations of bare and substitutive softening,[11] the markedness value for the (tonality) feature of flatness varies inversely with the value of the consonant for the (tonality) feature of sharping. Thus -*a* and -*o* stems show a marking of the stem throughout the non-preterit indicative—because of its coherence, via complementarity, with the value [U flat] of the theme vowel:[12] *p'isa* (*p'iš-ú, p'íš-ut*); *kl'ev'eta* 'slander' (*kl'ev'ešč-ú, kl'ev'éšč-ut*); *poro* (*por'-ú, pór'-ut*); *koló* 'prick' (*kol'-ú, kól'-ut*); *ora* 'plow' (*or'-ú, ór'-ut*); *slá* 'send' (*šl'-ú, šl'-út*); *stla* (*st'el'-ú, st'él'-ut*) etc. However, in a clearly-defined set of (IC) exceptions in -*a*, the stem-marking occurs only in the 'inner' forms: *bra* 'take' (*b'er-ú, b'er'-ót, b'er-út*); *rva* 'tear' (*rv-ú, rv'-ót, rv-út*); *žda* 'wait' (*žd-ú, žd'-ót, žd-út*); *žážda* 'crave' (*žážd-u, žážd'-ot, žážd-ut*); *stona* 'moan' (*ston-ú, stón'-ot, stón-ut*). These exceptions are all subsumed under one or more of the following classes, the first two of which are rank-ordered vis-à-vis each other:

(3) Stem-final cons. in -*r*: *bra* 'take', *žra* 'devour', *vra* 'lie', *orá* 'shout', *dra* 'flay', *sra* 'shit',[13] *po=prá* 'crush'.

Monosyllabic stems: *rva* 'tear', *žda* 'wait', *lga* 'lie', *ržá* 'neigh', *zva* 'call', *tka* 'weave', *'ská* 'roll'.

Reduplicative stems:[14] *sosá* 'suck' (*sos-ú, sos'-ót, sos-út*); *žážda*.

Stem-final cons. in -*n*: *stona*.

What binds these four categories of exceptions is their marked value. As opposed to stems like *stla* or *slá* whose final consonant is the [U abrupt] -*l*, those with the

[10] This form is colloquial (cf. Panov, 142).

[11] IIC stems have an inherently 'soft' final consonant, because the -*i* and -*e* cannot be preceded by hard consonants anywhere in verbal inflection, and because the consonants represented by *Č-a* are functionally equivalent to their soft congeners via their marked status for compactness (palatals) or acuteness (yod).

[12] Phonological markedness values are assigned throughout this paper in accordance with the principles of Shapiro 1972, 1976. They apply, notably, to redundant as well as to distinctive features. The exceptional *sosá* 'suck' is discussed below.

[13] This stem has both anaptyctic and non-anaptyctic forms in the non-preterit (with and without 'outer' marking of -*r*): *sr-ú, sr'-óš, sr-út; s'er'-ú, s'ér'-oš, s'ér'-ut; s'er-ú, s'ér'-oš, s'ér-ut*.

[14] These are defined as having identical consonants on either side of the root vowel.

[M abrupt] sound -*r* manifest a MARKEDNESS REVERSAL (cf. Andersen 1972:45–6, Shapiro 1974:37 ff.) This semiotic universal is defined as follows. In a context dominated by a marked entity or category, the normally marked value for a feature is evaluated as unmarked, the normally unmarked value as marked—in other words, the signs apply with reversed values. The presence of the [M abrupt] *r* as a stem-final consonant renders this a marked context; thus the normal (un-marked) situation of stem-marking throughout the non-preterit indicative paradigm is replaced by the marked situation (here, in this group of stems) of marking only the 'inner' forms. Similarly, monosyllabicity is marked vis-à-vis polysyllabicity in verb stems (cf. Jakobson [1948] 1971:126), so that the second class of exceptions —3b above—is likewise to be explained as the result of a markedness reversal In the case of the two reduplicative stems *sosá* and *žáždʌ*, it is unmarked for Russian verb stems to have a heterogeneous segment structure (i.e. alternation of CV sequences of different and complementary C's and/or V's). The two exceptional stems are the only ones in -*a* which are at variance with this structure; hence the absence of marking in the two marked categories, 1sg. and 3pl. Finally, the stem *stona* with its final *n* exhibits the marked value of the paradigm by virtue of the marked status of *n* with respect to stem-final position: final consonants of -*a* stems are normally obstruents, not sonorants, unless the stem is monosyllabic. Cf., most directly, the functioning of the other nasal *m* in perfect alignment with other labials, i.e. obstruents: *dr'ema* 'doze' (*dr'eml'-ú, dr'éml'-ut*), just like *tr'epa* 'pat' (*tr'epl'-ú, tr'épl'-ut*) etc.

In this latter connection, it should be noted that -*u* stems, which are invariably preceded by *n* (the so-called -*nu* verbs), behave in exactly the same way as *stona*. This can again be explained by the marked status of *n*. However, it should also be noted that *u* is unlike *a* and *o*; while unmarked for flatness, it is the only one of the three vowels which is differently valued for diffuseness (under any interpreta-tion of the Russian vowel system). Hence, with *a* and *o*, there is marking of the stem throughout the non-preterit indicative; but with -*nu*, the marking is limited to forms implementing only those categories which are unmarked, i.e. the 'inner' ones.

2.5. We now come to the central question of coherence in Russian conjugation, namely the particular shape which the stem takes in a particular form. Jakobson's analysis only went so far as to predict the environments in which the shapes occurred, but stopped short of explaining WHY they occurred where they did. The answer lies in the relations schematized by Fig. 1 and in the principle of markedness complementarity.

The distribution of stem shapes in Russian conjugation is determined by the following principles:
    (4) In a category further undifferentiated by a verbal category, markedness values are replicated: unmarked categories are implemented by un-marked stem shapes, marked categories by marked stem shapes.
    (5) In a further differentiated category, the subordinate unmarked members are implemented by complementary markedness values: unmarked categories are implemented by marked stem shapes, marked categories by unmarked stem shapes.

The practical consequences of these principles show up, on the one hand, in the infinitive and imperative; and, on the other, in the indicative (preterit and non-preterit).

