

Word order and information structure in heritage Russian

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Heritage Language Practices: Current issues and future directions

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Objectives of this work

- ▶ To examine whether heritage speakers (HSs) of Russian are able to acquire the relationship between word order (SVO vs. OVS) and information status (old vs. new)
- ▶ To examine whether HSs substitute (in)definiteness for information status, due to transfer from their dominant language.
- ▶ To examine whether HSs with different dominant languages (English vs. Hebrew vs. Finnish) exhibit different patterns of behavior.

Russian in the United States (Kagan & Dillon 2009)

- ▶ As of 2009, Russian is the 9th most commonly spoken non-English language in the U.S.
- ▶ 1990 census: 243,904 home speakers of Russian
- ▶ 2000 census: 704,000 home speakers of Russian (increase of 191%!)
- ▶ 2007 American Community Survey: 851,174 home speakers of Russian
- ▶ Generally well-educated community: in 2000 census, 92% had at least a high-school diploma, 51% had at least a Bachelor's degree

Russian in Israel

- ▶ More than 835,000 immigrants arrived from Russia to Israel between 1989 and 1999, about one-sixth of Israel's total population (Yelenevskaya & Fialkova 2003; cited in Schwartz 2008).
- ▶ In 2017, about 1.5 million Russian Israelis, 17.25% of the population (https://en.m.wikipedia.org/wiki/Russian_language_in_Israel)
- ▶ The Russian-speaking community in Israel has a strong commitment to retaining Russian, and promoting mother tongue instruction in Russian (Schwartz 2008, and the references cited therein).
- ▶ Russian literacy schools play a substantial role in language maintenance (Schwartz 2008).

Russian in Finland (Protassova 2008)

- The Russian-speaking population of Finland increased greatly in the 1990s, when some 20,000 Russian speakers of Finnish origin repatriated to Finland, and many specialists from Russia came to work in Finland as well.
- Russian speakers are the largest nonindigenous group in Finland, constituting more than 25% of all foreigners, and numbering between 40,000 and 60,000.
- Education in Russian is available through mother tongue instruction in schools as well as through preschools and day care centers.
- In 2004, Russian as a heritage language was taught to 3,012 of school-age children, about half the total number of Russian-speaking schoolchildren.

Russian word order

- ▶ Canonical word order: SVO
 - ▶ Accounts for 79% of all three-member sentences in written Russian (Bivon 1971, reported in Baily 1995:12).
- ▶ Most common scrambled word order: OVS
 - ▶ Accounts for 11% of all three-member sentences in written Russian (Bivon 1971)
 - ▶ is more common in written than in colloquial Russian (16-30% vs. 7%, Sirotinina 1965, reported in Slioussar 2011:2054)
- ▶ For most nouns, case marking unambiguously indicates subject vs. object status.

Russian word order and information structure

- ▶ We are concerned here only “non-emotive” sentences that have neutral prosody (cf. King 1995):
 - ▶ Stress on the rightmost constituent (cf. Junghanns & Zybatow 1997)
 - ▶ No element in contrastive focus
- ▶ Under such conditions:
- ▶ SVO is appropriate if:
 - ▶ **The object is in narrow focus / new information**
- ▶ OVS is appropriate if:
 - ▶ **The subject is in narrow focus / new information**
- ▶ (We are disregarding wide-focus contexts, where SVO would generally be preferred).

Examples

1) Kogo ukusila sobaka?
 who.Acc bit.F dog.Nom

Sobaka ukusila košku
 dog.Nom bit.F cat.Acc



2) Kto ukusil sobaku?
 who.Nom bit.M dog.Acc

Sobaku ukusila koška
 dog.Acc bit.F cat.Nom



Acquisition of Russian word order: children

- ▶ Monolingual child Russian: non-canonical word orders attested at 18 months (Dyakonova 2003).
- ▶ Bilingual children (Ukrainian/English, Mikhaylyk 2012 – Ukrainian is similar to Russian in the relevant respects):
 - ▶ three-year-olds were more likely to place an object preverbally if it was definite (old information) than if it was indefinite (new information)
- ▶ If bilingual children already understand the function of object scrambling, it is reasonable to expect that adult HSs (who started out as bilingual children) will know this as well.
 - ▶ Although it is also possible that adult HSs undergo attrition relative to children (attested in another domain in Polinsky 2011).

