

Lexical Constructions: Paradigms and Periphrastic Expression

“... an inflected word’s association with its morphosyntactic feature specifications is logically prior to the spelling out of its inflectional markings, since it is this very association that determines the sequence of operations by which those markings are introduced; the realizational approach thus entails a rejection of the assumption that a word’s morphosyntactic feature content is built cumulatively from that of its inflectional ‘morpheme’ by a percolation mechanism.” Stump 1993:449

I. Goals of the talk

- Explore how some phenomena generally treated in terms of composition of information by independent elements in constituent structure might be (better?) viewed from a morphological perspective.
- Periphrastically expressed predicates, exemplified by inflectional paradigms in the Permian language Votyak (Udmurt) should be:¹
 - (i) interpreted as *lexical constructions* (see Ackerman & Webelhuth 1998, Spencer 2000, Dahlstrom 2000, Papakyriacou 2000, Booij to appear)
 - (ii) within an inferential-realizational model of morphology (Stump, to appear), where
 - (iii) the lexicon contains rules of correspondence between content-theoretic and form-theoretic aspects of lexical representations.
- Explore the idea that the assumptions required for morphological phenomena expressed by synthetic exponence within realizational morphological theories can be extended (straightforwardly) to account for periphrastic exponence.
- How can (extended) word & paradigm realizational models of morphology (Anderson 1992, Aronoff 1994, Zwicky 1990, Stump 1993, to appear) be embedded in these lexicalist frameworks? (see Ackerman & Webelhuth 1998, Blevins 2000, Borjars et. al. 1997, Koenig 1999, Orgun 1997, Riehemann 2000, Spencer 2000, Spencer and Sadler 2000, among others.)
- In LFG: How can multi-word realizations of lexical representations contribute relevant information to f-structures, if the information associated with the independent elements are not simply pooled to yield composite f-structures?

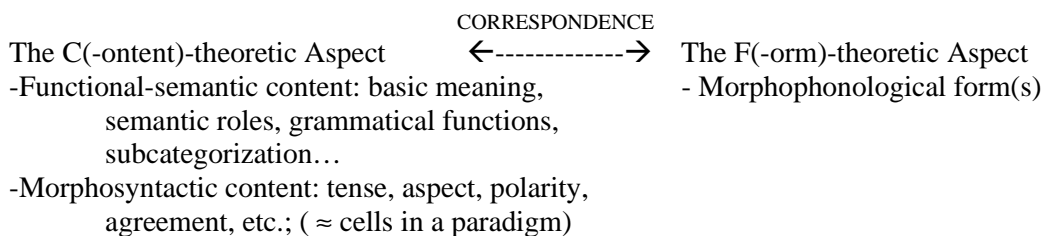
¹ A morphological (and lexical) account of such data represent a refutation of the claim made with respect to Uralic languages in Mitchell 1993:66 that “... a purely lexical account of inflectional morphology is doomed to failure, even if it is capable of explaining the ordering of morphemes: certain aspects of inflectional morphology can only be explained by means of syntactic processes.” The specific syntactic process that Mitchell has in mind is a syntactic blocking mechanism that is hypothesized to account for the distribution of functional information on lexical heads. See Niño 1997 for an LFG treatment of periphrastic negative predicates in Finnish. Ackerman 2000 develops an alternative lexicalist analysis along the lines presented in the present talk.

II. Introductory Issues

1. *Morphology and Lexicalism: A seminal insight and a seminal confusion*

- *Seminal insight of the realizational literature*: representations of LEXEMIC and morphosyntactic information are independent of their surface exponence (= *morphosyntactic or grammatical word* and its formal exponence).²
- Goal: establish the principles of correspondence between the grammatical word and its formal exponence.

Information types associated with lexical representations of predicates:



- *Seminal confusion in the lexicalist literature* - Lexical Integrity as a conflation of two notions (Bresnan & Mchombo 1995, Ackerman & LeSourd 1997, Ackerman & Webelhuth 1998):

Morphological Integrity:

Syntactic mechanisms neither make reference to the daughters of morphological words nor can they create new morphological words in constituent structure.

Morphological Expression:

Lexical entries (lexical representations) are only realized by synthetic word forms, not multiple syntactically independent elements.³

2. *General Hypothesis: Syntax as morphological exponence*

- Some independent and co-occurring syntactic pieces are simply exponents or realizations of the lexemic and morphosyntactic information associated with the contentive aspect of lexical representations.
- The information jointly associated with some independent syntactic pieces is not the result of composition operations applying when these elements co-occur in constituent structure, but such information is associated with the relevant forms in the lexical component. (see epigram)
- Syntactic principles of constituency and linearity determine the distribution of these elements.

