Tundra Nenets

- Samoyed group, Finno-Ugrian (Uralic) family. ~ 25K speakers.
- Typologically synthetic, mostly agglutinative.
- Exclusively suffixing language, no non-concatenative processes
- Dominant morphological techniques: suffixation and final vowel modification
Phonology

- Purely phonological (independent of morphology) processes:

- Sandhi (assimilation). Some examples:
  - postvocalic obstruent weakening
    - $p$ $p$ $y$ $t$ $t$ $y$ $y$ --> $b$ $b$ $y$ $d$ $d$ $y$ $y$ / $V$ $\_\_$, e.g. ya 'earth' : poss.
      nom.sg3sg *yada* (cf. *yam* 'sea': *yamta*, yar 'side': *yarta*);
  - preobstruental nazalization-
    - $h$ --> $m$ $n$ $n$ $g$ / $\_\_$ C[obstruent], e.g. yah 'soot' : poss.
      nom.sg3sg *yanta* : loc.sg *yangkæna*;

- Vowel Reduction
Morphophonology

Morphophonological processes – unlike ‘sandhi’, restricted to well-defined morphological environments:

- highly phonological:
  - Assimilation
  - Epenthesis
  - Truncation

- morphophonological modification

- lexically triggered processes:
  - (de)palatalization
  - alternations.
Morphophonological assimilation:

- Example: “neutralization”
- /m/ -> [w] / V_V
- ngum “grass”

<table>
<thead>
<tr>
<th>Case</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>abs nom pl</td>
<td>nguWep</td>
</tr>
<tr>
<td>abs acc pl</td>
<td>nguWo</td>
</tr>
<tr>
<td>cf. abs dat sg</td>
<td>nguMtēh</td>
</tr>
</tbody>
</table>
Truncation

Nenets only allows one consonant at the end of the syllable

- *ngøm- 'to eat' : nec. subj.3sg *ngømcu
- cf. *pya- 'to begin' : *pyabcu
- but *ngombcu
Morphophonological modifications.

- Certain stem types and suffixes (e.g. mood suffixes) trigger modifications of the stem or suffix coda:
  - for approximative, change: a -> i
  - xatanaroxa -> xatanaroxi
  - kill to seem to kill
Things that matter:

- Morphological word class
- Stem Types:
  - consonant stem words. Some examples: m-stems, glottal stop stems, q-stems, h-stems
  - final vowel stems (includes glides, makes distinction between monosyllabic and polysyllabic vowel stems)
Verbal inflection

- Conjugation
  - Subjective, objective, reflexive

- Mood
  - 18 moods and submoods

- Tense
  - Aorist (sometimes called indefinite) and preterite
Conjugation

- Subjective (all verbs)
- Objective (all transitive Vs)
- Reflexive (only transitive-reflexive Vs)

Need to consider:
- person
- number (sg, du, pl)
- in the objective conjugation, number of the object.
**Verbal conjugation**

<table>
<thead>
<tr>
<th>Conjugation</th>
<th>Num of obj</th>
<th>Morphological substem</th>
<th>Suffix set</th>
</tr>
</thead>
<tbody>
<tr>
<td>Subjective</td>
<td></td>
<td>General finite stem</td>
<td>I</td>
</tr>
<tr>
<td>Objective</td>
<td>sg</td>
<td></td>
<td>II</td>
</tr>
<tr>
<td></td>
<td>du</td>
<td>Dual obj stem</td>
<td>III</td>
</tr>
<tr>
<td></td>
<td>pl</td>
<td>Special finite stem</td>
<td>IV</td>
</tr>
<tr>
<td>Reflexive</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Example: objective conjugation

- **Person suffixation**

<table>
<thead>
<tr>
<th>Num of obj</th>
<th>Person of Subj</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg</td>
<td></td>
<td>m</td>
<td>r</td>
<td>t</td>
</tr>
<tr>
<td>du-pl</td>
<td></td>
<td>n</td>
<td>t</td>
<td></td>
</tr>
</tbody>
</table>

- **Number suffixation**

<table>
<thead>
<tr>
<th>Num of subj</th>
<th>Person of Subj</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>sg</td>
<td></td>
<td></td>
<td>ø</td>
<td>(y)a</td>
</tr>
<tr>
<td>du</td>
<td></td>
<td></td>
<td>yih</td>
<td></td>
</tr>
<tr>
<td>pl</td>
<td></td>
<td>aq</td>
<td></td>
<td>(y)oh</td>
</tr>
</tbody>
</table>

- Suffixation: /xata/ >> /xatat/ >> /xatata/

- After phonology: [xadada] “he killed it”
And now for some math...

