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# THE FORMATION OF THE IMPERATIVE IN MODERN RUSSIAN

## 1. INTRODUCTION

The following paper is an attempt to use the so-called "analytical-synthetic-functional" method to describe the formation of the synthetic imperative word forms in Russian. This method was initially developed to describe the inflection of Russian verbs in the preterit and present tenses (Lehfeldt, 1978a; Lehfeldt, 1978b) and was later also utilized in studies analyzing the formation of the present tense in Serbo-Croatian (Kempgen and Lehfeldt, 1978), Macedonian (Kempgen, 1979), Slovak (Lehfeldt, 1979), Czech (Berger, 1981) and Bulgarian (Kaltwasser and Kempgen, 1981).

In this study we will furnish only a brief description of the "analytical-synthetic-functional" method; for additional information the reader is advised to refer to Lehfeldt (1978a), which discusses the method's basics as well as the Steps involved in its application.

The method itself is divided into three principal parts. In the first, the "analytical" section, the various means of expression which a language uses to construct particular word forms are described and analyzed. In the second, "synthetic" part, the relationships between the various means of expression are examined; that is, the theoretically possible combinations of the means of expression are compared with the combinations actually occurring in reality. This comparison in turn makes possible an initial numerical characterization of particular Subsystems by means of the so-called "measure of combination". Furthermore, the relationships between the above-mentioned means of expression and the carriers of the non-grammatical meaning of the word-forms, the so-called "basic forms", are analyzed. In this manner we obtain a further numerical characterization of the given Subsystem, the "measure of predictability". In the final, "functional" part of the method, we are primarily concerned with the actual functional load of the individual means of expression and their various combinations.

Before we begin with the description of word-form formation in the imperative, it is necessary to separately discuss a problem which we have designated the "delimitation of synthetic word forms", a problem which in contrast to the present or preterit tenses - has not been satisfactorily solved for the imperative.

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## 2. DELIMITATION OF SYNTHETIC WORD FORMS IN THE IMPERATIVE

There is already an abundant literature dealing with the respective Problems of how to dehne the grammatical meaning of the imperative and which concrete word forms are to be considered imperative; thus, we will only selectively quote such sources. In particular, our comments are based on Lehfeldt (1981), which systematically treats the relevant possibilities and which also summarizes a good deal of the discussion that has been conducted up to now.

The point of departure in this study is the so-called "instructional-linguistic" model. Following this model, Lehfeldt has classified all words containing the instructional component "explicit request" according to the possible realizations of the communicator variable. The realizations in this case include the "sender", one or more "receivers", one or more "potential referents" (which function exclusively as referents) or combinations of these communicators. All in all, this Classification leads to 17 possible realizations of the communicator variable.

Word forms that are constructed analytically (for example *nyanb **Humaerri)*** will be excluded from our analysis, since they are not morphological units in the true sense of the word (Mel'cuk, 1974). In regard to synthetically constructed forms, there are four which deserve our consideration. In the case of the word nap'is'at', for example, the word forms are:

{nap'is'i}, {nap'is'it'e), {nap"isom}, {nap"isomt'e}

Scholarly views regarding the Classification of the last two forms as "imperative" are not in complete agreement. Although most authors do in fact tend to classify the questionable forms as imperative, arguments against such a Classification are themselves not infrequently encountered. These arguments, which we will briefly examine in the following section, are based on considerations of content as well as of form.

The arguments concerning the content of the imperative forms will not be discussed here at length. They are primarily based on a very narrow definition of the imperative, a definition which accepts an imperative word form as valid only when a request is addressed to one or more physically present receivers. In this fashion the 3rd pers. sing, of the imperative in Old Russian (cf. the modern ***daü*** *6o^*) would be excluded from the sphere of analysis.

Formal arguments (cf., for example, Bondarko and Bulanin, 1967) are also not particularly plausible. In such cases it is mostly argued that forms like {nap"isom} can only be formed from perfective verbs, which allegedly places them in Opposition to other imperative word forms. In fact, it is

possible to continue such arguments ad absurdum; for example when one considers that the 3rd pers. sing, present (under certain circumstances also the 3rd pers. pl. present) can only be formed from impersonal verbs, this Observation does not lead to a separate description of these verbs' inflection vis-ä-vis that of other verbs.