Acquisition of Russian word order: adults

- ▶ **Adult heritage Russian speakers at low proficiency** over-rely on canonical SVO order in production (Polinsky 2006, 2007)
- ▶ **Adult L1-English and L1-Korean L2-learners of Russian** (Cho and Slabakova 2014):
 - ▶ Correctly preferred OVS order when the object was old information compared to when it was new information, but the differences were small and did not reach significance for most groups tested.
 - ▶ Written presentation (no control for prosody), and no SVO control condition tested
- ▶ **Adult L1-English L2-Russian learners** (VanPatten et al. 2012):
 - ▶ The learners initially over-relied on canonical word order, misinterpreting OVS sentences as SVO, but improved after Processing instruction
- ▶ **Adult English-dominant L2ers and HSs of Russian** (Ionin & Luchkina, in press):
 - ▶ Largely failed to acquire the relationship between word order and quantifier scope.
 - ▶ But HSs were better than L2ers at recognizing that OVS changed the scope configuration relative to SVO (however, HSs were also more proficient than L2ers).

Russian under the influence of English vs. Hebrew vs. Finnish

- ▶ Word order:
 - ▶ Finnish is a case-marking language in which word order is also related to information structure, similarly to Russian (see Kaiser & Trueswell 2008, and the references cited therein).
 - ▶ Hebrew and English are rigid word order languages without (much) case marking and without object scrambling.
 - ▶ Finnish-dominant HSs might be expected to be more target-like under transfer from Finnish.
- ▶ (In)definiteness:
 - ▶ English has both definite and indefinite articles, Hebrew has only a definite article, and Finnish has neither.
 - ▶ Transfer of (in)definiteness onto word order may occur for English- and Hebrew-dominant but not Finnish-dominant HSs.

Our research questions

- 1) Do HSs of Russian recognize that word order (SVO vs. OVS) is related to information status (old vs. new)?
- 2) Do HSs of Russian incorrectly map word order to (in)definiteness rather than information structure?
- 3) Do HSs with different dominant languages (English vs. Hebrew vs. Finnish) behave differently in this domain?

Participants

- ▶ Control group: 43 native Russian speakers
- ▶ Test groups (testing is still ongoing):
 - ▶ 16 English-dominant Russian HSs
 - ▶ one of them heritage in Armenian as well as Russian
 - ▶ 4 Hebrew-dominant Russian HSs
 - ▶ 4 Finnish-dominant Russian HSs

Learner profiles

	English-dominant HSs (N=16)	Hebrew-dominant HSs (N=5)	Finnish-dominant HSs (N=4)
age at testing	mean 23 (range 18-30)	mean 29 (range 21-34)	mean 25 (range 19-30)
AoA of Russian	14 at birth 1 at age 4 1 at age 6	3 at birth 1 at age 7 or 8	all 4 at birth
AoA of English	5 at birth 3 at ages 2 or 3 4 at ages 4 or 5 3 at ages 6 or 7 1 at age 10	all 4 at ages 6 to 9	all 4 at ages 7 to 9
age of immigration	<i>To the U.S.:</i> 9 born there 3 at age 1 1 at age 5 1 at age 8 2 at age 11	<i>To Israel:</i> 1 in infancy 1 at age 1 2 at ages 11 and 12	<i>To Finland:</i> 1 born there 1 at age 4 1 at age 6 1 at age 12