The infinitive and the imperative are the only categories which meet the conditions of principle 4 above. More precisely, all stem shapes occurring before the infinitive desinences (*t'*, *st'*, *st'i*, and *č*)[15] are vocalic (Flier 1978:274 ff.; cf. Bromlej & Bulatova 1972:178–88); and they are unmarked, in that they implement a category which is not further differentiated by a subordinate verbal category and is itself unmarked. This means, in turn, that corresponding stem shapes ending in a consonant are marked. The infinitive, as the maximally unmarked category in the hierarchy of Russian conjugation, thus serves as an inherent diagnostic in the assignment of markedness values to stem alternants:

[U]	[M]	
p'é-č	*p'ok-*	'bake'
nos'í-t'	*nos-*	'carry'
grí-st'	*gríz-*	'gnaw'
n'o-st'í	*n'os-*	'carry'

The finite forms subsume the imperative and the indicative; of these, the former is not further differentiated by a strictly verbal category, and therefore conforms to the same principle of replication of markedness values as the infinitive:

[M]	STEM	INFINITIVE	
l'eź-∅	*l'éz-*	*l'é-st'*	'climb'
pláč-∅	*pláka-*	*pláka-t'*	'cry'
klad'-i	*klad-*	*klá-st'*	'place'
žm'-i	*ža-/žm-*	*žá-t'*	'press'
p'ok'-i	*p'ok-*	*p'é-č*	'bake'
xoxoč-i	*xoxota-*	*xoxotá-t'*	'guffaw'
poj-i	*poji-*	*poji-t'*	'give to drink'
živ'-i	*živ-*	*ží-t'*	'live'

The distribution of the imperative desinences ∅ and -*i* is determined by the type of stress in the non-preterit indicative, and secondarily by the presence of a consonant cluster in stem-final position. Normally, fixed stem stress in the non-preterit indicative causes ∅—unless there is a consonant cluster stem-finally, in which case the desinence is -*i*:[16] *pláč-u/plác-∅*, *stávl'-u/stáv'-∅* 'place'; but *prígn-u/ prígn'-i* 'jump', *číšč-u/číst'-i* 'clean' etc. Otherwise (i.e. if stress is not fixed on the stem), the normal imperative desinence is stressed -*i*: *v'od-ú/v'od'-í*, *živ-ú/živ'-í* etc. In either case, the stem shape is the marked one (cf. the unmarked shape in the infinitive), in conformity with the value of the imperative and with the fact that it is not further differentiated by a strictly verbal category.

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[15] Cf. §2.6 below. Generally, the distribution of desinence alternants is governed by the structure (including prosody) of the stem: *t'* combines with sonorant (including vocalic) stems; *st'* with stressed and *st'i* with unstressed obstruent stems; and *č* with velar stems. Exceptions: *id/šod* 'walk' (infinitive *id-t'í*) and *job* 'fuck' (*jé-t'* or *je-t'í*), *kl'an* 'curse' (*kl'á-st'*).

[16] Exceptions in stem-final yod and of the type *pórt'-∅* 'ruin', are discussed below. Note also *kráp'-∅* 'sprinkle' and *síp'-∅* 'pour', both of which lack the epenthetic *l'* characteristic of all other imperatives from stems with a labial final consonant.

It should be noted that the marking of the stem in the imperative extends to the stem-final consonant. The specific type of marking is determined by the value of the stem type. Here the opposition is between hypermarked stems, on the one hand, and all remaining stem types, on the other. The former implement the more marked degree of softening (viz. substitutive softening), while the latter implement the less marked degree of softening (viz. bare softening). The fact that the stem-final consonant undergoes marking is coherent with the marked status of the imperative and its subjection to principle 4 above (replication).

Since the form of the imperative desinence is directly contingent on the accentual properties of the stem, an explanation of the distribution of $\emptyset$ and -i must consider the markedness values of stress. In advance of a systematic treatment of stress in Russian conjugation below (§2.8), I must here acknowledge (with Trubetzkoy 1975:182) the unmarked status of the stressed syllable in Russian. In morphology this translates into the relation of a marked value for unstressed stems, and an unmarked value for stressed stems. Since Russian stress is permutative (cf. Jakobson 1965a:150), the opposition is between stressed syllables and all other syllables; in syntagmatic terms, this is tantamount to the concatenation of one unmarked syllable with one or more marked syllables.

The distribution of the desinence alternants is also tied up with their semiotic value. In accord with a principle governing the value of grammatical zero (enunciated in Shapiro 1972:357; cf. 1974:36), the $\emptyset$ of the imperative is unmarked (cf. Jakobson [1965b] 1971:194–5), since it varies inversely with the synthetic markedness value of the grammatical category or categories it expresses (imperative = M). This means, correspondingly, that the value of -i is M. If, therefore, this assignment of semiotic values for desinence alternants agrees with the role of stress in the imperative, then the unmarked value for stress (the stressed syllable) ought to be complementary to the marked value for the desinence. This is indeed the case: the absence of stress on the stem necessarily entails -i (except with the obligatorily stressed prefix $ví$= 'out'), and the presence of stress on the stem (in the absence of a supervening consonant cluster in stem-final position) necessarily occasions the stresslessness (and hence the prosodically marked value) of the grammatically unmarked $\emptyset$.

One particularly revealing case of complementarity in the morphophonemics of the Russian imperative deserves special mention. As Jakobson ([1948] 1971:124) pointed out, the sequence of yod + i occurs only if the stem ends in ji-; thus $dojí/$ doj-$í$ 'milk', $pojí/poj$-$í$, $tají/taj$-$í$ 'hide', etc.; but $stojá/stój$-$\emptyset$ 'stand', $bojá$-...$s'a/$ $bój$-$\emptyset$-$s'a$ 'fear', $sm'ejá$-...$s'a/sm'éj$-$\emptyset$-$s'a$ 'laugh', $p'í/p'j/p'éj$-$\emptyset$ 'drink', $p'é/pój/$ $pój$-$\emptyset$ 'sing', $kl'ová/kl'új$-$\emptyset$ 'peck', $celova/celúj$-$\emptyset$ 'kiss', $ví/vój/vój$-$\emptyset$ 'howl', $d'élaj/d'élaj$-$\emptyset$ 'do', $vstaváj/vstaj/vstaváj$-$\emptyset$ 'rise' etc. What is pertinent here is the supersession of stress as a determinant: despite desinential stress in the 1sg. of stems like $stojá/stoj$-$ú$, $kl'ová/kl'uj$-$ú$, $p'é/pój/poj$-$ú$, the desinence remains $\emptyset$ and the stress in the imperative falls on the last stressable syllable; cf. $govor'í$ 'talk' ($govor'$-$ú$, $govor'$-$í$) as well as $dojí$ (doj-$ú$, doj-$í$) etc.

This superficially peculiar distribution of imperative desinence alternants after stems in -j has an explanation. The first, encompassing consideration is that j is (1) a glide, hence marked for both vocalicity and consonantality; and (2) marked

for acuteness, as opposed to the other two Russian glides (cf. Andersen 1969b) v and v', which are [U acute]. No other sound in the Russian system is triply marked for these three features. The multiply-marked status of yod accounts for the patterned variance of stems in yod from the general picture of the Russian imperative. Now as to the distribution of $\emptyset$ and i, stems with the theme vowel -a after j and consonant stems in j both have marked values: -ja stems are marked, vis-à-vis ji stems, by virtue of the fact that a is [M diffuse] and i is [U diffuse];[17] and consonant stems are generally marked, vis-à-vis vocalic stems. Once again complementarity prevails—the marked stems take unmarked desinences; the unmarked stems, marked desinences.