- Each transitive reflexive verb has 900 finite forms: 20 mood and tense combinations * 5 conjugation and number of object combination * 3 persons * 3 numbers
- Each transitive verbs has 720 forms
- Each intransitive verb – 180 forms.
Small paradigm example

This is just the 1st person indicative aorist for a transitive-reflexive yempoq (to get dressed):

<table>
<thead>
<tr>
<th></th>
<th>yempoq- 'to dress'</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Subj</td>
<td>yempoqangadem</td>
<td>I dressed smth</td>
</tr>
<tr>
<td>Obj. sg</td>
<td>yempoqangaw</td>
<td>I dressed it</td>
</tr>
<tr>
<td>Obj du</td>
<td>yempoqangaxynun</td>
<td>I dressed them (du)</td>
</tr>
<tr>
<td>Obj pl</td>
<td>yempoqijone</td>
<td>I dressed them</td>
</tr>
<tr>
<td>Refl</td>
<td>yempoqijowep</td>
<td>I got dressed</td>
</tr>
</tbody>
</table>
Mood

- 18 moods and submoods.
- Indicative, imperative and optative have their own sets of suffixes.
- Other moods form special modal substems (through suffixes and vowel alternations) and use indicative suffixes.
Tense

- Aorist is unmarked
- Single suffix [syø] marks the preterite
  - occurs only with indicative, conjunctive, imperfective probabilitative and narrative moods
## Verbal inflection template

### Stem+Mood+Agr+Tense

<table>
<thead>
<tr>
<th>Stem</th>
<th>Mood</th>
<th>Agr</th>
<th>T</th>
<th>Surface form</th>
<th>Mood</th>
<th>T</th>
<th>Conj</th>
<th>Agr</th>
<th>Gloss</th>
</tr>
</thead>
<tbody>
<tr>
<td>xoni</td>
<td></td>
<td>tôm</td>
<td></td>
<td>xonidəm</td>
<td>ind</td>
<td>aor</td>
<td>subj</td>
<td>1</td>
<td>I sleep</td>
</tr>
<tr>
<td>xoni</td>
<td></td>
<td>tôm</td>
<td>syø</td>
<td>xonidəmcyəə</td>
<td>ind</td>
<td>pret</td>
<td>subj</td>
<td>1</td>
<td>I slept</td>
</tr>
<tr>
<td>xoni</td>
<td>yovi</td>
<td>tôm</td>
<td>syø</td>
<td>xonyoyidəmcyəə</td>
<td>conj</td>
<td>pret</td>
<td>subj</td>
<td>1</td>
<td>I would sleep</td>
</tr>
<tr>
<td>xoni</td>
<td>yoxø</td>
<td>tôm</td>
<td></td>
<td>xonyoxodəm</td>
<td>hort</td>
<td>----</td>
<td>subj</td>
<td>1</td>
<td>Let me sleep</td>
</tr>
</tbody>
</table>
Step-by-step example

Let’s say “you guys seem to kill them”.

Preliminaries:
- Lexical stem: /xata/ ("to kill")
- Word class: [V]
- Special lexical marking – none
- Inflectional features:
  - Mood: imperfective approximative
  - Conjugation: objective
  - Person 2
  - Number pl – both for subj and obj
Steps 1-3: Modal stem formation and mood

1. Add variable suffix [n~ta].
   \{n~t\} -> [n] / V___. OUTPUT: xatana

2. Add the suffix -roxa
   OUTPUT: xatanaroxa

3. For approximative, change: a -> i
   OUTPUT: xatanaroxi
Step 4: conjugation

- This is a transitive verb, so it needs to be in the objective conjugation. Add person suffix and number suffix:
  - OUTPUT: xatanaroxit (2\textsuperscript{nd} person du/pl subj/plural obj)
  - OUTPUT: xatanaroxitaq (2\textsuperscript{nd} person plural subj)
- Underlying phonological representation /xatanaroxitaq/. 
Step 5 and 6: phonotactics

Input: /xatanaroxitaq/

5. Apply consonant sandhi (here, voicing):
   - xadanaroxidaq

6. Apply vowel reduction
   - xadanarəxidaq
References:

- Pyrerka & Tereshchenko 1948 Russko-neneckij slovar'. Moskva: Ogiz-Gis, 1948.