Methodology

- HSs completed three tasks:
- Task#1: Case check
 - To examine whether learners can use case marking rather than word order to determine who did what to whom
- Task#2: Bimodal Acceptability Judgment Task (AJT)
 - Short dialogues presented in both auditory and written form
 - The bimodal presentation ensures that literacy is not an obstacle, and furthermore controls for prosody.
- Task#3: Proficiency test
 - A 58-item cloze test, with three multiple-choice options per blank (only one correct)
 - Developed by Tatiana Luchkina based a longer, traditional-format (fill-in-the-blank) cloze test (Luchkina & Stoops 2014)
- Native speakers completed the AJT only

Case check test

- 20 items: 10 SVO and 10 OVS Russian sentences, presented in written form
- Each sentence is followed by a comprehension question in English, with multiple-choice answer options.
- The case-check uses the same nouns and verbs as the main task (AJT), and thus also provides a vocabulary refresher.
- Zebra nenavidit orel.
zeba-Acc hates eagle.-Nom
- Who is doing the hating? Zebra eagle
- Learners who follow the canonical-order strategy would be 50% correct.

Results: case-check and proficiency test

▶ Case-check test (%correct):

- ▶ English-dominant HSs: mean 82% (range 55-95%)
 - ▶ For only those 12 who score at least 70% correct on the case-check, the mean is 90% (range 70-95%)
- ▶ Hebrew-dominant HSs: mean 90% (range 80-95%)
- ▶ Finnish-dominant HSs: all at 95%

▶ Cloze test (%correct)

- ▶ English-dominant HSs : mean 72% (range 34-93%)
 - ▶ For only those 12 who score at least 70% correct on the case-check, the cloze test mean is 79% (range 66-93%)
- ▶ Hebrew-dominant HSs: mean 84% (range 78-93%)
- ▶ Finnish-dominant HSs: mean 93% (range 88-97%)

Testing word order and information structure: Bimodal AJT

- ▶ Each item consists of a question followed by an answer
- ▶ 48 target items and 72 fillers
- ▶ The target items correspond to two separate experiments (24 items each), in which the prosody is always neutral, stress on the rightmost constituent.
- ▶ The filler items had a variety of both correct and incorrect word orders, and a variety of prosodic contours, including contrastive stress.
- ▶ The auditory versions of all items was recorded by two native Russian-speaking females.
- ▶ Only felicitous dialogues were recorded, and the sound files were spliced in order to produce infelicitous dialogues.
- ▶ Participants rate acceptability of the answer on a scale from 1 to 5

Experiments 1 and 2 in the AJT

- ▶ The purpose of having two experiments was to examine whether learners would equate word order with (in)definiteness
- ▶ In Experiment 1, bare common nouns were used, so that information status corresponds to (in)definiteness:
 - ▶ preverbal=definite, postverbal=indefinite
- ▶ In Experiment 2, proper names were used: since these are definite by definition, there is no correspondence between (in)definiteness and information status.
- ▶ If learners overrely on (in)definiteness, they should be more target-like in Experiment 1 than in Experiment 2

Design of each experiment

- ▶ Question type (object question vs. subject question) crossed with word order in the answer (SVO vs. OVS), giving rise to four categories.
 - ▶ Object question – SVO: felicitous
 - ▶ Object question – OVS: infelicitous
 - ▶ Subject question – OVS: felicitous
 - ▶ Subject question – SVO: infelicitous
 - ▶ This category would be ok with stress on the subject, but the stress was always sentence-final.
- ▶ Most objects were in the accusative case, but a few were dative.
- ▶ Only nouns with unambiguous nominative vs. accusative or dative case endings were used.
- ▶ All lexical items were taken from beginner Russian-language textbooks.
- ▶ An adverbial was always included in the sentence to make it slightly longer and to add variety.
- ▶ All target and filler items were distributed across four presentation lists using a Latin-square design.