The special subset of stems in -ava and -ova, despite their peculiarities of stem shape in the indicative, are just like any other -a stem—except that the j, which is stable in non-ova stems in j, manifests itself in them only before the desinences of the non-preterit indicative and the imperative, e.g. vstavá (vstaj-ú, vstaváj-$\emptyset$); uznavá 'find out' (uznaj-ú, uznáj-$\emptyset$); davá 'give' (daj-ú, dáj-$\emptyset$); kl'ová (kl'uj-ú, kl-új-$\emptyset$); celova (celúj-u, celúj-$\emptyset$).

Finally, two peripheral sets of data from the formation of the imperative require comment. In stems (prefixed or unprefixed) where the stress falls on a syllable other than the stem-final one, -i can appear instead of $\emptyset$ (cf. Zaliznjak 1977:97 et passim): stáv'i/stáv'-$\emptyset$ but ví-stav'i alongside ví-stav'; súnu/sún'-$\emptyset$ 'stick out', but ví-sun'i alongside ví-sun'-$\emptyset$; kášl'anu/kášl'an'-i 'cough' (no *kášl'an-$\emptyset$, but pl. kášl'an'-$\emptyset$-t'e according to Zaliznjak, 97); za-kúpor'i/za-kúpor'-i 'plug' alongside za-kúpor'-$\emptyset$ (but only pl. za-kúpor'-$\emptyset$-t'e); u-v'édom'i/u-v'édom'-i 'inform' alongside u-v'édom'-$\emptyset$; etc. But the reverse is not true: given an unprefixed stem which is never stem-stressed in the indicative, the addition of ví- will never give rise to -$\emptyset$; hence, like v'od/v'od'-i 'lead', only ví-v'od/ví-v'od'-i 'lead out', pl. ví-v'od'-i-t'e, is possible.

This situation has a natural explanation parallel to those offered earlier. The Russian morphophonemic pattern as regards stress position articulates a basic dichotomy between stem-final stress and all others. Moreover, stress on the final syllable of the stem (where the stem is polysyllabic) is evaluated as marked, and stress on any other syllable is unmarked. This relationship results, for instance, from the fact that, in observing the accentual properties of substantival inflection, we see that stem-final stress in the singular is incompatible with a mobile stress paradigm, whereas any other position of the stress in the singular can be altered in the plural, e.g. provizór 'pharmacist', pl. provizóry; podrúga 'girlfriend', pl. podrúgi; selénie 'settlement', pl. selénija; but proféssor, pl. professorá; krasotá 'beauty', pl. krasóty; men'šinstvó 'minority', pl. men'šínstva; óblako 'cloud', pl. oblaká. Thus in the imperative, stress on any but the stem-final syllable is un-marked; and by the principle of complementarity, this stress is more closely compatible semiotically with the marked desinence -i than with the unmarked $\emptyset$.

The second set of peripheral data deals with the role of consonant clusters in

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[17] It makes no difference whether the vowel system is that of Old Muscovite or Contemporary Standard Russian: the relevant feature would change (from diffuseness in CSR to compactness in OM), but not the values (cf. Shapiro 1976:188–92).

stem-final position. Ordinarily, the presence of a cluster occasions -*i* regardless of stem stress. However, the existence of doublets like *číst'-∅/číst'-i* 'clean', *pórt'-∅/pórt'-i* 'spoil', *móršč-∅/móršč-i* 'wrinkle', and *kórč-∅/kórč-i* 'distort' (cf. Zaliznjak, 102 et passim) shows that ∅ is possible if the cluster's last segment is [M strid].[18] Again, the marked stem-final is congruent with the unmarked desinence.

2.6. It is instructive to examine just how complementarity affects the structure of Russian verb desinences. In the non-preterit indicative, 1sg. has the desinence -*u* for both conjugations. This is to be explained by the complementarity between the maximally marked value of the grammatical form and the status of /u/ as the least marked vowel in the Russian system; this sound is unmarked for the two relevant distinctive features, [flat] and [diffuse] (cf. Shapiro 1976:38). But 3pl. distinguishes two desinential vowels, *u* vs. *a*, just as do the forms outside 1sg. and 3pl. (*o* vs. *i*). The latter are to be explained, on the one hand, by the coherence of an unmarked stem (IIC) and the [M flat] vowel /i/, and, on the other, by that of a marked stem (IC) with the [U flat] vowel /o/. The former (*u* vs. *a* in 3pl.) presents the same complementarity of stem and desinential vowel, except that the relevant distinctive feature is diffuseness rather than flatness. The [M dif] vowel /a/ combines with unmarked stems, the [U dif] vowel /u/ with marked stems.

The desinences of the finite forms (i.e. all forms but the infinitive, participles, and gerund) all begin with (or consist of) a sonorant or zero. Put negatively, a finite desinence cannot begin with or consist of an obstruent. The specific sonorants involved are the vowels *a i u o* and the liquids *l l'*.

In the non-preterit indicative, the non-terminal portion consists of a vowel; the terminal portion consists of a consonant or zero:

	SG	PL
1	*u-∅*	*o/i-m*
2	*o/i-š*	*o/i-t'e*
3	*o/i-t*	*u/a-t*

In the preterit, the order is reversed: the non-terminal portion consists of the liquids *l* (sg.) or *l'* (pl.), while the terminal portion consists of the vowels *a* (fem.), *o* (neut.), *i* (pl.), or zero (masc.) This means that, in the unmarked indicative category of the non-preterit, the non-terminal portion (tense marker) of the desinences is diagrammatically expressed by segments which are unmarked for vocalicity (vowels); but in the corresponding marked indicative category of the preterit, the non-terminal portion (tense marker) is diagrammatically expressed by segments which are marked for vocalicity (liquids).[19]

The markedness values of the three genders and two numbers in the preterit are likewise diagrammed by the markedness values of the sounds expressing these categories. The gender hierarchy of Russian is dominated by the opposition

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[18] Incidentally, the possibility of imperatives like *pl'úšč-∅* 'squoosh' (cf. Zaliznjak, 740) argues for the recognition of *š'* as a separate phoneme and supports the conclusions of Shapiro 1975.

[19] The pertinence of Peirce's notion of diagram to linguistics is discussed by Andersen 1975; see §3 below for amplification.

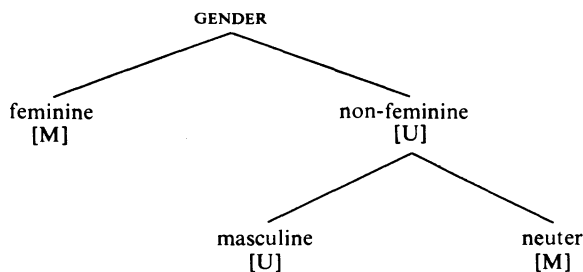feminine vs. non-feminine, the latter bifurcating further into masculine vs. neuter, as in Figure 4.[20]

FIGURE 4.

