Variability of languages in time and space - IV

Linguistic Typology – Phonology and Morphology

Anja Nedoluzhko
Vowels

- stress
- length
- tones
Vowels – length

Vowel length

**Estonian**

saada /saːta/ – ‘to get’

saada /sa·ta/ – ‘send!’

sada /sata/ – ‘hundred’

**Czech**

šipka – ‘arrow’

šípka – ‘rosehip’ (Gen, SG)

Arabic, Sanskrit, Japanese, Hebrew, Finnish, Hungarian, Kannada, Italian, etc.
Vowels – tones

tones:

/kʰáá/ - ‘to trade’
/kʰ āā/ - ‘to get stuck’
/kàà/ - ‘galangal’
/káá/ - ‘leg’
/káā/ - ‘leg’

Thai

Neoštokavian idiom used for the basis of standard Bosnian, Croatian and Serbian

Pitch accent:
short falling ⟨i⟩,
short rising ⟨i⟩;
long falling ⟨î⟩
long rising ⟨í⟩

ne znam = /něznām/ - ‘I don’t know’;

Lithuanian, Latvian

"acute" or "circumflex"

Baltic

F R
/ \ / \ / \ / \ / F / \ /
/ / / F /
/ / / L B F
Lith. Latvian

F - falling (acute)
R - rising (circumflex)
L - level
B - broken
Tones in languages
### Serbian – Russian Accents and Tones

<table>
<thead>
<tr>
<th>Serbian</th>
<th>Russian</th>
</tr>
</thead>
<tbody>
<tr>
<td>говори́ти [govoriti] ‘speak’</td>
<td>бесповоро́тно [bespovorotno] ‘irreversibly’</td>
</tr>
<tr>
<td>мухоловка [mucholovka] ‘flytrap’</td>
<td>мороз [moroz] ‘frost’</td>
</tr>
<tr>
<td>мёд [mjed] ‘honey’</td>
<td>кроткий [krotkij] ‘gentle’</td>
</tr>
<tr>
<td>брод [brod] ‘ford’</td>
<td>седоборо́дый [sedoborodyj] ‘grey-bearded’</td>
</tr>
<tr>
<td>брода [broda] ‘ford’, GSG</td>
<td>безумный [bezumnyj] ‘mad’</td>
</tr>
<tr>
<td>борода [boroda] ‘beard’</td>
<td>волчица [volčica] ‘she-wolf’</td>
</tr>
<tr>
<td>боров [borov] ‘hog’</td>
<td>блоха [blocha] ‘flea’</td>
</tr>
<tr>
<td>красо́та [krasota] ‘beauty’</td>
<td>толстый [tolstij] ‘fat’</td>
</tr>
<tr>
<td>блáто</td>
<td>волокно [volokno] ‘fibre’</td>
</tr>
<tr>
<td>злáто</td>
<td>слáбый [slabyj] ‘weak’</td>
</tr>
<tr>
<td>золото [zoloto] ‘gold’</td>
<td></td>
</tr>
</tbody>
</table>


2. Translate from Serbian into Russian:

<table>
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<tr>
<td>врёна</td>
<td>вё́дро</td>
</tr>
<tr>
<td>нёбо</td>
<td>вё́дро</td>
</tr>
<tr>
<td>зёмка</td>
<td>нё́ски</td>
</tr>
<tr>
<td>обрезати</td>
<td></td>
</tr>
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</table>
Syllable Structure

- **syllable** - well-recognized unit in linguistic analysis which explains quite well the number of rhythmic units that will be perceived in a word or longer utterance. This number is usually equal to the number of vowels in the utterance.

- Easy concept – if listeners differ in syllabifying particular words, it is generally the case that both possible syllabifications can be permitted

  \[ \text{pastry} = \text{past.ry} \text{ or } \text{pas.try} \]
Canonical syllable pattern

• which syllable types are permitted in a language, sequencing of segments within syllables
• $C$ - consonant  $V$ - vowel
Simple syllable structure

only CV

(C)V

it is permitted not to have an initial consonant
Moderately complex syllable structure

(C)V, CVC, CCV

strict limits on what kinds of combinations are permitted: The second of two consonants is commonly limited to being one of a small set belonging to either “liquids” ($r, l$) or “glides” ([w] in en. *wet*)

the only possible second consonant in a sequence of two is /w/

Darai

Nepal

the most elaborate syllable permitted is CCVC

/bwak/ ‘(his) father’
Complex syllable structure

• English - (C)(C)(C)V(C)(C)(C)(C) –

  strengths /stɹɛŋkθs/

  texts /tɛksts/
Distribution in WALS

http://wals.info/feature/12A#2/16.6/153.1
Correlations

• small consonant inventories $\leftrightarrow$ simple syllable structure

• large consonant inventories $\leftrightarrow$ complex syllable structures
Given word in Japan borrowed from English:

redzonansu, oputimisuto, pen, endzin, medo in dz’apan, janki, noto-bukku, cupu, n’ujoku-tajmudzu, sekus’on, mota, dokuta, dzigudzagu, tikketto, indakus’on, s’okku, s’oppu, burokku, baransu, uisuki, majru, ojru, surogan, rajburari, ibuningu, bandaridzumu, intab’u, pasento, massadzi, ba, suta, atorakus’on, oba-koto, supido, dz’anaridzumu