² See Beard 1995 Chapter 1 for a brief history of this view and Matthews 1993 for an extended comparison of this view with predominant structuralist (including standard generativist) assumptions.

³ Of course, I am excluding true idioms from this characterization.

3. *An example of syntax as morphological exponence in nominals*: dual declension of nominals for local case relations in Tundra Nenets uses an appropriately case inflected postposition *nya-* ‘at’. (following Salminen 1997 & p.c.)

| ti ‘reindeer’ | Singular | Dual | Plural |
|--------------------|---------------------|---|----------------------|
| Grammatical Case: | | | |
| nominative | ti | tex ^o h | tiq |
| accusative | tim | tex ^o h | tí |
| genitive | tih | tex ^o h | tíq |
| Local Case: | | | |
| dative | ten ^o h | [tex ^o h <i>nyah</i>] _{pp} | tex ^o q |
| locative | tex ^o na | [tex ^o h <i>nyana</i>] _{pp} | tex ^o qna |
| ablative | texød ^o | [tex ^o h <i>nyad</i>] _{pp} | texøt ^o |
| prosecutive | tew ^o na | [tex ^o h <i>nyamna</i>] _{pp} | teqm ^o |

Table 1

- Morphosyntactic properties for Tundra Nenets nominal lexemes: NUMBER, CASE
 - A nominal lexeme L with feature values [NUMBER: dual], [CASE: <α:set of local cases>] has the exponence genitive stem form of L + αcase form of *nya*.
 - the exponence shows the syntactic distribution and behavior of postpositional phrases.
4. *Hypothesis of syntax as morphological exponence for predicates*
- Some independent syntactic and co-occurring pieces are simply exponents of lexical representations for (complex) predicates, just as occurs with the synthetic expression of predicates.
5. What sorts of criteria may be useful in determining which syntactic expressions are morphological?
- *Family of Constructional Effects* – Contentive information (i.e., lexical and morphosyntactic) associated with the predicate is not a straightforward product of information from formal pieces (unless large degree of homophony, synonymy, or covert categories is permitted).
 - *Family of Paradigm Effects* – Access to morphosyntactic cell information is crucial for insightful analysis. Morphosyntactic information distinctions found in one paradigm are introduced throughout a related paradigm. Paradigmatic features relevant to synthetic expression are also relevant to periphrastic expression: this is what it means to claim that periphrastic forms participate in morphological paradigms.

II. Paradigms for predicates: Morphosyntax and exponence in the Permian language Votyak (Udmurt) - Word Order: SUBJ OBJ PREDICATE; [(NEG) V (COP)_{predicate}]

6. What are the morphosyntactic paradigm categories for verbal lexemes in Votyak?⁴

- {[PERSON: 1, 2, 3], [NUMBER: sg, pl], [TENSE: present, continuative past, future, imperfective past, 1st past, 2nd past (=perfect), ...], [MOOD: indicative, imperative, narrative (=inferential)..], [POLARITY: affirmative, negative]} - (following Suihkonen 1996)

7. Diachronic development of person/number marking for negative polarity:

➤ Reconstructed paradigms for affirmative (Serebrennikov 1963:235⁵) and negative (Serebrennikov 1963:287) present tense of Proto-Permian *mγnγ* - 'go':

7A. [POL:aff], [TNS:present]:

[POL:neg], [TNS:present]:

SG.1. *mγnam* 'I am going'
 2. *mγnad*
 3. *myna*

SG.1. *om mγnγ*⁶ 'I am not going'
 2. *ot mγnγ*
 3. *ok mγnγ*

PL.1. *mγnamī*
 2. *mγnadī*
 3. *mγnazi*

PL.1. *om mγnγ*
 2. *ot mγnγ*
 3. *ok mγnγ*

- Distinctive marking for person & number in affirmative present tense.
- Only person distinctions in negative present tense.
- Invariant connegative forms.⁷

⁴ Suihkonen 1995:298 writes: "The categories occurring in verbal conjugation are person, tense, mood, negation..." This is a restatement of the relevant categories for verbal paradigms found in Suihkonen 190:95.

⁵ *γ* is a diacritic used by Serebrennikov to indicate variable quality for a vowel.