The set of desinences expressing gender consists of two real vowel desinences (*a*, *o*) and ∅. The maximally unmarked category masculine is represented diagrammatically by the unmarked zero, whose value varies inversely (cf. §2.5) with the synthetic markedness value of the categories it implements—here the marked preterit and the unmarked masculine—hence with the synthetic value M. The singly-marked feminine is realized by *a*, which is [M dif]. The doubly-marked neuter is realized by *o*, which is also [M dif]. The greater degree of markedness for the feature [diffuse] of *a* vis-à-vis *o*, by virtue of the former's specification as [+compact] and the latter's as [−compact], mirrors the higher rank (hierarchical dominance) of the feminine/non-feminine distinction.

Getting back to the non-preterit, the diagram of sound and meaning in the desinences is constituted by coherences of markedness values between expression and content. First, in comparing the terminal consonants of desinences by numbers, there is no differentiation in the 3rd person: this agrees with the maximally unmarked value of that category. The marked category of 2nd person (vis-à-vis 3rd person) is, however, differentiated. The *š* of the 2sg. is opposed as [U abr] to the [M abr] value of *t′* in the 2pl. Within the two numbers, in the singular the *š* of the marked 2nd person is opposed as [M comp] to the [U comp] value of *t* in the unmarked 3rd person. In the plural, the *t′* of the 2nd person is opposed as [M shp] to the [U shp] *t* of the 3rd person; and the *m* of the 1st person is opposed to both *t* and *t′* as [M nas] to [U nas]. The only apparently unmotivated relationships in this pattern are those of 1sg. to 2sg. and 3sg., and of 1pl. to 1sg. However, we should note that the maximally marked status of 1sg. is mirrored in its having the only desinence without a consonantal terminal. Accordingly, the pertinent locus of comparison shifts to the vocalic portions, as seen in Figure 5 (overleaf).

Here, however, the diagram changes from a replicative to a complementary one,

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[20] My analysis conflicts with that of Jakobson 1957, 1960. He argues (1971:185–6) that the gender hierarchy and the corresponding markedness values differ in the 'caseless' forms (i.e. short forms of positive adjectives and the preterit forms of the verb), so that the neuter becomes 'the least specified, unmarked gender opposed to a more specified, marked feminine or to a less specified, unmarked masculine'. However, all the examples Jakobson cites in support of these apparent 'shifts in the distribution of marked and unmarked categories in the caseless forms, as compared to the case-forms' can be explained as instances of markedness reversal; this suggests that there is only one hierarchy (not two) for all forms in which gender is specified.

1sg. / 3pl.   [U dif] // [U dif] ~ [M dif]
[M] / [U]   u   //   u   u

1sg. / 2sg. etc.   ⎡U flat⎤ // ⎡U flat⎤ ~ ⎡M flat⎤
[M] / [U]   ⎣U dif ⎦   ⎣M dif ⎦   ⎣U dif ⎦

                       u   o   i

3pl. / 3sg. etc.   [U dif] ~ [M dif] // ⎡U flat⎤ ~ ⎡M flat⎤
[M] / [U]   ⎡u   ⎡a   ⎣M dif ⎦   ⎣U dif ⎦

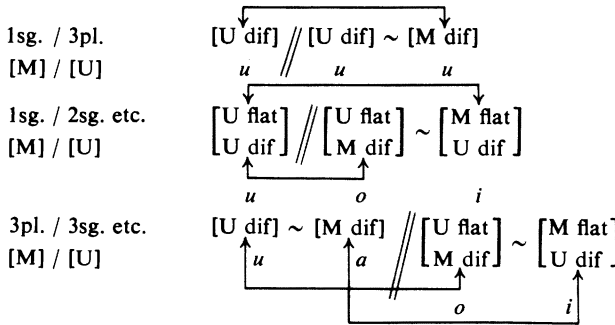   o   i

FIGURE 5.

since marked categories are expressed—insofar as the non-terminal (vocalic) portions of the desinences are concerned—by unmarked values of the relevant features, while corresponding unmarked categories are expressed by marked values for the features involved. This dichotomy between the replicative diagram for terminal (consonantal) desinences, on the one hand, and the complementary diagram for non-terminal (vocalic) desinences, on the other, is to be understood as an instance of markedness reversal. Since non-terminal desinences are marked vis-à-vis terminal ones, the straightforward diagrammatization of the unmarked context is reversed in the dominant marked context, and the signs apply with opposite markedness values.

Replication is the norm for sound/meaning cohesions in desinences whose realization is morphophonemically independent of the properties of the stems with which they fuse, but complementation is the norm in desinences (like that of the imperative above) whose realization is contingent on stem structure. This is the case with the infinitive, which (we have seen) has four regular desinence alternants: *č*, *st'i*, *st'*, and *t'*. Their distribution is as follows (cf. fn. 15):

(6) a. If stem is consonantal and ends in *k* or *g*, then *č*.
    b. If stem is unstressed in preterit, then *st'i*.
    c. If consonant stem ends in obstruent other than velar, then *st'*.
    d. If stem is vocalic, or consonantal ending in sonorant, then *t'*.

This distribution makes semiotic sense if we assume, to begin, that the desinence alternants themselves have a relational structure. The two polar members of the continuum of stem types are clearly (1) obstruent stems in *k* or *g*, and (2) sonorant stems (including vowel stems). The former utilize a desinence which consists of one segment, with that segment marked for compactness and stridency. The velars *k* and *g* are also marked for compactness; they are, however, unmarked for stridency. This means that one feature value (compactness) is replicated as between the stem-final and the infinitive desinence, and one feature value (stridency) is complemented, as shown in Figure 6.
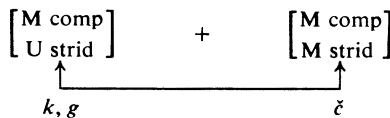
⎡M comp⎤   ⎡M comp⎤
⎣U strid⎦   +   ⎣M strid⎦

   k, g   *č*
FIGURE 6.

In the other polar case, that of sonorant and vowel stems, the desinence utilized, t', is also monosegmental. Here, as in the two other (transitional) stem/desinence relationships mentioned above, the final sounds of consonant stems are uniformly non-compact. But they are either marked for nasality (n and m), or marked for consonantality (vowels and glides). As with velar stems and $\check{c}$, sonorants and the [M strid] t' have an identical markedness value for a common feature, that of stridency;[21] hence it is the sole feature of nasality and its unmarked realization in the desinence alternant t' that informs the complementary relation between stem and desinence (see Figure 7).
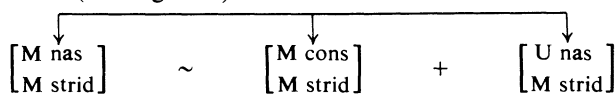
$$\begin{bmatrix} \text{M nas} \\ \text{M strid} \end{bmatrix} \quad \sim \quad \begin{bmatrix} \text{M cons} \\ \text{M strid} \end{bmatrix} \quad + \quad \begin{bmatrix} \text{U nas} \\ \text{M strid} \end{bmatrix}$$

FIGURE 7.