1. Find their English equivalents.
2. Translate to Japan:

   elevator, seal, yard, bolt, cook, trust, crane, knob, viktor, clerk, lucky, colour, supper, error

Note: dz – a single phoneme [dz], like c [ts] in Czech
MORPHOLOGY
Typology in Morphology

1. How grammatical meanings are built in languages (partly connected to word formation) – *structural typology*

2. Which grammatical meanings are possible, and which realizations they have in different languages – *typology of grammatical categories and meanings*
Structural typology

How morphemes in a word are connected to each other?
Agglutinating morphology

A word may consist of more than one morpheme, but the boundaries between morphemes in the word are always clear-cut.

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<td>adamlar-da</td>
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Turkish, Indonesian, Eskimo, Hungarian, Japanese, Basque...

Turkish: adam ‘man’
Fusional morphology
(flective, inflective)

no clear-cut boundary between morphemes, alternations, restrictions to morpheme combinations

the expression of different categories within the same word is fused together to give a single unsegmentable morph

ruk-a ‘hand’

ruč-ní ‘hand’ (adj.)

ruč-e ‘hand’
(N.Pl, Lok&Dat. Sg)

prátel-é
‘friends’

politick-i
‘politicians’

vítěz-ové
‘winners’

Nom+Plural

Marie sp - í
‘Mary’ ‘sleep’ – 3.pers.+SG+present
‘Mary is sleeping.’
Agglutinating: combining lexical morphemes together into a single word has no morphology, one-to-one correspondence between words and morphemes.

Isolating (incorporating): grammatical meanings are expressed with function words.

Analytical
Isolating morphology

• has no morphology (ideally), one-to-one correspondence between words and morphemes
  • each morpheme is a separate word
  • many compound words
  • very important word order

When I come to my friend’s house, we began to do lessons.

English: sweemcoat,
Germain: Heimweg
Isolating morphology

Classical Chinese

<table>
<thead>
<tr>
<th>明天</th>
<th>我</th>
<th>的</th>
<th>朋友</th>
<th>會</th>
<th>爲</th>
<th>我</th>
<th>做</th>
<th>一</th>
<th>個</th>
<th>生日</th>
<th>蛋糕</th>
</tr>
</thead>
<tbody>
<tr>
<td>míngtiān</td>
<td>wǒ</td>
<td>de</td>
<td>péngyou</td>
<td>huì</td>
<td>wèi</td>
<td>wǒ</td>
<td>zuò</td>
<td>yī</td>
<td>ge</td>
<td>shēngrì</td>
<td>dàn'gāo</td>
</tr>
</tbody>
</table>

| tomorrow  | I  | the  | friend  | will¹  | for  | I  | make  | one  | count.word  | birthday²  | cake  |

*Tomorrow my friend (my friends) will make me a birthday cake.*
Isolating morphology – Analytical

• Most grammatical meanings are expressed with function words
• To convey their meaning analytic languages rely on the use of definite and indefinite articles, strict word order, various prepositions, particles and modifiers.

*en. The dog of my father is barking.*

def. Gen. poss. praes. actual

*č. Tatínkův pes štěká.*

also in Polinesian languages: *Thai, Hawaiian, Maori,* ...
Polysynthetic morphology

words are composed of many morphemes that have independent meaning. Polysynthetic languages typically have long "sentence-words"

- noun incorporation
- high morpheme-to-word ratio
- morpheme and word boundaries are not clear cut
- subject sometimes divided but the rest stays very close

Chukchi

`təməyələvtəpəyətərkən`
`tə|meyə|levtə|pəy|ərkən
1.sg -‘big’-‘head’-‘ache’-IMPF
‘I have a fierce headache’

Yupik

tuntussuqatarniksaitengqiggtuq

‘He had not yet said again that he was going to hunt reindeer.’

Paleosiberian languages
Polysynthetic morphology

*Aliikusersuillammassuaanerartassagaluarpaalli.*

aliiku-sersu-i-llammas-sua-a-nerar-ta-ssa-galuar-paal-li

entertainment-provide-SEMITRANS-one.good.at-COP-say.that-

REP-FUT-sure.but-3.PL.SUBJ/3SG.OBJ-but

'However, they will say that he is a great entertainer, but ...'
Structural typology -- Languages

• Languages differ in how they form grammatical forms
• Languages have tendencies to some structures (but not exclusively one)
• Finding and correlations according to language types
Finding and Correlations

- agglutinative languages – long words: why?
- fusional (in/flective languages) – short words: why?
- isolating – very short words and many compounds
- analytical – also very short words but less compounds
Finding and Correlations

no geographical and genealogical dependency

Polysynthetic morphology
Comfortable or Uncomfortable?