Although we do not accept these two lines of argumentation, we nevertheless do not wish to include the two above-mentioned forms in our analysis. Of particular relevance in this connection is the differentiation between "concrete" and "abstract" word forms as used by Zaliznjak (1967, 20). "Concrete" word forms, according to Zaliznjak, are linguistic units which occur in given sentences, which are in turn found in a particular textual context. By contrast, "abstract" word forms are the result of a linguistic abstraction which reduces to a single unit word forms having the same sequence of phonemes, the same accent, and same meanings. In the sentence

> "MHe rpycTHO **H** nereo/ nenajib **MOH** CBema, /nenajib **MOS** nojma **TO6OK)**..."

there are, for example, eleven concrete word forms, from which nine abstract word forms can be derived.

In the case of word forms of the type {nap"isom} it is of course possible that a concrete word form (e.g. one with a special intonation) can in fact have an "imperative" meaning. This, however, does not apply to the abstract word form on which it is based. In contrast to the word form {nap'iä'it'e}, the "imperative" meaning of {nap"isom} is necessarily determined by the given context, since the 1 st pers. pl. imperative is indistinguishable from the Ist pers. pl. present on the phonemic or suprasegmental levels.

The question is now whether the morphological unit which we are examining is a concrete or an abstract word form according to the above-mentioned definitions. Mel'cuk's definition (1974, 102) provides a succinct answer: " 'Non-morphological' means of expression are those which express meanings outside the word - syntactic, or function, words, word-order, over-all sentence intonation contours, etc.". It is thus clear that in this instance we are dealing with abstract word forms.

Accordingly, we cannot accept a form like {nap"isom} as an imperative word form. The form {nap"isomt'e} poses a more difficult problem in this regard, since the grammatical meaning "imperative" is without a doubt morphologically expressed. Nevertheless, we do not wish to treat this form together with the other imperative word forms, since it is clearly derived from the form of the Ist pers. pl. present, and is moreover atypical for inflectional languages like Russian; that is, it comes about through agglutination of the suffix {-t'e} (cf. Skalicka, 1958, 83). An alternate

possibility - depending of course on the analytical context - would be to describe this inflection together with inflexions of the particle {-ka-}.

It is, however, also possible to justify a separate treatment of the forms {nap"isom} and {nap"isomt'e} in regard to their content. Following Durovic (1964, 224ff.), for example, one can oppose so-called "inclusive" forms with the remaining "exclusive" forms, and, although Durovic does not State it explicitly, one can infer from this description that a non-morphological inflection is typical for inclusive forms, whereas the morphological inflectional type is confined to exclusive ones.

## 3. THE IMPERATIVE PARADIGM'S MEANS OF EXPRESSION

### 3.1. *Analytical Section*

#### 3.1.1. *Selection of Basic Forms*

In order to describe the imperative word forms, it is first of all necessary to decide with which "basic form" our description should begin. It is evident that the basic forms designed for the present tense should also be used in this instance. In this regard we cite below the two rules determining the basic forms of present tense verbs:

*Rule 1:* When the form of the infinitive ends in {-t'ij, in {-£'}, or in {-Cf}, whereby C symbolizes any given consonant, we then select as the basic form that form of the verb root which appears in the Ist pers. sing, pres. in front of the inflectional ending {-u}.

*Rule 2:* In all other cases we select as the basic form that form of the verbal root which appears in the infinitive in front of the ending {-t'} (Lehfeldt, 1978a, 33).

It is likewise possible to simply accept the list of verbs in which we have to select a different basic form as is called for in the rules. The only exception in this case is the verb {j'exat'}, which is assigned the basic form of {pojezVa-} instead of {j'ed-}.

#### 3.1.2. *Description of the Paradigms of Expression*

*I.MA.lnfiexionalparadigms.* Modern Russian constructs imperative word forms with two classes of inflectional endings, which we will henceforth designate as $F_1$ and $F_2$:

| | | ***Fi*** |
|---|---|---|
| 2nd pers. sing. | {-i} | **{-0}** |
| 2nd pers. plur. | {-it'e} | {-t'e} |

In normative grammars, for example in the Grammar 70 (Svedova, 1970, 415), exact rules governing the appearance of these inflectional paradigms are supplied, and it may indeed be possible, as in the case of the preterit

(cf. Lehfeldt, 1978a, 86ff.), to determine which inflectional paradigm should be selected in a given case. We will not, however, continue on this level of analysis any further, since such rules must take into account a variety of descriptive levels (namely the lexical, phonological and accentual levels), whereas in the case of the preterit one level, the phonological, is for the most part sufficient.