The transitional stem/desinence cohesions, which involve obstruent stems, manifest the alternants $st'i$ and st', differentiated by stress and the concomitant final vowel. Here stridency is not the relevant feature because the obstruent can be either strident or non-strident (e.g. $krad/krá$-st' 'steal' alongside $griz/grí$-st' and $v'od/v'o$-$st'í$ alongside $v'oz/v'o$-$st'í$ 'carry'). The identical-valued common feature is nasality (in addition to the unmarked value for compactness that separates velar stems from all the rest): both the stem-final consonants and the desinence alternants are composed entirely of [U nas] segments. The difference in the case of $st'í$ infinitives is the complementary value for stress. Since stems which take $st'í$ are invariably stressless, the complementation here is between the prosodically marked stem and the prosodically unmarked desinence. Conversely, when the stem is stressed, and hence unmarked prosodically, the desinence alternant is unstressed, and hence marked prosodically, i.e. st'-$\emptyset$.

The only other fact requiring explanation is the presence of the (historically metanalytic) segment s before the t' in the two transitional alternants of the infinitive desinence. Remembering that the two polar terms in this pattern are $\check{c}$ and t', we should start by reiterating the function of the compactness feature as the pivotal one. Consonant stems not having a final compact consonant have t' in their infinitives. Of these, the obstruent stems (plus $kl'an/kl'á$-st' 'curse') exhibit s, which is [U cons] and/or [U nas], just like the contiguous t and (more importantly) all obstruents. The s does not appear when the stem ends in a [M nas] or [M cons] segment. This distribution, then, is the expression of the following hierarchy of stems, as in Figure 8 (overleaf).[22]

2.7. This brings us to the stem shapes of the non-preterit and preterit.[23] Aside

[21] It is not clear to what extent features (like stridency) which are distinctive only for consonants may have relevance for vowels, or vice versa.

[22] The picture in Russian dialects and in the historical development of the language as a whole is quite variegated (see Flier 1978).

[23] In this connection it should be noted that the tense marker l drops out in the masculine after those consonants which are retained in the preterit, e.g. $n'ós$-$\emptyset/n'os$-l-$á$ 'carried' and $gr'ób$-$\emptyset/gr'ob$-l-$á$ 'rowed'. This is to be explained by the principle of markedness complementarity. The suffix l is consonantal, and hence a marked desinence; and $\emptyset$ is likewise marked because it implements the unmarked masculine. At the same time, as far as the general principle of Russian verb stem structure is concerned, consonantal stem shapes are also marked. The
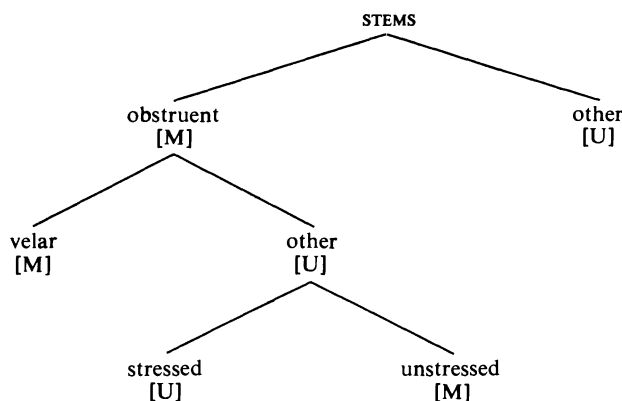
STEMS

FIGURE 8.

from completely automatic phonological variations in the shape of verb stems (e.g. reduction of vowels in unstressed position, contextual assimilation of consonants etc.), the pre-desinential portion of a stem assumes two alternating shapes, depending on the grammatical category of the form. As has become abundantly clear, the alternation involves the presence vs. absence of one segment (consonant or vowel). Thus in comparing the preterit and non-preterit forms of a verb like *igrát'* 'play', one observes the presence of a stem-final *j* in the non-preterit that is absent in the preterit and the infinitive (Jakobson's 'rule of truncation'):

INFINITIVE: *igrá-t'*

NON-PRETERIT: SG   PL

      1 *igráj-u*   *igráj-om*
      2 *igráj-oš*   *igráj-ot'e*
      3 *igráj-ot*   *igráj-ut*

PRETERIT: MASC   FEM   NEUT   PL

   igrá-l-∅   *igrá-l-a*   *igrá-l-o*   *igrá-l'-i*

Consequently there are two stem shapes, differing only in respect of the final: *igráj-* vs. *igrá-*. A comparison of the stem shapes in the two unmarked categories of infinitive and non-preterit shows the maximally unmarked infinitive with a shape lacking the consonant that is present in the partially marked non-preterit. This signifies that, in consonantal stems (defined as ones in which a pre-desinential consonant is present in the non-preterit but absent in the infinitive), the shorter or consonantless alternant is evaluated as unmarked (but cf. fn. 5). This applies partly (but see below) to verbs like *beréč'* 'guard' (cf. *péč'* 'bake', above) that retain the stem-final consonant in the preterit as well as the non-preterit:

INFINITIVE: *b'er'é-č*

NON-PRETERIT: SG   PL

      1 *b'er'og-ú*   *b'er'ož-óm*
      2 *b'er'ož-óš* *b'er'ož-ót'e*
      3 *b'er'ož-ót* *b'er'og-út*

PRETERIT: MASC   FEM   NEUT   PL
  b'er'óg-∅   *b'er'og-l-á*   *b'er'og-l-ó*   *b'er'og-l'-i*

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sequence of three marked entities is not tolerated, hence the omission of *l* after stem-final consonants before ∅.

Complementarily, in verbs whose infinitive and preterit display a stem-final vowel that is lacking in the non-preterit, the shorter or vowelless alternant is evaluated as marked. Hence, in a verb like *letét'* 'fly', the stem shape of the infinitive and preterit *l'et'é-* is unmarked, while that of the non-preterit *l'et'-/l'eč-* is marked:

INFINITIVE: *l'et'é-t'*

NON-PRETERIT: SG   PL
          1 *l'eč-ú*   *l'et'-ím*
          2 *l'et'-íš*   *l'et'-ít'e*
          3 *l'et'-ít*   *l'et'-át*

PRETERIT: MASC   FEM   NEUT   PL
      l'et'é-l-∅   *l'et'é-l-a*   *l'et'é-l-o*   *l'et'é-l'-i*

The class of consonant stems, however, differentiates (with semiotic consequences) verbs whose stem shape has a final consonant (in the preterit) from those that lack this consonant. Thus, alongside the pattern of *beréč'* above, cf. that of *klást'* 'place':

INFINITIVE: *klá-st'*

NON-PRETERIT: SG   PL
          1 *klad-ú*   *klad'-óm*
          2 *klad'-óš*   *klad'-ót'e*
          3 *klad'-ót*   *klad-út*

PRETERIT: MASC   FEM   NEUT   PL
      klá-l-∅   *klá-l-a*   *klá-l-o*   *klá-l'-i*

The segmental pattern represented in the preterit by *b'er'óg-∅/b'er'og-l-á/b'er'og-l-ó/b'er'og-l'-í* is found when the final consonant of a consonantal stem is *s, z, k, g, b*, or *r*.[24] The pattern represented in the preterit by *klá-l-∅/klá-l-a/klá-l-o/klá-l'-i* occurs when the final consonant of a consonantal stem is *v, j, t, d, n*, or *m*. These two sets of consonants exhaust the class of possible consonantal stems in Russian. Apparently, the reason that the first set is retained in the preterit is that all of them are [U strid].[25] This means, moreover, that the subclass of consonantal stems in which these unmarked consonants are retained in the preterit is accordingly evaluated as the unmarked subclass, vis-à-vis the marked subclass of stems whose final consonants are [M strid] and therefore drop before the desinences of the preterit. In the face of the over-all principle of complementation that governs the combination of stems and desinences, the fusion of consonant + consonant that one observes in the preterit of verbs like *beréč'* can be seen as motivated only when the stem shape of the preterit is understood to be unmarked via its unmarked (for stridency) final consonant.

