Regular Sound Change

and the Diachronic Contributions of Isačenko and Jakobson

Presented by Ronald Feldstein

- Regular sound change

- A great discovery of the 19th century

- The principle that we can state a formula and phonetic environment for a given change.

- It will not just apply to a single word or a few words, but across the entire language.

- Often referred to as the Neogrammarian hypothesis, related to the Leipzig school, called "Junggrammatiker" in German.

- E.g. "Grimm's Law"
- 1. Earlier voiceless stops > voiceless fricatives
- a. *p > f* (Cf. Latin *pēs, piscis, pater*; English *foot, fish, father*)
- b. *t > θ* (Cf. Latin *trēs, tenuis;* English *three, thin*
- c. k > h (Cf. Latin *centum, caput, cornū;* English *hundred, head, horn*)
- Regular sound changes apply to all words that fit the formula (with some exceptions only for phonetic environment). Not just to single items. **They are often assumed to apply without exceptions in their phonetic environment.**
- Any exceptions require explanation.

- Here is an example of a specific environment for sound changes:
- E.g. the law for the change of Common Slavic *s>x*
- Only **after** the sounds *r, u, k, i* and **before** a vowel.
- Cf. Latin *ius*, Common Slavic **juxa*, Russian *uxa*

- This can be written: *s>x* / *r, u, k, i* __V

- If this environment is met and the rule works, it can be considered a regular change.

- Linguists recognized that not all forms could be explained by phonetic formulas and started to suggest reasons for sound change rules that did not work.

- Two common explanations were grammatical analogy and ease of articulation.

- E.g. English past tense *dived* has changed to *dove* for some speakers. Not due to sound change, but matches the pattern *drive/drove*.

- Next, we look at two important linguists who modified our understanding of sound change.

- Alexander Isačenko (1910-1978)
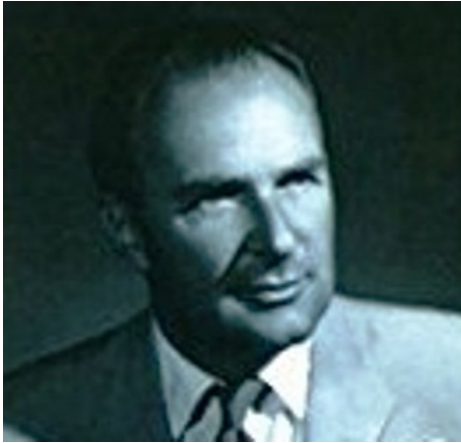
- Roman Jakobson (1896-1982)

- Both Isačenko and Jakobson address the issue of what happens when phonetic sound changes do not simply work as expected.

- They both proceeded from the major sound change of the Slavic family: **jer-loss**.

- jer-loss (roughly 900-1200 A.D.) led to the breakup of the Common Slavic language and the rise of the separate Slavic languages. The impact of this change perhaps can be compared to the Great Vowel Shift of English.

- The weakest, or least sonorous of the Common Slavic vowels were the short high vowels, front and back ĭ and ŭ (written ь and ъ in Cyrillic).

- The sound change describing jer-loss is known as **Havlík's Law.**

- Starting from the end of the word towards the beginning, jers were regularly deleted, unless another deleted jer was in the immediately following syllable.

- If a jer was lost in the next syllable, a jer in the previous syllable was lowered to *e* or *o*. A lowered jer was known as a **strong jer**, and a deleted jer was known as a **weak jer.**

- Some Russian examples:
- 1. Strong jer followed by a weak jer.
- sŭnŭ > son (sъnъ > son); d'ĭn'ĭ > d'en' (d'ьn'ь > d'en')

(The apostrophe refers to palatalization of the preceding consonant.)

- 2. Final weak jer with no strong jer.
- sŭna > sna (sъna > sna)

- Note the new **vowel~zero** alternation.