Zaliznjak, in his grammatical dictionary (1977, 102), lists a series of mixed inflectional forms. Among these appears an inflectional paradigm completely missing in other studies of this kind:

| | |
|---|---|
| 2nd pers. sing. | {-i} |
| 2nd pers. plur. | {-t'ej |

*Example:* {upor"adoc'-i[, {upor"adoc'-t'e}
In the Grammar 70 (Svedova, 1970,415f.) this phenomenon is characterized in a slightly different manner: the authors speak of a series of verbs allegedly having two varieties of imperative word forms in the singular; specifically, those with or without the ending {-i}. (In the plural only the ending {-t'ej is possible.) We prefer, however, to see in the above-mentioned phenomena a tendency for *Fi* to change into $F_2$, a process which is, however, not the object of this study.

3.1.2.2. *Morphophonemic paradigms.* The morphophonemic means with which Russian expresses the imperative paradigm correspond to those which occur in the present-tense paradigm. Three types are relevant in this case (cf. Lehfeldt, 1978a, 36f.):

(a) the extension of the basic form by {-j-}: for example bf. [d"ela-} -• {d"elaj-};

(b) the truncation of the end vowel of the basic form: for example bf. {v"er'i-} -» {v"er'-j;

(c) the replacement of the end consonant of the basic form of the root form resulting from the shortening of the basic form through another consonant or group of consonants: for example bf. {v'od-'} -> {v'od'-'}.

The principal distinction here is between the two types of consonant alternations, "palatal alternations" (e.g. /t/ ~ /t'/, /s/ ~ /s'/) and "transitivity alternations" (e.g. /t/ ~ /c'/, /s/ ~ /s/, /b/ ~ */bl'ß.* ('Bare' vs. 'substitutive' softening. - *Ed.)* Especially noteworthy is the fact that in the imperative paradigm palatal alternation is broadened to include the pairs

/k/ ~ /k'/, /g/ ~ /g'/, /x/ ~ /x'/.

One or more morphophonemic alternations constitute each of the so-called morphophonemic paradigms. In the imperative there are four relevant paradigms, which we will designate as $M_{1.5}$ $M_2$, $M_3$ and $M_4$:

*Mi*: The end vowel of the basic form is eliminated.

$M_2$: The end vowel of the basic form is eliminated. The end consonant of either the basic form or of the root form which has been shortened by elimination of the vowel alternates according to palatal alternation.

$M_3$: The vowel with which the basic form ends is eliminated. The end consonant of the thus shortened basic form alternates according to transitivity alternation.

$A/_4$: The basic form is extended to include {-j-}. If the basic form ends in {-ova-}, then {-ova-j alternates before {-j-} with {-u-}.

*Examples:*

| | | |
|---|---|---|
| M, | bf. {vod"i-} | ({vod'-'ij, {vod'-'it'ej) |
| | bf. **{l'el"eja-}** | **({l'er'ej}, {l'er'ej-t'c})** |
| $M_2$ | bf. {t'an'u-j | ({t'an'-'i}, {t'an'-'it'e}) |
| | bf. {n'os-'} | ({n'os'-'i}, {n'os'-'it'e]) |
| $M_3$ | bf. {p'is'a-j | ({p'is-'i}, {p'iä-'it'e}) |
| | bf. {m'aza-j | ({m'az}, {m'az-t'e}) |
| $M_4$ | bf. {d"ela-} | ({d"elaj}, {d"elaj-t'e}) |
| | bf. {r'isov'a-} | ({r'is'uj}, {r'is'uj-t'ej) |

3.1.2.3. *Accentualparadigms.* In Russian there are two accentual paradigms in the imperative, which we will designate as $A_x$ and $A_z$:

$A_x$: All forms are root stressed.

$A_z$: All forms are end stressed.

As in the present tense (cf. Lehfeldt, 1978a, 41), the rule that the accent of $A_x$ forms moves ahead one syllable when the end vowel is eliminated is also valid for the verbs with a basic form ending in an accented last syllable.