⁶ The paradigms will reveal a large amount of syncretism in the actual forms used to express morphosyntactic features, but I will ignore for the most part the actual realizational rules and associated systematicities of form, focusing simply on synthetic versus periphrastic expression. I assume that something on the order of *rules of referral* need to be formulated here (see Zwicky 1990, Stump 1993, to appear).

⁷ Invariance of the connegative (with respect to number in the present tense) still exists in numerous Finnic languages, e.g., Finnish *en lue* 'I'm not reading.' & *emme lue* 'We're not reading.' (see Serebrennikov 1964:140).

- Paradigms of 1st conjugation predicates exemplified by *mīnī* ‘go’ in Votyak: (following Csucs 1998:290, but see Csucs 1990:51 and Serebrennikov 1963 for alternative transcriptions)⁸

7B. [POL:aff], [TNS:present]:

[POL:neg], [TNS:present]:

| | | | |
|--|--------------|--------------------------------------|------------------|
| SG.1. <i>mīniš^jko⁹</i> | ‘I am going’ | SG.1. <i>ug mīniš^jkī</i> | ‘I am not going’ |
| 2. <i>mīniš^jko^d</i> | | 2. <i>ud mīniš^jkī</i> | |
| 3. <i>mīne</i> | | 3. <i>ug mīnī</i> | |
| PL.1. <i>mīniš^jkom(i)</i> | | PL. 1. <i>um mīniš^jke</i> | |
| 2. <i>mīniš^jko^di</i> | | 2. <i>ud mīniš^jke</i> | |
| 3. <i>mīno</i> | | 3. <i>ug mīno</i> | |

- Distinctions between person & number in affirmative present tense (as in P-Permian)
- Person & number marking in negative present tense with number reflected in connegative forms (different from P-Permian)
- Syncretism among forms for person in negative present tense, i.e., *ug* = 1st sg. & 3rd.
- (Word stress on initial syllable in connegative form, but on final syllable in affirmative form. (see below))

8. Some Paradigm Effects:

- Introduction of person/number distinction for SUBJ agreement over the pieces of the periphrastic negative predicate (7B), yielding the person/number distinction for SUBJ agreement reflected in synthetic expressions of predicates, i.e., the periphrastic expression realizes the same morphosyntactic distinctions as synthetic expressions.
- Preservation of certain aspects of stem form across polarity in (7B), i.e., *-š^jk* for 1st and 2nd person, *mīn-* for 3rd person, and *mīno* for 3rd plural.

9. Constructional Effect:

- Form *ug* in (7B) is not determinate for person (except -2nd) and *mīniš^jkī* while determinate for singular number is not determinate for person (except -3rd);
 - the construction *ug mīniš^jkī* is realization of the morphosyntactic feature set {[POL:neg], [TNS:present], [PERS:1ST], [NUM: sg]}, where its distinctiveness is defined relative to realizations of others cells in the paradigm.
- A verbal lexeme L with feature values [POL:aff], [TNS:present], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has synthetic exponence.
- A verbal lexeme L with feature values [POL:neg], [TNS:present], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has periphrastic exponence.

⁸ Following Csucs 1998 underlining in the examples indicates primary stress, when this occurs in initial syllables. There is a striking amount of syncretism among the form within these paradigms much of which will be ignored for present purposes.

⁹ *-o* in these forms is reconstructed as a reflex of the original present tense marker *-a* evident in the proto-Permian forms in 7A and still extant for the 1st and 2nd persons in the closely related language Komi. Serebrennikov 1964:92 suggests that *-š^jk* in 1st and 2nd person is a secondary present tense marker derived from the Uralic frequentative marker. Thus, synchronically, there are two present tense markers in the forms for 1st and 2nd person.

10. Future tense: Reinterpretation of Proto-Permian present as future

C. [POL:aff], [TNS: future]:

SG.1. **mīno** 'I will go'
 2. mīnod
 3. **mīnoz**

PL.1 mīnom(i)
 2. mīnodī
 3. mīnozī

[POL:neg], [TNS: future]:

SG.1. **ug mīnī** 'I will not go'
 2. ud mīnī
 3. **uz mīnī**

PL.1 um mīne(*le*)
 2. ud mīne(*le*)
 3. uz mīne(*le*)

11. Paradigm Effect:

- Regularization of person marking distinction within negative future, reflecting regular distinctions in affirmative paradigms.
 - Distinctive person marking on negative verb and number marking on connegative form yields distinctive person/number for SUBJ predicate agreement over the pieces of periphrastic predicate, making it resemble more clearly the distinctive marking for person/number in affirmative paradigms with synthetic expression.
- A verbal lexeme L with feature values [POL:aff], [TNS:future], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has synthetic exponence.
- A verbal lexeme L with feature values [POL:neg], [TNS:future], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has periphrastic exponence.