In the marked context of the preterit, then, the same formal material as in the non-preterit (not counting automatic alternations) is evaluated differently. For if

[24] To this list can be added the *x* and *p* which precede -*nu* stems that drop this suffix in the preterit, e.g. *sóxnu* 'dry' and *slépnu* 'go blind'. For the peculiarities of -*r* stems, see fn. 5.

[25] This assignment differs in part from that in Shapiro 1976 and is based on the realization that stridency is superordinate to abruptness in the feature hierarchy of Russian for both grave and acute obstruents.

the stem shape of the infinitive is juxtaposed to its non-preterit counterpart, the consonantless alternant is unmarked and the consonantal one marked:

$$b'er'é\text{-}č \qquad b'er'og\text{-}ú \text{ etc.}$$
$$[\text{U}] \qquad\qquad [\text{M}]$$

But in the preterit, the value of the shape *b'er'og-* is U, because of the unmarked value of its final consonant. By contrast, verbs of the *klást'* type have formally different stem shapes in the preterit and non-preterit:

$$klá\text{-}l\text{-}\emptyset \text{ etc.} \qquad klad\text{-}ú$$
$$[\text{U}] \qquad\qquad [\text{M}]$$

This completes our survey of alternation in the stem shapes of the categories of the indicative. Principle 5 (complementarity) explains in each set of cases the appearance of a particular stem shape in a particular conjugational form, and does so via the semiotic terms of markedness as a coherence of oppositely valued entities.

2.8. The asymmetric principle of combination of linguistic units also informs the behavior of stress in the Russian conjugational pattern. This happens if the following assumptions are made. First, as in all of Russian grammar, stress differentiation (mobility) in the paradigm is marked, non-differentiation (fixed stress) is unmarked. Consequently, to the extent that differentiation exists and is perpetuated, it serves a semiotic function. With regard to conjugation specifically, and in conformity with the markedness complementation established above, unmarked stem types generally exhibit the marked stress type, marked stem types generally exhibit the unmarked stress type (see below for exceptions). Hypermarked stem types, furthermore, occasion reversal in the basic relation, and the stress types apply with reversed values. In the non-preterit, where the only kind of mobility is that of a 'retraction' of stress from desinence to stem-final syllable, unmarked stems like *nos'i* or *v'ert'e* are desinentially stressed in 1sg., but stem-stressed in the remaining forms. Historically, the tendency is most decidedly in the direction of establishing mobile stress in unmarked stems (Voroncova 1959), although many, even among the commonest verbs, have fixed desinential stress (e.g. *s'id'é* 'sit' and *govor'i*). There are clearly semantic constraints on the establishment of mobile stress, such as the features [abstract] vs. [concrete] (or [figural] vs. [literal]) that determine fixed vs. mobile stress in contrasting stems like *vozbud'i* 'arouse' (*vozbuž-ú, vozbud'-íš*) vs. *razbud'i* 'wake' (*razbuž-ú, razbúd'-iš*); *opr'e-d'el'i* 'determine, define' (*opr'ed'el'-ú, opr'ed'el'-iš*) vs. *razd'el'i* 'divide' (*razd'el'-ú, razd'él'-iš*); *kos'i* 'bend, make crooked, look askance' (*koš-ú, kos'-íš*) vs. *kos'i* 'mow' (*koš-ú, kós'-iš*) (correlated with *kosá* 'scythe').

In marked stems, however, the general pattern is to have fixed (hence unmarked) stress, e.g. *p'ok* (*p'ok-ú, p'oč-óš*); and there are very few exceptions, e.g. *t'anu* 'pull' (*t'an-ú, t'án'-oš*), *tonu* 'drown' (*ton-ú, tón'-oš*), and *mog* 'be able' (*mog-ú, móž-oš*).[26] In hypermarked stems, the reversal may be superseded by other marked

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[26] There is a special situation in (necessarily prefixed) verbs with the stem *-jm/n'im*. The non-syllabic stem alternant, as the marked one, coheres with unmarked desinential stress, e.g. *p'er'e-jm-ú, p'er'-jm'-óš* etc. 'intercept'; and the unmarked syllabic alternant coheres with marked mobile stress, e.g. *ot-n'im-ú, ot-n'im'-oš* etc. 'remove'. The exceptional cases of *pr'-im-ú, pr'-im'-oš* etc. 'accept' and *vo-z'm-ú, vo-z'm'-óš* 'take' etc. appear to be explained by just the bizarre metanalysis indicated by this segmentation.

contexts such as syllabicity and anaptyxis. Thus, in monosyllabic -*a* stems which are anaptyctic in the non-preterit, e.g. *bra* (*b'or-ú*), *dra* (*d'or-ú*), *zva* (*zov-ú*)—as well as in non-anaptyctic ones like *rva* (*rv-ú*), *vra* (*vr-ú*), and *tka* (*tk-ú*)—expected mobile stress does not operate, because of the supervening marked context of syllabicity.[27]

Hypermarked stems, like unmarked ones, display mobility in the non-preterit— obligatorily in polysyllabic hypermarked stems, and as a general tendency in unmarked stems. The mobility differentiates 1sg. from the rest of the non-preterit paradigm; this is because 1sg. is the maximally marked form, and hence exhibits the complementary unmarked stress (defined as stress on any syllable other than stem-final, excluding the theme vowel). The other forms, being unmarked vis-à-vis 1sg., accordingly exhibit the complementary marked stress.