*Example:*

bf. {kol'eb'a-}

**({kol"ebr-i}, {kol"ebl'-it'e})**

3.2. *Synthetic Section*

3.2.1. *Composition of the Paradigms of Expression*

In the previous section we have shown how the set of all word forms representing the paradigm of the imperative (which we will henceforth designate as primary paradigms) can be characterized in regard to their inflectional endings, their morphophonemic changes and their stress. In the following section we wish to classify every primary paradigm of the imperative by means of a triad consisting of an inflectional paradigm, a morphophonemic paradigm and an accentual paradigm (these we will designate as subparadigms of expression). This data is in itself

sufficient to determine the imperative inflection. Thus, the primary paradigm

({id'-'i}, {id'-'it'e})

corresponds to the triad **(F**$_1$**,** $M_2$, $A_2$**)**.

In general, we will designate such a triad as a paradigm of expression (cf. Lehfeldt, 1978a, 41 f.). If one examines the number of the subparadigms of expression, one quickly concludes that there are theoretically 2 x 4 x 2 = 16 combinations of subparadigms of expression, and thus 16 different paradigms of expression in all.

These theoretically postulated paradigms of expression are nevertheless not all present in the actual language. In this regard, it is possible to set up rules describing the relationships between the subparadigms of expression with the actual paradigms of expression occurring in reality:

(a) $F_2$ combines with all morphophonemic paradigms. The same applies to *Fi*, with the exception of $Af_4$.

(b) combines with both accentual paradigms, $F_2$ exclusively with $A_2$.

(c) *Mi*, $M_2$ and $M_3$ appear together with all inflectional paradigms and all accentual paradigms, whereas $M_4$ combines only with $F_2$ and $A_2$.

TABLE I

| Paradigm of expression | Basic form | 2nd pers. sing, and plur. |
|---|---|---|
| (F„ ***Mi, A,)*** | [v'ipros'i-j | {v'ipros'-ij, {v'ipros'-it'e] |
| ***{Ff, Mi, Aii*** | {pros"i-\| | {pros'-'i\|, Jpros'-'it'e] |
| ***(F„ M„A)*** | **(v**'in'**os**-j | **{v**'in'**os**'-ij, {v'in'os'-it'e] |
| ***(F„M„A„)*** | jn'os-'} | {n'os'-'i}. {n'os'-'it'ej |
| ***[Fi,M„Ai)*** | Jkol'eb'a-, | (kol"eW-i}, (kol"ebl'-it'e) |
| ***(Fi, M„A„)*** | jp'is'a-} | {p'iä-'ij. {p'ts-'it'e} |
| ***(F„Mi,A„)*** | {v"er'i-} | {v"er'\|, {v"er'-t'e} |
| ***(F„ M„A„)*** | U"ez-I | !'"ez'!. jr'ez'-t'ej |
| ***(F„M„A)*** | {m'aza-} | {m'az}, {m'az-t'e] |
| (F„ ***M„ A)*** | {d"ela-J | {d"elaj}, {d"elaj-t'ej |

The realizations of the theoretically possible combinations result in ten paradigms of expression in the imperative (see Table I). With these figures it is now possible to calculate the value of the so-called "measure of

combination" for the imperative. The formula to calculate this value is as follows (Lehfeldt, 1978a, 44):

$$M(V)_L = \frac{K_{max} - K_{real}}{K_{max} - K_{min}} \qquad \langle 0;1 \rangle$$

whereby $K_{max}$ is the maximum amount of combinations, $K_{min}$ the minimum amount of combinations and $K_{real}$ the amount actually found in the given language. .

In this case, $K_{max}$ = 2 x 4 x 2 = 16, $K_{min}$ = 4 and $K_{real}$ = 10. We thus obtain the following value of the measure of combination:

$$M(V)_{Russ,imp} = \frac{16 - 10}{16 - 4} = \frac{6}{12} = \mathbf{0.500.}$$

This value is considerably lower than that calculated for the present tense. This shows that it is possible only in a relatively limited sense to extrapolate all other subparadigms of expression from any one given subparadigm of expression. This is particularly clear when we compare this with the present tense: there the index of combination is 0.750 (Lehfeldt, 1978a, 45) and the absolute number of possible combinations is greater than in the imperative (24 vs 16), whereby only nine are actually realized (as opposed to ten in the imperative).

### 3.2.2. *The Relationships Between the Basic Forms and the Paradigms of Expression*

3.2.2.1. *Qualitative analysis.* In this section we wish to examine the relationships between certain characteristics of the basic forms and of the individual paradigms of expression. This analysis is based on the same characteristics used in Lehfeldt's study of the relationships between characteristics of the basic forms and the paradigms of expression in the present tense (Lehfeldt, 1978a, 52).