12. Imperatives: All of the connegative forms in the preceding negative paradigms have initial syllable stress, despite the fact that only certain forms are segmentally identical to imperatives.

D. [POL:aff], [MOOD: imperative]:

SG.2. mīn(i)
 3. mēd mīnoz

PL.2 mīne(*le*)
 3. mēd mīnozī

[POL:aff], [MOOD: imperative]:

SG.2. en mīnī
 3. medaz mīnī

PL.2 en mīne(*le*)
 3. medaz mīne(*le*)

- Negative future has same singular and plural forms as imperative 2nd singular and plural forms and,
- same syllable initial stress.
- Negative present has only same 3rd singular form as imperative 2nd singular but,
- negative present, as well as all other connegative forms for all paradigms, exhibits syllable initial stress on connegative form as in imperatives.
- Thus, the stress pattern associated with imperatives (and otherwise not associated with verb forms) is characteristic of connegative forms when there is periphrastic exponence for [POL:neg].

13. *Compound tenses* consist of forms from either the present or future and an invariant 1st past form of the copula or an invariant perfect form of the copula (narrative or inferential):

“These compound forms express a protracted or repeated activity occurring in the past or distant past.” – Csucs 1990:51

14. Continuitive past tense: combination of form from present tense paradigm and invariant 1st past form of copula:¹⁰

“In Permian, Mari, and Morvadin there is an emphatic protracted past tense. It is used in those situations, when the speaker wants to especially pick out and emphasize some sort of protracted activity being accomplished in the past.” Serebrennikov 1964:114.

E. [POL:aff], [TNS: cont. past]:

[POL:neg], [TNS: cont. past]:

| | |
|---|---|
| SG.1. mīniš^jko val `I was going' | SG.1. ug mīniš^jkī val `I wasn't going' |
| 2. mīniš ^j ko <u>d</u> val | 2. ud mīniš ^j kī val |
| 3. mīne val `s/he was going' | 3. ug mīnī val `s/he wasn't going' |
| PL.1. mīniš ^j ko <u>m(i)</u> val | PL. 1. um mīniš ^j ke val |
| 2. mīniš ^j ko <u>dī</u> val | 2. ud mīniš ^j ke val |
| 3. mīno val | 3. ug mīno val |

15. Paradigm effect:

- The full set of forms from present tense paradigm is used in the continuitive past tense paradigm for the indication of person/number.

¹⁰ Although the actual interpretation of this feature set is still unclear to me, I follow the characterization of Serebrennikov 1963:271 and 1960:126 in terms of his analogy of this tense, which he refers to as *dlitelnoe vreme* ‘protracted time’, with the use of the Russian particle *byvalo* ‘it happened’. He suggests that it has uses analogous to the English past continuous and provides analogues with Finnish progressive constructions consisting of a present or past copula inflected for person & number and a 3rd infinitival inessive form of the verb, e.g., *olen/olin kirjoittamassa* ‘I am/was writing.’ (Serebrennikov 1964:115). He also observes that this tense finds a parallel in the verbal paradigm of the related language Mordvin, where it is realized synthetically in contrast to its periphrastic exponence in Votyak: descriptions of this tense feature in Mordvin sometimes translate it as a past habitual (see Keresztés 1990:41). It is worth noting in the present context, i.e., where a present form of the verb co-occurs with a past form yielding a periphrastic expression in Votyak, that the synthetic expression in Mordvin consists of a present active participle and the suffixed remainder of the past form of the copula inflected for person and number, the two elements synchronically forming a single synthetic wordform. (Serebrennikov 1964:115) See also Suihkonen 1995:302 where this tense in Votyak is designated Continuitive Past. These observations might suggest that what is called the present tense is better analyzed as progressive aspect: thus such forms co-occurring with a past copular form might compositionally yield past progressive. On the other hand, his would yield a tense system containing a future (see below), but no present. In addition, a progressive construal would be hard to reconcile when this paradigm is used for statives (i) or non-progressive uses of activity verbs:

| | | | | |
|-------------------------------------|---------------|------------------------|--------------|----------------|
| (i) Todmatskemmīli | šumpotiško. | (ii) Udmurt | śamen | veraškiškod-a? |
| acquaintance-DAT-1PL/POSS | glad-1SG/PRES | udmurt | according to | speak-2SG-Q |
| `I'm glad we've become acquainted.' | | `Do you speak Udmurt?' | | |
| (Csucs 1990:70) | | (Csucs 1990:68) | | |

