Predicting Prosody in Poetry and Prose

* We define rhythm as the degree to which acoustic properties can be predicted, given prior context.

* Rhythm is expressed by recurring patterns, and recurring patterns are predictable from history.

* Much poetry has a meter, a rhythmic beat. We test our idea by comparing the predictability of poetry to that of prose.

* To measure predictability, we use linear regressions and measure the fraction of variance that they correctly predict.

* 5 Languages

In all languages studied, acoustic properties of poetry are much easier to predict than those of prose.

Languages:
- Southern British English
- Standard Russian
- Parisian French
- Taiwanese Mandarin
- Standard Modern Greek

Factoid:
* Poetry is much more predictable than prose. This is consistent with the intuition that poetry is more “rhythmic”.

* Some properties of poetry are almost perfectly predictable.

* Long (i.e. 6-8 segment) predictors improve the prediction of poetry, but for prose, they were little better than shorter (i.e. 3-4 segment) predictors. These long predictors may be related to feet and other supersegmental structures.

* This could be a new approach to characterizing the statistical properties of