	Originally	Later
Nominative	sъn-ъ	son- Ø
Genitive	sъn-a	sn-a

- The essence of Isačenko's 1970 paper ("East Slavic Morphophonemics and the Treatment of Jers in Russian"):
- **Rules of root structure and morpheme structure often overrode the original phonetic sound change.**
- I.e. **grammar**—not just phonetics—often influenced the result.
- The following table shows two sets of forms in several categories. Even though there is no real phonetic difference between each of the two sets, one set of forms obeys the traditional phonetic Havlík Law, but the other disobeys it, **due to grammatical and semantic factors, not phonetics.**

Forms Which **Obey** the Havlík Law	Forms Which **Violate** the Havlík Law
1. Words that consisted only of a consonant and weak jer posed a potential problem. **Clitics** could exist without a vowel by attaching to the following word. E.g. vŭ 'in' > v (v parke); kŭ 'towards' > k (k drugu); sŭ 'with' > s (s nej).	**Non-clitics** had the exact phonetic pattern, but could not attach to a following word and could not simply lose their only vowel, which was a weak jer. E.g. demonstrative and personal pronouns in the masculine nominative singular form: *tŭ* 'that'; *sĭ* 'this'; *kŭ* 'who'; *jĭ* 'he. Prior to jer-loss, there was a single consonant followed by a vowel ending. Several novel solutions were found by the language to solve this problem. This was definitely not "regular sound change" and had the unusual causal factor of "non-clitic status."

Forms Which **Obey** the Havlík Law	Forms Which **Violate** the Havlík Law
	None of these could survive as the phonetically regular *t, *s, *k, *j*.
	In the first case, there was **reduplication**: *tŭ + tŭ > tot*.
	In the second case, the pronouns *sĭ* and *jĭ* underwent **agglutination**: *sĭ + jĭ > s'ej*
	In the third case, to neuter form *-to* was added to *kŭ: kŭ + to > kto*
	In the fourth case, the personal pronouns changed from using the stem *j-* to the syllabic stem *on-*, which could exist as a non-clitic after jer-loss: *jĭ > onŭ*

Forms Which **Obey** the Havlík Law	Forms Which **Violate** the Havlík Law
2. Instances of the sequence CĭCC followed by a non-jer vowel ending (-V) throughout the entire paradigm. This means the zero option occurs throughout, since there is no position for strengthening. E.g. *m'ĭst'it'i* (infinitive) > *ms't'it'(i)* *M'ĭstislavŭ* (name) > *Ms't'islav* (i.e. *m'ьst'i-* > *ms't'i-*)	Identical CĭCC- stem is followed by **both weak jers and other vowels**, which would produce a vowel~zero alternation. But, this alternation is **not permitted before two consonants by morpheme structure rules**. So, the jer gets strengthened to *e* in all forms, in spite of Havlík's Law: m'ĭst'ĭ (nom. sg.) > m'es't' m'ĭst'i (gen. sg.) > m'es't'i (Not *ms't'i) The argument that *m'es't'i* occurred due to an unpronounceable *mst'i* cannot be true. The same sequence occurs as a verb and elsewhere. Appeals to analogy also don't work, since there was no analogy in sŭnŭ/sŭna > son/sna. Thus, we wind up with the "**correct**" phonetic result in the imperative *mst'-i,* but the **incorrect result** in the genitive case mest'-i.

Forms Which **Obey** the Havlík Law	Forms Which **Violate** the Havlík Law
3. Double vowel~zero alternations. These are permitted in Russian only if the first one occurs in a preposition or prefix (i.e. a clitic element). E.g. vŭ rŭtŭ > v rot vŭ rŭtu > vo rtu sŭžĭglŭ > sžegl > sžog [žžok] sŭžĭgla > sožgla [sažgla] Regular results, allowed when clitic preposition/prefix and root both contain jers. (Again, clitics favor the strict phonetic sound law; non-clitics do not.)	When the identical jer structure occurs inside of a word, not in a preposition or prefix, a double vowel~zero alternation cannot develop, in spite of the Havlík Law. E.g. lʹĭstʹĭcĭ nom. sg. > lʹstec lʹĭstʹĭca gen. sg. > lʹsteca The gen. sg. **should have been** *lʹestca, based on the regular sound change.

Forms Which **Obey** the Havlík Law	Forms Which **Violate** the Havlík Law
(This is my example, not Isačenko's.) 4. Two phonemes must be maintained in verb roots. (Single phonemes are allowed in pronominal and prepositional roots.) tŭku > tku 'I weave' The weak jer drops and everything is regular, with maintenance of the two consonants in the verb root: *t-k*.	In the verb root *tŭk-* 'weave', a front vowel ending caused the *k* to palatalize to *č*. As long as the jer was present, this posed no problems: e.g. *tŭč-eši* But, when the jer dropped, an initial *tč* sequence developed, which would have simplified to only *č* as the root: **č-eši*. This one-phoneme structure was not acceptable for a verb, although it would have been admitted for a pronoun. The language solved this with palatalized velar *k'* in this position, instead of alveopalatal *č*. After the later change of *e > o*, this presented a novel instance of a palatalized velar before *o* (cf. Russian *tk'oš*), creating a new phonemic opposition of palatalization in the velars.