16. Constructional effect:

- The present tense form cannot bear the feature [TNS:present], since the whole construction is past.
- A verbal lexeme L with feature values [POL:aff], [TNS: cont. past], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has periphrastic exponence.
- A verbal lexeme L with feature values [POL:neg], [TNS: cont. past], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has periphrastic exponence

17. Imperfective past: combination of form from future tense paradigm and invariant past form of copula.¹¹

F. [POL:aff], [TNS: imp. past]:

[POL:neg], [TNS: imp. past]:

| | | | | | | | |
|-------|--------------|------------|-----------------------------------|-------|----------------------|------------|--|
| SG.1. | mīno | val | | SG.1. | ug mīnī | val | |
| 2. | mīnod | val | | 2. | ud mīnī | val | |
| 3. | mīnoz | val | 's/he used to go (long time ago)' | 3. | uz mīnī | val | 's/he didn't used to go (long time ago)' |
| PL.1 | mīnom(i) | val | | PL.1 | um mīne(<i>le</i>) | val | |
| 2. | mīnodī | val | | 2. | ud mīne(<i>le</i>) | val | |
| 3. | mīnozī | val | | 3. | uz mīne(<i>le</i>) | val | |

18. Paradigm effect:

- The full set of forms from future tense paradigm is used in the imperfective past tense paradigm for the indication of person/number.

19. Constructional effect:

- The future tense form cannot bear the feature [TNS:future], since the whole construction is past.
- Neither of the forms in the construction are associated with a habitual sense or 'long ago', independent of this construction.
- Neither of the forms in the continuative past (=14) are associated with 'recent past' relative to distant past associated with imperfective past.

¹¹ The semantics of this tense too requires further investigation: Suihkonen 1995:302 designates it as "iterative". The difference between the continuative past (= 14) and the imperfective past (=17) appears to be the relative time in the past when a protracted or repeated event occurred, specifically, relatively recently (and not necessarily repeated) with the continuative and a long time ago with the imperfective. If something like this is correct, then the relative times would have to be keyed to the inflecting verbs, since the copulas are invariant in both constructions. This suggests that both present and future might be best interpreted as indicating reference points relative to an established time: when the default is the so-called "present" there is no overt marker and the present form indicates greater closeness to the present than the "future". When a past time is established by the presence of the copula, then the "present" form indicates greater closeness to a time in the past, while the "future" indicates greater distance from that time. This speculative hypothesis needs further examination.

- A verbal lexeme L with feature values [POL:aff], [TNS: imp. past], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has periphrastic exponence.
- A verbal lexeme L with feature values [POL:neg], [TNS: imp. past], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has periphrastic exponence.

20. Challenge posed by syncretistic forms:

- Since e.g., *mīno* is segmentally 3rd PL PRESENT and CONTINUITIVE PAST AFFIRMATIVE and NEGATIVE as well as, and
- 1st SG FUTURE and imperfective past, and
- Suprasegmentally patterns with imperatives,
- what is the empirically verifiable morphemic composition of this form?

21. Continuative past tense narrative (inferential/non-witnessed): combination of form from present tense paradigm and invariant 2nd past (=perfect) form of copula:¹²

G. [POL:aff], [TNS: cont. past], [MOOD: narr]: [POL:neg], [TNS: cont. past] [MOOD: narr]:

| | | | | | |
|-------|--|--------------------------------|--------|-------------------------------|----------------------------------|
| SG.1. | mīniš^jko | vīlem | SG.1. | ug mīniš^jkī | vīlem |
| 2. | mīniš ^j ko _d | vīlem | 2. | ud mīniš ^j kī | vīlem |
| 3. | mīne | vīlem | 3. | ug mīnī | vīlem |
| | | ‘s/he was going’ (they say) | | | ‘s/he wasn’t going’(they say) |
| PL.1. | mīniš ^j ko _m (ī) | vīlem | PL. 1. | um mīniš ^j ke | vīlem |
| 2. | mīniš ^j ko _d ī | vīlem | 2. | ud mīniš ^j ke | vīlem |
| 3. | mīno | vīlem | 3. | ug mīno | vīlem |

22. Paradigm effect:

- The present tense form cannot bear the feature [TNS:present], since the whole construction is past. (= same as for 14)
- Perfect form associated with narrative mood for verbal lexeme, irrespective of periphrastic or synthetic expression (see below).