Table II depicts the relationships between the basic forms and the paradigms of expression. In this case it is unimportant if a given paradigm of expression occurs once or many times in a particular class of basic forms. In contrast to Lehfeldt's study, however, we will not make use of a distributional algorithm, which transforms these relationships into a set of rules. Our data (see Table III) enables us to calculate the value of the "measure of predictability". To this end we need the number $x_{max}$ of the maximum amount of the paradigms of expression predictable for each characteristic, as well as the "true" number $x_{real}$, of the paradigms of expression that can on the average be predicted for each characteristic.

TABLE II

Relationships between the characteristics of basic forms and paradigms of expression in Russian

| | | | | *(F{M,A,)* | | *(F,M,A,)* | *(F,M,A)* | *(F,M,A,)* | *(F,M,A)* | *(F,MA,)* |
|---|---|---|---|---|---|---|---|---|---|---|
| {-C-} | | | + | + | | | | + | | |
| {-nu-} | | | + | + | | | | + | | |
| H-} | + | + | | | | | + | | | |
| {-ova-} | | | | | | | | | | + |
| {-u-} | | | | | | | | | | + |
| {-o-}, | | | | | | | | | | + |
| **{-0**-}m | | | + | + | | | | | | |
| {-e-} | + | + | | | | | + | | | + |
| {-Ca-} | + | + | | | | | + | | | + |
| {-ja-} | | | | | | | + | | | + |
| {-Ca-} | | | + | + | + | + | | | + | + |

These are defined as follows (cf. Lehfeldt, 1978a, 55):

$$\bar{x}_{real} = \frac{\sum_{i=1}^{m} f_i}{m} \qquad \bar{x}_{max} = \frac{\sum_{i=1}^{m} max_i}{m}$$

whereby $m$ is the number of characteristics employed, $max_i$ the number of paradigms of expression theoretically occurring in verbs with the $i$th characteristic, and $f_i$ the number of paradigms of expression actually occurring.

The measure of predictability can thus be calculated as follows:

$$M(P)_L = \frac{\bar{x}_{max} - \bar{x}_{real}}{\bar{x}_{max} - 1} \qquad \langle 0; 1 \rangle$$

In the case of the imperative we obtain the following values

$$\bar{x}_{real} = \frac{3+3+3+1+1+1+4+2+4+1+4}{11} = 2.454$$

$$\bar{x}_{max} = \frac{1(3)+10(10)}{11} = 9.364$$

$$M(P)_{Imp} = \frac{9.364 - 2.454}{9.364 - 1} = 0.826$$

$$M(P)_{Imp} = \frac{9\ 364 - 2\ 454}{9.364 - 1} = 0.826$$

This value is somewhat higher than that calculated for the present tense (cf. Lehfeldt, 1978a, 57) and leads to the conclusion that on the basis of the characteristics of the basic forms we can, in general, predict the paradigms of expression assigned to the individual basic forms quite well. As the next part of our analysis will demonstrate, this tendency is considerably strengthened when quantitative considerations are included in the analysis.

3.2.2.2. *Quantitative analysis.* As is the case with the present tense paradigms, it is also possible in this instance to take into consideration the frequency of the individual imperative word forms in texts. Following Lehfeldt (1978a, 63ff.), we have based our study on the frequency dictionary of Steinfeldt (s.a.). Certain difficulties do arise, however, because the number of verified imperative word forms is not especially large; for example, the group of polysyllabic basic forms ending in {-o-} has not been verified for the imperative. In general, the basis for our Classification of the individual paradigms of expression is Daum and Schenk's verb dictionary (1963[2]).