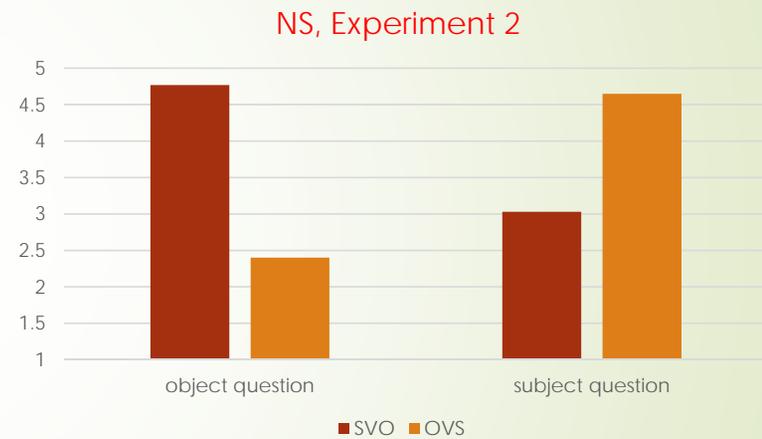
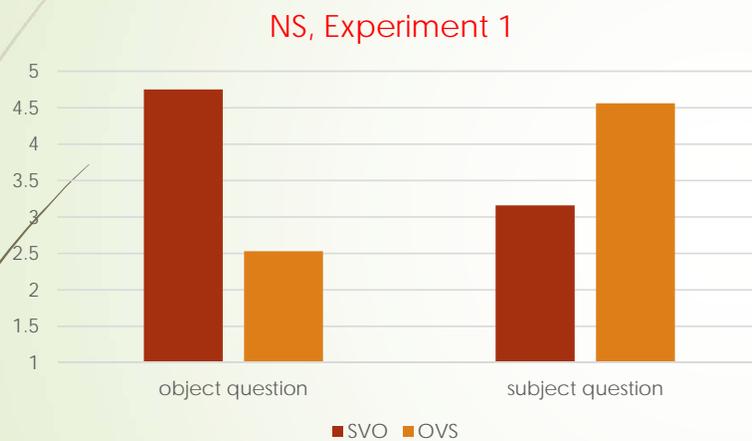
Experiment 1: common nouns: sample token set

Question type	Object question	Subject question
Word order in answer		
SVO	<ul style="list-style-type: none"> - Kogo vchera uvidel orel? - Orel uvidel lisu. - Who did eagle see? - Eagle saw fox. 	<ul style="list-style-type: none"> - Kto vchera uvidel lisu? - Orel uvidel lisu. - Who saw fox? - Eagle saw fox.
OVS	<ul style="list-style-type: none"> - Kogo vchera uvidel orel? - Lisu uvidel orel. - Who did eagle see? - Fox (obj) saw eagle (sub). 	<ul style="list-style-type: none"> - Kto vchera uvidel lisu? - Lisu uvidel orel. - Who saw fox? - Fox (obj) saw eagle (sub).

Experiment 2: proper nouns: sample token set

Question type	Object question	Subject question
Word order in answer		
SVO	<ul style="list-style-type: none"> - Kogo utrom navestila Larisa? - Larisa navestila DASHU. - Who did Larisa visit this morning? - Larisa visited Dasha. 	<ul style="list-style-type: none"> - Kto utrom navestil DASHU? - Larisa navestila DASHU. - Who visited Dasha this morning? - Larisa visited Dasha.
OVS	<ul style="list-style-type: none"> - Kogo utrom navestila Larisa? - DASHU navestila Larisa. - Who did Larisa visit this morning? - Dasha (object) visited Larisa (subject) 	<ul style="list-style-type: none"> - Kto utrom navestil DASHU? - DASHU navestila Larisa. - Who visited Dasha this morning? - Dasha (object) visited Larisa (subject)