23. Constructional effect: same as for (10).

- A verbal lexeme L with feature values [POL:aff], [TNS:present], [MOOD:narr], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has periphrastic exponence.
- A verbal lexeme L with feature values [POL:neg], [TNS:present], [MOOD:narr], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has periphrastic exponence.

¹² In general the relation between compound tense meanings and the forms used to convey them would seem to raise questions concerning analyses in which co-occurring elements in syntax compositionally combine their information. Questions are raised concerning the morphosyntactic features associated with words, their semantic interpretation, and the semantic interpretation of whole feature set combinations. (See Haliday and Hasan 1976:186 for interesting data from English.)

24. 2nd past tense (= perfect): perfect participle optionally inflected for person/number with markers from possessive paradigm and both affirmative and negative expressed synthetically.
13

H. [POL:aff], [TNS: 2nd past], [MOOD:narrative]: [POL:neg], [TNS: 2nd past], [MOOD:narrative]

| | | | | | |
|-------|---|------------------------|-------|------------------------------|-----------------------------|
| SG.1. | mīniš ^j kem | | SG.1. | mīniš ^j kimte(je) | |
| 2. | mīnem(ed) | | 2. | mīnimtejed | |
| 3. | mīnem(ez) | ‘s/he went (they say)’ | 3. | mīnimte(jez) | ‘s/he didn’t go (they say)’ |
| PL.1 | mīniš ^j kemmī | | PL.1. | mīniš ^j kimtemī | |
| 2. | mīnil ^l am(dī) ¹⁴ | | 2. | mīnil ^l amte(dī) | |
| 3. | minil ^l am(zī) | | 3. | mīnil ^l amte(zī) | |

25. Paradigm effects:

- 1st person stem in both affirmative and negative is *mīniš^jk-*, similar to present tense stem.
 - Since the perfect participle is interpreted as a finite predicate, it participates in a SUBJ/PREDICATE agreement paradigm, as do all predicates.¹⁵
- A verbal lexeme L with feature values [POL:aff], [TNS: 2nd past], [MOOD:narrative], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has synthetic exponence.
- A verbal lexeme L with feature values [POL:neg], [TNS: 2nd past], [MOOD:narrative], [PERS: <α:set of persons>], [NUM: <β:set of numbers>] has synthetic exponence.

IV. Conclusions

- Formal exponence, ie., spell-outs, whether synthetic or periphrastic, appear to be keyed to morphosyntactic feature sets defining particular paradigms.

¹³ There is an alternative periphrastic expression of this past and polarity combination which will be ignored here. Synthetic expression is claimed to occur in the literary language and to derive from southern dialects, while periphrastic expression is associated with northern dialects. (see Tepljašina & Lytkin 1976:180.)

¹⁴ According to Serebrennikov 1963:264, the stem forms in the 2nd and 3rd plural represent innovations containing a presumptive distributive aspect marker *-il^la* suffixed to the root *mīn-*: the 2nd and 3rd original plural forms resembled the 2nd and 3rd singulars and were *mīnem(ed)* and *mīnem(zī)*, respectively. The original pattern of verbal root + perfect marker + possessive marker exists for all person/number combinations in the language most closely related to Votyak, namely, Komi (see Rédei 1978:81). In western Uralic the perfect is generally realized analytically by means of a past participle and present tense form of the copula inflected for person/number, while in eastern Uralic (as above) there is synthetic realization using a perfect participle inflected for person/number.

¹⁵ The fact that markers from the possessive paradigm are used for subject/predicate agreement, in this tense presumably reflects the status of the perfective forms as adjectives and nominals: this categorial status also explains why it is possible to have synthetic negative variants with the suffix *-mte* which otherwise combine with both infinitives and perfect participles functioning as adjectives.

- When the predicates of Votyak are analyzed as *lexical constructions*, i.e., as lexical representations in which paradigmatically contrasting morphosyntactic feature sets have specific realizations, then,
- Periphrastic syntactic expression appears to be a type of morphological exponence.

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