The picture in the preterit follows similar lines. In unmarked and hypermarked stems, the stress is generally fixed on the theme vowel, except that most mono-syllabic -*a* stems have desinentially stressed feminine forms, e.g. *rva-l-á*, *žra-l-á*, *žda-l-á*, *lga-l-á*, *vra-l-á*, and *zva-l-á*. Thus the overwhelming majority conform to the pattern *xoxotá-l-∅*, *xoxotá-l-a*, *xoxotá-l-o*, *xoxotá-l'-i*; cf. *govor'í-l-∅*, *govor'í-l-a*, *govor'í-l-o*, *govor'í-l'-i*.[28]

Consonant stems in the preterit split up into two groups, depending on whether the consonant is obstruent or sonorant. Obstruent stems (which include those in *r—tr/t'ór/t'er'é* 'rub', *mr/m'ór/m'er'é* 'die', *pr/p'ór/p'er'é* 'push') are marked vis-à-vis sonorant stems, and these semiotic values show up in the stress pattern of the two types: the former does not allow differentiation in either the non-preterit or the preterit, but the latter permits differentiation in both.[29] The preterit of obstruent stems can thus have either 'desinential' stress (actually, stress falls on the last stressable syllable, which is usually the desinence) or stem stress: *v'oz* 'carry' (*v'óz-∅*, *v'oz-l-á*, *v'oz-l-ó*, *v'oz-l'-í*); *griz* 'gnaw' (*gríz-∅*, *gríz-l-a*, *gríz-l-o*, *gríz-l'-i*). Stem stress is limited to a handful of stems: *str'ig* 'shear, pare', *s'ek* 'whip', *l'ez* 'climb', *griz* 'gnaw', *jed* 'eat', *klad* 'place', *krad* 'steal', *pr'ad* 'weave', *jéd/jéxaj* 'ride', *pad* 'fall', *s'ád/s'éd* 'sit', *šib* 'hit'. The difference between the two patterns is rooted in the relation between stem vocalism and/or stem-final consonant and stress (cf. Shapiro 1969:19–26); the principle informing the relation is com-plementarity. The presence of a vowel with the value [M flat] is coherent with the placement of stress on that syllable, because of the unmarked status of stressed syllables in Russian. This accounts for all the stem-stressed items listed above that do not have *a* as their stem vowel. As for the latter, given that *a* is non-distinctively [+ flat] and hence [U flat], the determination of stem vs. desinence stress hinges on

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[27] But cf. *stla* 'spread' (*st'el'-ú*, *st'él'-oš*) and *sra* (fn. 13). Cf. also the type of *ková* 'forge' (*kuj-ú*, *kuj-óš*—of which seven cases exist) vs. the regular pattern for polysyllabic roots, e.g. *nočova* 'spend the night' (*nočúj-u*, *nočúj-oš*). The only exception is *dn'ova* 'spend the day' (*dn'új-u*, *dn'új-oš*; usually explained as the result of having a deriving base with an anaptyctic vowel).

[28] The only exception in unmarked stems is the perfective meaning of *rod'í* 'give birth' (*rod'í-l-∅*, *rod'í-l-á*, *rod'í-l'-i*); likewise in the corresponding reflexive forms.

[29] This appears to be an instance of Brøndal's principle of markedness compensation (1943:105 ff.); cf. Andersen 1974b:4.

the presence vs. absence, respectively, of an obstruent evaluated as [M strid]. Thus
we have stem stress in *klad, krad, pr'ad*; but desinence stress in *pas* 'graze' and
tr'as 'shake'—the only two stems with *a* as the preterit stem vowel and a final
[U strid] obstruent.[30] This means that, in the preterit, the unmarked stressed
syllable of consonant stems containing the vowel *a* coincides with the stem vowel
when the stem ends in an obstruent marked for stridency, and with the last stress-
able vowel when it ends with an obstruent unmarked for stridency.

   Precisely the same relations characterize the infinitive of these stems. In each
case where the stress in the preterit falls on the stem vowel throughout the four
forms, the corresponding infinitive also has stem stress (and the desinence alternant
-st' rather than *-st'i*): *lé-st', grí-st', jé-st', klá-st', krá-st', pr'á-st', pá-st', s'é-st'.*[31]

   3. It is now time to summarize the theoretical and methodological implications
of the analysis of Russian conjugation presented here. What needs underscoring
first is the role of asymmetry in the manifestation of linguistic signs, specifically
in its conceptual bond with complementarity and markedness. The unequal
evaluation of the terms of oppositions in language has been an important notion
of linguistic theorizing since at least the heyday of the Prague School's chief
Russian representatives—Trubetzkoy, Jakobson, and Karcevskij. The clearest
early expression of its role is in Jakobson ([1932] 1971:15), when he characterized
the asymmetry of correlative grammatical forms in morphology as two antinomies:
(1) between the signalization and non-signalization of A; and (2) between the
non-signalization of A and the signalization of non-A. In the first case, two signs
referring to the same objective reality differ in semiotic value—in that the signatum
of one of the signs specifies a certain 'mark' A of this reality, while the meaning
of the other makes no such specification. In the second case, the antinomy is
between general and special meaning of the unmarked term, where the meaning
of the latter can fluctuate between leaving the content of the 'mark' A unspecified
(neither positing nor negating it) and specifying the meaning of the unmarked term
as an absence.

   In focusing on the paradigmatic asymmetry of linguistic signs expressed by the
polar semiotic values of marked and unmarked (superimposed on oppositions in
phonology, grammar, and lexis), the early structuralists appear to have glossed
over a cardinal syntagmatic consequence of markedness: complementarity. If
the conceptual system which underlies and informs grammar (and language
broadly conceived) consists of opposite-valued signs and sign complexes, then
whatever syntagmatic coherence linguistic phenomena have in their actual mani-
festation must likewise be informed by principles of organization diagrammatic
of this underlying asymmetry. The only aspect of the asymmetric nature of lin-
guistic opposition that allows access to structural coherence is the complementarity
of the terms of the asymmetry, the markedness values. The systematic relatability
of the complementary entities and of their semiotic values is assured by the binary

   [30] Cf. also differing position of stress in the two subparadigms of the indicative of *l'ág/l'og*
'lie': non-pret. *l'ág-u, l'áž-oš* etc.; pret. *l'óg-∅, l'og-l-á, l'og-l-ó, l'og-l'-í.*

   [31] Infinitives in *č* always stress the predesinential vowel. The irregular stems *jéd/jéxaj* and
-šib/-šib'i stress the initial and the final syllable, respectively.

nature of all opposition, which balances the asymmetry of the axiological super-structure by furnishing the system of relations with the symmetry needed for the identification and perpetuation of linguistic units by learners and users.

Moreover, in explaining the cohesions between form and meaning in Russian conjugation above, complementation of markedness values is seen to be the dominant mode of semiosis—so much so that replication is confined to the structure of desinences and the expression of further undifferentiated members of the hierarchy of categories. Given the common understanding of undifferentiated contexts, statuses, and categories as marked in value (Brøndal's principle of compensation), it is clear that replication is itself the marked (more narrowly defined) principle of semiosis, vis-à-vis its unmarked (less narrowly defined) counterpart, complementation.