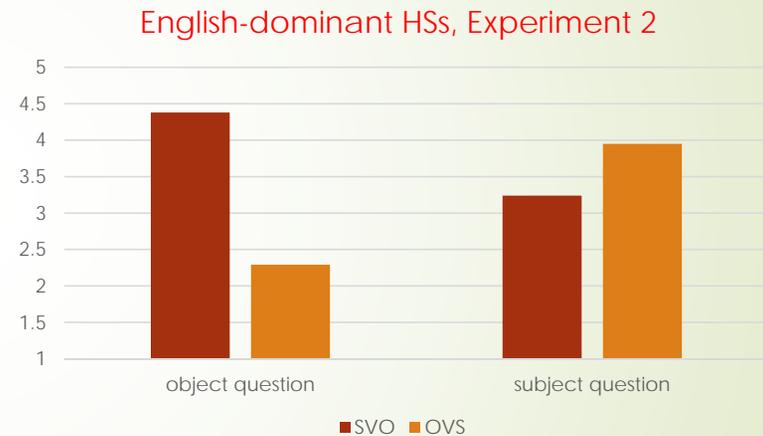
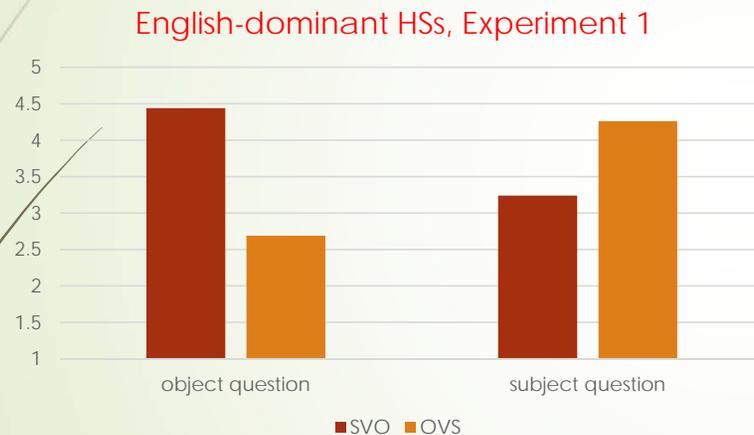
AJT: Native speaker results



NSs have a strong preference for SVO order for object questions, and a weaker but still clear preference for OVS order for subject questions.

The patterns are exactly the same across the two tasks.

AJT: English-dominant HS results



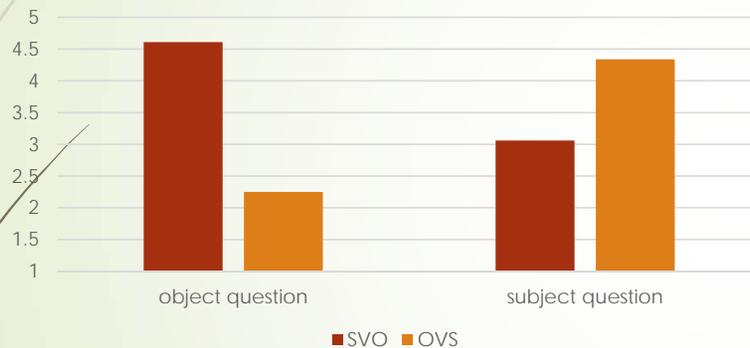
English-dominant HSs have a strong preference for SVO order for object questions, and a weaker but still clear preference for OVS order for subject questions.

The patterns are exactly the same across the two tasks.

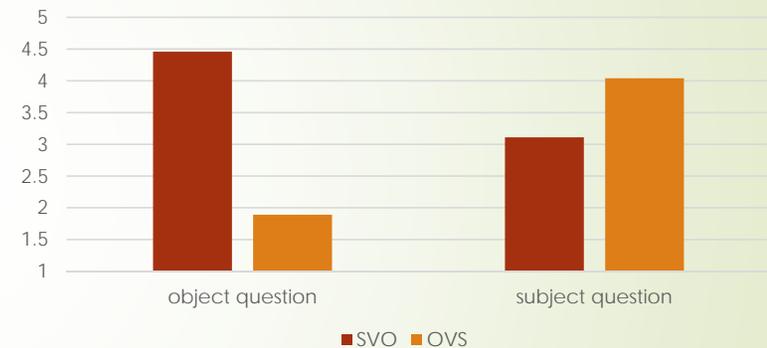
HSs exhibit the same patterns as NSs.