TABLE III

| Characteristics | Paradigm of expression | Basic form | 2nd pers. sing, and plur. |
|---|---|---|---|
| !-C-} | *(F, M„A)* | {v'in'os-} | {v'in'os'-ij, (v'in'os'-it'e] |
| {-C-} | *(F, M„ A„)* | {n'os-'\| | Jn'os'-'i[. {n'os'-'it'e} |
| i-c-i | *(F„ M„* ^i) | {l"ez-l | \|l"ez'l, Jl"ez'-t'e) |
| {-nu-} | *(F, M„A)* | {v'it'anu-} | {v'it'an'-i), Jv'it'an'-it'ej |
| \|-nu-! | *(Fi M„ A„)* | {t'an'u-} | {t'an'-'i}, {t'an'-'it'e} |
| !-nu-\| | *(F„ M„ Ai)* | {tr'onu-} | Jtr'on'], {tr'on'-t'e} |
| **{-•-}** | *(FL Mi,A)* | {v'ibros'i-} | {v'ibros'-i}, {v'ibros'-it'e} |
| H-} | *(F^ M„A„)* | }xod"i-] | \|xod'-'i], jxod'-'it'ej |
| l-i-l | *(F„ Mi,* | {v"er'i-} | ! v"er'j, {v"er'-t'ej |
| {-ova-! | *(F„ M„Ai)* | (r'isov'a-J | {r'is'ujj, {r'is'uj-t'e} |
| l-u-} | *(F„* A/„, *Ai)* | {ob'u-[ | [ob'ujj, {ob'uj-t'e} |
| !-o-,} | *(F„ M„ Ai)* | {kr'o-} | [kr'ojl, {kr'oj-t'ej |
| !-e-) | *(F„ Mi, A„)* | {v'it'erp'e-} | {v'it'erp'-ij, {v'it'erp'-it'e} |
| {-e-} | *(F„ Mi,A)* | Js'id"e-\| | {s'id'-'i], {s'id'-'it'e] |
| {-e-} | *(F„ Mi, A„)* | {v"id'e-J | \|v"id'!, {v"id'-t'ej |
| {-e-} | *(F„ Mi, Ai)* | !gr"e-l | !gr"ejl, {gr"ej-t'e] |
| i-**O-m!** | *(Fi, M„* /Ii) | {v'ikolo-} | {v'ikol'-i}, {v'ikol'-it'ej |
| **{-O-mi** | *(Fi, M„A„)* | {kol'o-} | {kol'-'i}, {kol'-'it'ej |
| {-Ca-} | *(Fi, M„A„)* | {v'id'erza-} | {v'id'erz-i], {v'id'erz-it'ej |
| {-Ca-} | *(Fi, M„A„)* | {kr'ic"a-] | {kr'iC'-'i}, Jkr'ic'-'it'ej |
| {-Ca-! | *(F„ Mi, A„)* | {sl'iäa-} | isl'isj, {sl'iä-t'e} |
| {-Ca-} | *(F„ Mi, A„)* | {ukraS'a-} | jukraä'aj], Jukraä'aj-t'e] |
| **(->-)** | *(F„ M„ A„)* | **{I'er**'eja-} | {l*el"ej}, {l'el"ej-t'e] |
| {-ja-} | *(F, Mi, A„)* | {z'ij'a-} | {z'ij'aj}, {z'ij'aj-t'ej |
| {-Ca-] | *(Fi, M„A„)* | {v'isosa-J | Jv'isos'-i], {v'isos'-it'e} |
| {-Ca-} | *(Fi, M„A„)* | {sos'a-j | {sos'-'i], sos'-'it'e} |

*(continued)*

*Table III (continued)*

| Characteristics | Paradigm of expression | Basic form | 2nd pers. sing, and plur. |
|---|---|---|---|
| {-Ca-] | (F„ ***M„A„)*** | {v'ip'isa-} | {v'ip'is-i), {v'ip'iä-it'ej |
| !-Ca-] | (F„ ***M„A„)*** | {p'is'a-**1** | {p'iS-'i}, {p'is-'it'e] |
| **i**-Ca-**i** | ***{Fj,*** M„ ***A)*** | {m'aza-} | {m'az}, {m'az-t'e} |
| {-Ca-! | ***(F„M„A)*** | (d"ela-) | {d*'elaj}. {d"elaj-t'e! |

Lehfeldt (1978a, 63ff.) cites a Statistical technique with which one can analyze whether word forms constructed from one (or more) given paradigms of expression are significantly more common than word forms constructed from other paradigms of expression. If such forms are indeed significantly more common, we can speak of an "association" between the basic form classes and the first-mentioned paradigms of expression. The relationship of this class to the other paradigms of expression is by contrast designated as "disassociation" or as a "neutral relationship". These three types of relationships are then statistically differentiated from one another. The actual frequential distribution of the paradigms of expression is compared with the distribution which would result when all paradigms of expression in question would occur with the same degree of probability. If the probability is greater than 0.1 that a given distribution is randomly differing from its theoretically postulated distribution, we then speak of a neutral relationship. If the probability is lower than 0.1 we call this either association or disassociation, depending on whether the particular paradigm of expression is significantly more or significantly less than the theoretically postulated distribution would lead us to expect.

