Exploring inexact rhyme in Russian verse

Elise Thorsen (enthorsen@gmail.com)
David J. Birnbaum (djpbitt@gmail.com)
http://poetry.obdurodon.org

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Outline

• Traditions in studying Russian rhyme
• The meaning of “inexact”
• Methods and directions
  – Inexact rhyme ~ non-rhyme
• Challenges

Studies in Russian inexact rhyme

How does the repertoire of possible rhyme pairs grow?

• Viktor Žirmunskij (Rhyme, its history and theory, 1923):
  – The standard for rhyme becomes less exact over time, from exact match of all post-final stressed vowel sounds to just matching single consonant phoneme bounding the final stressed vowel.
• Valeri Brjusov (“On rhyme,” 1923):
  – Standard for rhyme becomes more expansive, including similarities in sounds before final stressed vowel (“deep rhyme”) as well as after (“juicy rhyme”).
• Mixail Gasparov (“Evolution of Russian rhyme,” 1984):
  – The lexicon of Russian rhyme has, nearly from its beginning, contained both phonetically “exact” and “contingent” rhymes, the latter of which is a fairly limited set of structures that are deployed in different ratios in different periods.

Degrees of rhyme

• Paired words end with same sounds
  – (19th-century standard for “exact” rhyme)
• Paired words end with sounds within short substitution edit distance
  – (ubus ~ moju)
• Paired words end with sounds within short edit distance of another kind
  – prosok ~ prosužik
  – goryda ~ mordi (different syllability)
• Paired words have longer edit distance
  – čerdak ~ ţersa
• Paired words have consonance before final stressed vowel
  – skoro m ~ kokrin
• Dissonance
  – Bajner ~ uwer

What can mechanical reading add?

• Better characterize periods of transition
  – Shifts in tendencies (probabilities) over time
  – Rates of expansion in rhyme vocabulary
• Identify rules by which “inexactness” progresses
  – Cultural influences on variation (regional, institutional, foreign [Žirmunskij])
  – Range of consonance (before as well as after final stressed vowel [Brjusov])
  – Phonetic changes sound “close enough”, while still enriching vocabulary or texture of poem (distinctive feature decomposition)

Methodology

• Phonetic rendering
  1. Dictionary to find place of stress
  2. Rules-based rendering from orthographic to broad phonetic representation
• Heuristic for rhyme detection and analysis
  1. Exact string match
  2. Extrapolation of rhyme scheme from exact matches
  3. Extrapolation of non-exact pairs from rhyme scheme
  4. Characterize differences in strings by distinctive features
  5. Build dictionary of pairs, hierarchies of features
Dictionary lookup and stress

- Not all stresses are found (dictionary is incomplete)
- Some stresses are wrong (lexical ambiguity, no linguistic context analysis)

Correct the stress

- Infer ambient meter from unambiguous stresses
- Correct dictionary stresses according to ambient meter

Phonetic rendering

Given orthography and place of stress, a phonetic rendering of each word is created by merger of proclitics and enclitics with the base word, normalizing jot, devoicing final consonants, regressive devoicing of consonant clusters, etc.

Perfect rhyme

Feature matrix (partial)

Imperfect rhyme
Feature matrix

| Segment | Syllable | Stemmed | Amortar | Consonal | Palatalized | Nasal | Voiced | Continuant | Lateral | Rhyme
|---------|----------|---------|---------|----------|------------|-------|--------|------------|---------|-------
| a       | 0        | 1       | 1       | 1        | 1          | 1     | 1      | 1          | 1       | 1     |
| b       | 1        | 0       | 1       | 1        | 1          | 1     | 1      | 1          | 1       | 1     |
| c       | 1        | 1       | 0       | 1        | 1          | 1     | 1      | 1          | 1       | 1     |
| d       | 1        | 1       | 1       | 0        | 1          | 1     | 1      | 1          | 1       | 1     |
| e       | 1        | 1       | 1       | 1        | 0          | 1     | 1      | 1          | 1       | 1     |

- Palatalized N and palatal J differ in only two features: nasal and continuant
- The difference between J and any palatalized consonant can be neutralized

Identifying rhyme scheme

- ABAB ~ ACBC
  - Whether this is imperfect rhyme or non-rhyme may not be a meaningful question without more context
- Ambient rhyme scheme
  - AbAbCdEfFg
- Deviant rhyme scheme
  - AbAbCdEfFg

Exploring inexact rhyme

- Approximate rhyme vs. non-rhyme depends on expectations (context)
- Some distinctive features are neutralized easily without disrupting rhyme
- Hypothesis: There may be variation in what can be neutralized depending on poet, period, and other social features

Challenges

- Identify domain of rhyme
  - Stanza (but not all long verse is stanzaic)
  - Four lines (Sozinova)
  - Maximum known domain for specific poet (Gasparov)
- Heterosyllabic rhyme
  - Majakovskij: gorida / morda
- Dissonance in stressed vowel
  - Cveetaeva: Rajner / umer

Thank you!

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Erin Harrington, and Kyleen Pickering