Complementation actually has two aspects or modes of manifestation, which are semiotically distinct and need to be understood as such. The more usual effect of complementation, well-known in linguistic analysis, is the distribution of phonetic properties in complementary but mutually exclusive contexts. This widespread fact of language structure serves as a diagnostic in the determination of the non-distinctiveness of a particular feature—so that, e.g., the complementary distribution of short and long vowel realizations in English before obstruents indicates the non-phonemic status of quantity (Andersen 1974b:5–6). The general effect of variation rules is augmented by their correlation of complementary phonetic properties with specific contexts. More significantly, it has been discovered (Andersen 1972:44–5) that the assignment of particular properties to particular contexts is governed by a universal semiotic principle of MARKEDNESS ASSIMILATION, which assigns the unmarked value of an opposition to the unmarked context and the marked value of an opposition to the marked context. Complementary distribution can thus be understood as the semiotic instantiation of markedness assimilation.

It is not difficult to perceive that this first, familiar sense of complementation is a manifestation of symmetry, since 'variation rules ... transform relations of similarity—equivalence in markedness—into relations of contiguity in phonetic realization' (Andersen 1974b:6). What has not been perceived, however, is that this form of complementation is peculiarly characteristic of the expression system of language (phonology, phonetics). By contrast, as the analysis of Russian conjugation has repeatedly made manifest, the morphophonemic system of a language largely eschews the symmetrical, replicative patterns of semiosis which are favored by phonology. Indeed, morphophonemics systematically exploits a second, less-studied form of complementation; this is antisymmetrical in its effects, as an inversion, and can accordingly be called CHIASTIC.[32] The predominant use of chiastic complementation is perfectly consistent with the semiotic nature of morphophonemics, which is the part of grammar that is constituted by the 'relations between the contextual variants of the same linguistic sign(s)'—and is contrasted with morphology, constituted by the 'relations between [basic]

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[32] Drawing the comparison to its full conclusion, this phenomenon can in turn be construed as a kind of MARKEDNESS DISSIMILATION.

linguistic signs' (Andersen 1969a:807). The fact that morphophonemics permits chiasmus is, in other words, in complete alignment with its function: the manifestation of morphological alternation.

Conversely, the prevalence of symmetrical modes of semiosis in the specification of the basic signs of morphology—such as the structure of Russian verbal desinences illustrated in §2.6 above (cf. Shapiro 1972:356–61)—accords with the semiotic status of morphological units. Thus, when the constitution of hierarchically independent (invariant) entities in grammar is at issue, correspondences which reflect relations of the content level (grammatical meaning) in the relations of the expression level (sounds) function as ICONIC SIGNS. More precisely, they are a variety of icon (or hypoicon in Peirce's trichotomous classification, 1931:157), which Peirce called METAPHORS, and defined as 'those which represent the representative character of a representamen [=sign] by representing a PARALLELISM in something else' (emphasis mine). This idiosyncratic understanding of metaphor, reflected in Peirce's typically difficult diction, seems to imply that the more familiar kind of hypoicon—the DIAGRAM (IMAGE being the third)—is a more general species of sign which subsumes parallelistic semiosis (replication of relational values) and chiastic semiosis (alternation of relational values) as variants. If this is so, then the metaphoric relations of parallelism entail the characterization of the relations contracted by chiasmus as METONYMIC, because of the status of antisymmetry as a species of metonymy via its negational quotient (cf. Shapiro & Shapiro 1976: 10–11).

The invocation of a framework based on markedness, to explain the coherence of linguistic entities syntagmatically, also implies the ineluctable and necessary consideration of these entities as signs, as parts of a semiotic. Heretofore, things like verb stems and desinences, including their positional shapes and alternants, have been looked upon simply as artifacts of description which facilitate an economical, mutually consistent statement of distributional facts; but the semiotic analysis presented here rests on the fundamental assumption that all these linguistic units have values—markedness values—which vary coherently and uniformly in alignment with contexts and the values (hierarchy) of contexts. The fusion of stems and desinences owes its coherence, its semiotic raison d'être, to the form of the meaning on both sides of the expression/content 'solidarity', to what Hjelmslev (1969:54–6) so astutely called 'content-form' and distinguished from 'expression-form'.

The coherence of linguistic units among each other is by no means a static one, for we have incontrovertible empirical evidence that languages change over time. But the fact of change must be correctly understood as a dynamic based on teleology, where the telos is greater goodness of fit (iconicity, coherence) between underlying structure and its overt manifestation in speech (cf. Anttila 1974:19–25). The picture drawn above of Russian conjugation and of its system differs strikingly little from that of Old Russian (Bulaxovskij 1958:250–53; cf. Kiparsky 1967:180), i.e. from the state of the language with respect to verb inflection dating as long ago as 900–1000 years! Given such a long span for testing, encompassing vast upheavals in the morphophonemics of Russian occasioned by the sound change known as the 'jer shift' (cf. Isačenko 1970), we have every reason to suppose that present-day conjugation has a teleological coherence which has given shape to it

diachronically, and which enables it to subsist in its present form synchronically.

Finally, note should be taken of the prominence given here, overtly in the title and covertly in the analysis itself, to the hermeneutic aspect of linguistic theory, and its application as explanans of concrete data. In the face of continued assessments of Jakobson's 'Russian conjugation' as an 'epoch-making' contribution to the 'complete SCIENTIFIC DESCRIPTION of the language' (Halle, 140; emphasis added) and the explicitly pedagogical aim of Jakobson himself ([1948] 1971:128), the present study and its predecessor (Shapiro 1974) argue in detail for the view that explanation cannot be achieved by the prevailing self-confinement to goals that are fundamentally (if unwittingly) non-explanatory. The rule-formalism approach of transformational-generative grammarians may or may not demonstrate anything about 'a fluent Russian speaker's knowledge of his language' (Halle, 140). It is fundamentally irrelevant for linguistic theory whether it does or does not, because a theory of grammar is not a theory of knowledge but a theory of HABIT (in the sense of Peirce; cf. Shapiro 1976). Explanation must focus on why the data cohere as signs, and not on the mechanisms by which grammatical forms can be derived by the judicious choice and application of rules. This requirement removes predictability-via-rules from the agenda of theory. The entire recent history of linguistics shows with great clarity the feasibility of kneading data into a wide number of mutually-compatible formalized configurations ('notational variants'). What is needed, however, is an ATTITUDE toward the object of study which matches the structure of that object. Language is a system, both in its diachronic and synchronic aspects, that is informed by a pattern of inferences, deductive and abductive (cf. Andersen 1973, 1975). The role allotted to interpretation in language as a structure—to its very nature and function as a hermeneutic object—demands that the methods of inquiry into and the theory of language be homologous with the principles of its organization (cf. Itkonen 1978; Anttila 1976, 1977a).

It is this very nature of language itself, the inherent organization of grammar as a patterned relationship between form and meaning, that necessitates transposing the theoretical enterprise of linguistics to another dimension, one defined by the subsumption of all linguistic analysis under the rubric of meaning or hermeneutic. As Jakobson himself has put it (1977b:5; cf. 1972:76):

> 'Any linguistic item, from speech sounds and their constituents to discourse, partakes—each in its own way—in the cardinal, viz. semantic, tasks of language and must be interpreted with respect to its significative value.'

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