- Now let's look at Jakobson's 1929 history of Russian and Slavic phonology (*Remarks on the Phonological Evolution of Russian, Compared to that of the Other Slavic Languages*), the first such systematic diachronic phonology in the history of linguistics.

- Jakobson starts by arguing against a chess analogy made in the work of the great Swiss linguist, Ferdinand de Saussure, who said:

- "In each play only one chess piece is moved; in the same way in language, changes affect only isolated elements."

- "In chess, each move is absolutely distinct from the preceding and the subsequent equilibrium. The change effected belongs to neither state: only states matter."

- In large part, Jakobson's book is an attempt to prove Saussure wrong. He felt that the changing synchronic states were not haphazard at all and that there is a definite structure and direction of historical sound changes.

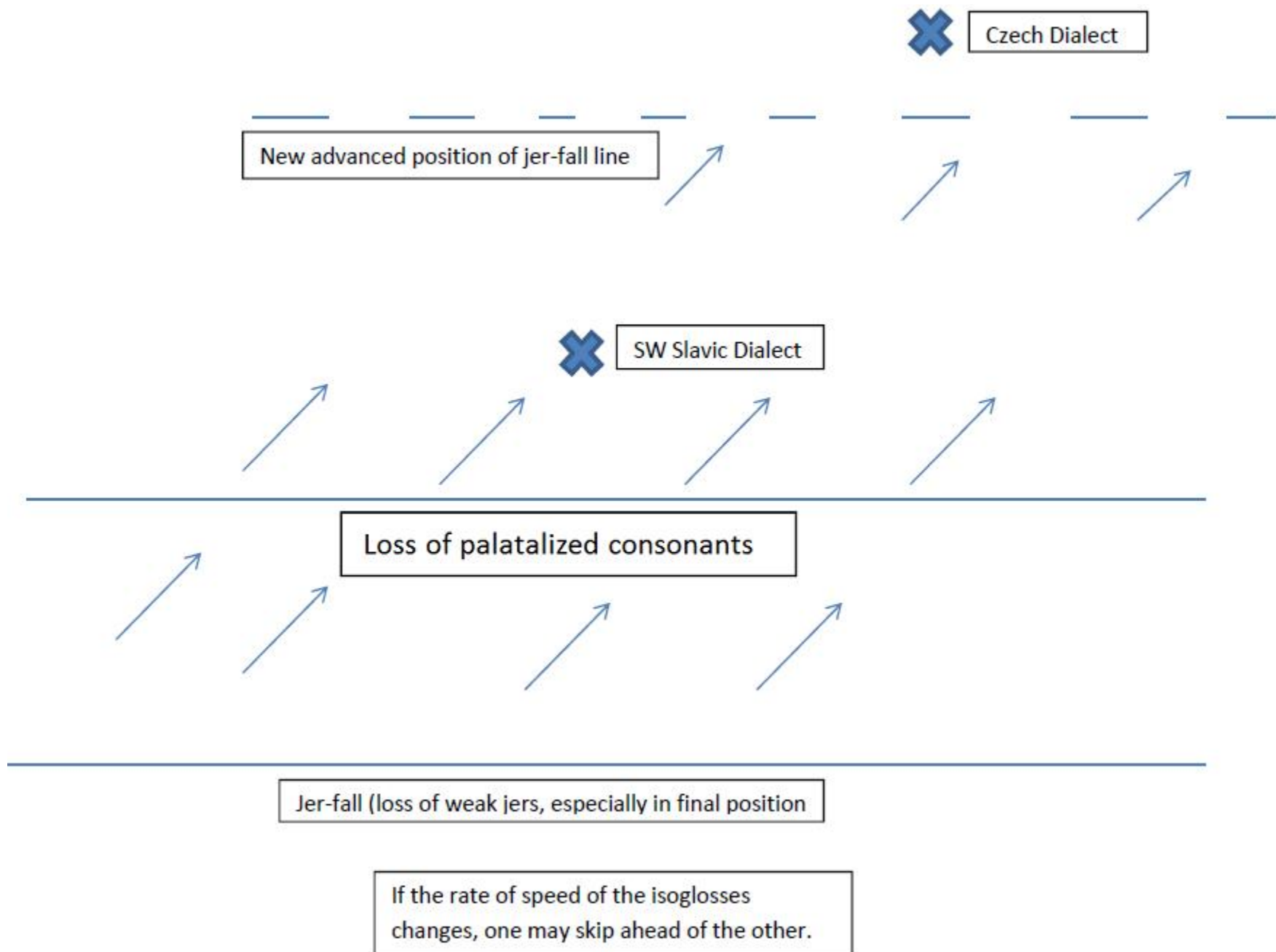- Let's look at the main thrust of Jakobson's ideas.