- principle of compensation
- agglutination – easy to combine affixes, easy rules, no alternation BUT long and fragile word, wage word boundaries, weak boundaries [bayan ve bay]lar
- fusional (inflected) languages – “strong” words, word boundaries are very clear, words are shorter, easy to remember BUT many alternations, many morphemes for the same meaning
- isolating – no alternations, no long words BUT few words/roots, → one word has many meanings (lexical and grammatical + word formation). → instead of learning grammar, one has to learn the whole dictionary
- Polysynthetic (incorporating) – good for thought, but hard to interpret
I’ve probably written
You\_sg have probably written
He has probably written
You\_pl have probably written
(he) writes
(they) write

Translate:
into Turkish: scribo, They have probably written
into Latin: (he) writes, yazarsınız
into English: scribitis, yazmışlar

çaşışirim — laboro
çaşışır — laborat
çaşışirsin — laboras
çaşışırlar — laborant
çaşışirsınız — laboratis
çaşışarin — scribis
Fusional morphology

• Too many categories
• Recent research has shown that such a scale conflates many different typological variables and incorrectly assumes that these parameters co-vary universally (Plank 1999, Bickel and Nichols 2005).
• In WALS, divided into fusion, exponence and flectivity (allomorphy, inflectional classes)
Fusion in morphology - isolating

• **Isolating** formatives are full-fledged phonological words of their own.

**Fijian**

\[ Au\ aa\ soli-a\ a=niu\ vei\ ira. \]

1SG PST give-TR ART=coconut to 3PL

‘I gave the coconut to them.’

*Other regions:*

- Sahel Belt of West Africa
- Southeast Asia and the Pacific
- outliers in southern Africa (Khoekhoe), Australia (Gooniyandi), and the Americas (several instances).
Fusion in morphology - concatenative

• phonologically bound.
• need some other host word for their pronunciation and form one single phonological word together with that host

effects:
• usually, concatenative formatives cannot be individually stressed
• combination of formative and host undergoes various phonological adjustments

!!! Once the phonological alternations are properly analyzed, strings of concatenative formatives can be segmented into clear-cut morphemes.
Agglutinating morphology

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**Turkish**  
adam ‘man’

**BUT** kediler ‘cats’

Past tense formative -ti:
- unrounded front vowels and a voiceless final consonant (e.g. git-ti ‘go-past’)
- vowels and a voiceless final consonant (e.g. yap-ti ‘do-past’)
- -di after a stem with unrounded front vowels and a voiced final consonant (e.g. gel-di ‘come-past’)
Fusional morphology
(flective, inflective)

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the expression of different categories within the same word is fused together to give a single unsegmentable morph

ruk-a ‘hand’

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ruče ‘hand’ (N.Pl, Lok&Dat. Sg)

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politická ‘politicians’

vítěz-ové ‘winners’

Marie spí ‘Mary’ ‘sleep’ – 3.pers.+SG+present
‘Mary is sleeping.’
Fusion in morphology - nonlinear

- realized not in linear sequence but by direct modification of their host: ablaut and tonal

**Modern Hebrew**

<table>
<thead>
<tr>
<th>a. Šamar-ti</th>
<th>b. Že-šmor</th>
</tr>
</thead>
<tbody>
<tr>
<td>guard.PST–1SG.PST</td>
<td>1SG.FUT–guard.FUT</td>
</tr>
<tr>
<td>‘I guarded’</td>
<td>‘I will guard’</td>
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</table>

**Kisi**

<table>
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<td>‘She (usually) leaves.’</td>
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</tbody>
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<table>
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<th>b. Ő cimbû.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3SG leave.PST.PFV</td>
</tr>
<tr>
<td>‘She left.’</td>
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The past vs. future is expressed by

(i) the choice of a stem template (e.g. CaCVC in the past, CCVC in the future)

(ii) the choice of agreement affixes (entirely suffixes in the past, mostly prefixes in the future)

tense-aspect opposition are expressed by tone alone
Fusion of Selected Inflectional Formatives

Exclusively concatenative: 125
Exclusively isolating: 16
Exclusively tonal: 3
Tonal/isolating: 1
Tonal/concatenative: 2
Ablaut/concatenative: 5
Isolating/concatenative: 13
Exponence of Selected Inflectional Formatives

- Monoexponential case: 71
- Case + number: 8
- Case + referentiality: 6
- Case + TAM: 2
- No case: 75