Within the categories "association" and "disassociation" one can also distinguish different degrees of probability, which are in turn delimited according to the values 0.001 and 0.0001. Furthermore, it is also possible that the paradigm of expression for a particular class of basic forms is the only possible paradigm of expression. In this case we can speak of a "deterministic" relationship, which is signified by the symbol *A*!. In similar fashion, *N* Stands for a neutral relationship, *A* for association (for higher degrees of association *A*, A**)* and for disassociation *D (£>*, £)**).*

The results of our analysis are summarized in Table V; Table IV contains the material which we have used in the course of our study. The results show that in nine of ten observed groups there exists a distinct tendency favoring a Single paradigm of expression. The only exceptions

TABLE IV
Frequency table of the paradigms of expression

| | $(F_1M_1A_1)$ | $(F_1M_1A_2)$ | $(F_1M_2A_1)$ | $(F_1M_2A_2)$ | $(F_1M_3A_1)$ | $(F_1M_3A_2)$ | $(F_2M_1A_1)$ | $(F_2M_2A_1)$ | $(F_2M_3A_1)$ | $(F_2M_4A_1)$ |
|---|---|---|---|---|---|---|---|---|---|---|
| {-C-} | | | 337 | 6 | | | | 105 | | |
| {-nu-} | | | 23 | 0 | | | | 6 | | |
| {-i-} | 323 | 25 | | | | | 131 | | | |
| {-ova-} | | | | | | | | | | 134 |
| {-u-} | | | | | | | | | | 2 |
| $\{-o-\}_1$ | | | | | | | | | | 13 |
| {-e-} | 130 | 0 | | | | | 0 | | | 31 |
| {-Ča-} | 66 | 0 | | | | | 1 | | | 190 |
| {-ja-} | | | | | | | 57 | | | 0 |
| {-Ca-} | | | 50 | 0 | 157 | 0 | | | 5 | 441 |

TABLE V

Relationships between the characteristics of the basic forms and the paradigms of expression: the results of the quantitative analysis

| | | *(F,MA,)* | *(F,MA,)* | *(F,MA,)* | | *(F,MA,)* | *(F.M.A,)* | *(F,MA,)* | *(F,MA,)* | *(F,MA,)* |
|---|---|---|---|---|---|---|---|---|---|---|
| {-C-} | | | *A*** | *D"* | | | | *D*** | | |
| {-nu-} | | | *A* | | | | | *D* | | |
| {-i-} | *A*** | D** | | | | | *D* | | | |
| ,-ova-} | | | | | | | | | | *A* |
| {-u-} | | | | | | | | | | *A* |
| **{-<>-},** | | | | | | | | | | *A* |
| **!-e-}** | *A*** | | | | | | | | | *D*** |
| {-Ca-} | *D* | | | | | | *D*** | | | *A*** |
| {-ja-} | | | | | | | | | | |
| {-Ca-} | | | *D*** | | *N* | | | | *D*** | *A"* |

occur in the case of basic forms ending in {-Ca-}, whereby two paradigms of expression are favored. It is not possible to make a definite Statement about the verbs having a polysyllabic basic form and ending in {-o-}, since they have not been verified for the material analyzed here.

### 3.3. *Functional Section*

In the functional part of the analysis we are mainly concerned with the question of how well the individual subparadigms of expression and paradigms of expression in fact express the content of the imperative paradigm. It is of course possible to conduct such an analysis (as has already been done for the present and preterit tenses), but we do not feel that this would make much sense in the case of the imperative. Simply stated, the 2nd pers. sing, and 2nd pers. pl. differ only in the inflectional paradigm, but not in any of the morphophonemic or accentual paradigms. The result is that in terms of functional load, all paradigms of expression in the imperative are the same.

## 4. CONCLUSION

Our study has contributed to the further description of finite verb forms in Russian by revealing the relative lack of homogeneity of the imperative in contrast to the present tense. The relationships between the individual subparadigms of expression are relatively weak, the relationships between the basic forms and paradigms of expression show a lack of cohesiveness, and, although the measure of predictability is even somewhat higher than in the present tense, the quantitative part of our study clearly shows that there is a large number of rarely occurring examples.

The imperative paradigm - which altogether consists of only two forms - is quite balanced in functional terms. In this regard, however, a functional analysis of the relations between the various tenses would be desirable, forexample one treating the Opposition {x'od'it'e} vs. {xod"it'e}. This task, however, must be reserved for a later study.