- Jakobson looked at the modern Slavic zones and noticed that no language had accentual tone plus phonemic consonant palatalization.
- The SW had vocalic tone and no palatalization. (e.g. Slovene, Serbian, Croatian).
- The central zone had neither vocalic tone nor phonemic consonant palatalization (e.g. Czech, West Bulgarian).
- The NE (e.g. Polish, Russian) had phonemic palatalization but no vocalic accentual tone.
- He concluded that both types of tone were incompatible.

- Structurally, jer-loss had the potential to create the new phonemic opposition of consonant palatalization, based on consonant tonality.

- However, the accentual system at the time was based on vocalic tone. According to Jakobson, the two types were incompatible and jer-loss posed the potential threat of eliminating one of the tonality features of the language.

- They could not blindly implement jer-loss, since it would lead to an inadmissible result in the phonological system. They had to get rid of one or the other.

- In the earliest zone, loss of palatalized consonants precedes jer-loss, so the two incompatible features never coexist and accentual tonality survives.

- In the transitional zone, jer-loss occurs against the backdrop of accentual tonality, producing a phonological conflict between consonantal and accentual vocalic tonality types, resulting in the loss of both.

- In the latest and most distant zone to the North and East, represented by Russian, the loss of accentual vocalic tonality **precedes** jer-loss, allowing consonantal tonality and phonemic palatalization to occur unimpeded.

- The three models of ordering are:
- 1. SW (Slovene, Bosnian/Croatian/Serbian)
- A. Loss of consonant palatalization.
- B. jer-loss and retention of vocalic tone.

- 2. Central/Transitional (Czech/Slovak, Macedonian, West Bulgarian)
- A. jer-loss.
- B. Coexistence of two incompatible tonality types, resulting in elimination of both (partial elimination of palatalization in the case of Ukrainian, adjacent to Slovak).

- 3. North/East (Polish, Russian, East Bulgarian)
- A. Loss of accentual vocalic tone.
- B. jer-loss and incorporation of consonantal tonality as phonemic palatalization.

Czech Dialect

New advanced position of jer-fall line

SW Slavic Dialect

Loss of palatalized consonants

Jer-fall (loss of weak jers, especially in final position

If the rate of speed of the isoglosses
changes, one may skip ahead of the other.

NE (East Slavic)

West Slavic

Polish
Loss of Vowel Tone/Quantity Before Jer-Fall
Consonant Palatalization and Phonemic Quantity (Later lost)
No "conflicts"
Free stress lost—Quantity remained in Old Polish, later lost.

Russian/Belarusian
Loss of Vowel Tone/Quantity Before Jer-Fall
Consonant Palatalization and Dynamic Stress:
No "conflicts"

Ukrainian
Tone loss after jer-fall :
tonality conflict
Consonant Palatalization survives with evidence of conflict (hardening in some positions).
Dynamic stress , but weaker than Russian, with some traces of old quantity.

Czech/Slovak
Tone loss after jer-fall:
tonality conflict
Both cons. and vowel tonality are lost.

Free stress lost—Quantity remains

SW

SE

SW (Slovene, Bosnian/Croatian/Serbian)

Consonant Palatalization Lost Before Jer-Fall

Tonal Accent and Quantity but no Consonant Tone

West Bulgarian

Tone loss after jer-fall :
tonality conflict

Both cons. and vowel tonality/quantity are lost.
Mostly dynamic stress.

East Bulgarian

Tone loss after jer-fall :
tonality conflict

Consonant Palatalization survives with evidence of conflict (hardening in some positions)

- Thus, both Isačenko and Jakobson presented weighty arguments to demonstrate the principle that sound change is not a haphazard, accidental process, but that:

- 1. Sound change is subject to the grammatical and morpheme structure rules of the language.

- 2. The application of rules for sound change has a structural logic as it spreads across a language territory from one zone to another.