AJT results: English-dominant HSs who met the case-check cut-off

English-dominant HSs who passed the case-check, Exp. 1



English-dominant HSs who passed the case-check, Exp. 2

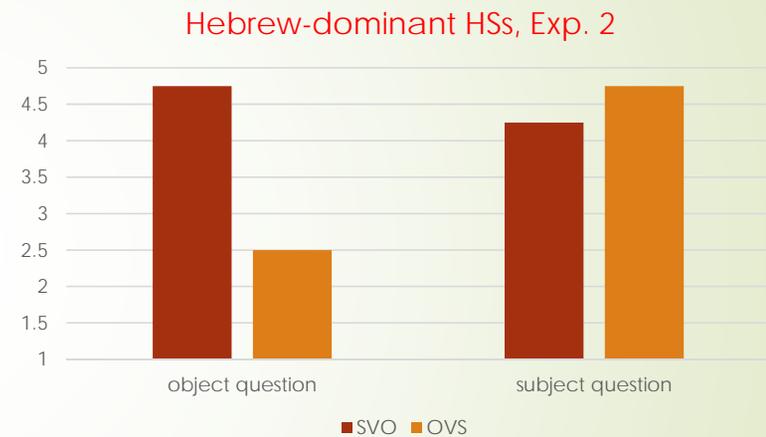
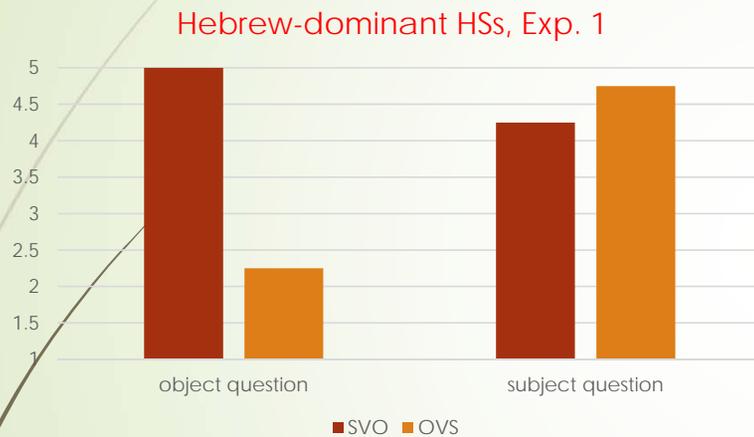


English-dominant HSs who pass the cut-off have a strong preference for SVO order for object questions, and a weaker but still clear preference for OVS order for subject questions.

The patterns are exactly the same across the two tasks.

Excluding HSs who did not meet the cut-off does not make much of a difference.

AJT results: Hebrew-dominant HSs



Hebrew-dominant HSs have a strong preference for SVO order for object questions, but almost no preference for OVS order of subject questions.

The patterns are exactly the same across the two tasks.

AJT results: Finnish-dominant HSs



Finnish-dominant HSs have a strong preference for SVO order for object questions, and an almost equally strong preference for OVS order for subject questions.

The patterns are exactly the same across the two tasks.

HSs exhibit the same patterns as NSs.

Our research questions, revisited

- 1) Do HSs of Russian recognize that word order (SVO vs. OVS) is related to information status (old vs. new)?
 - ▶ **Largely YES**, but the patterns are clearer with object questions (SVO preferred) than subject questions (OVS preferred)
- 2) Do HSs of Russian incorrectly map word order to (in)definiteness rather than information structure?
 - ▶ **NO**: exactly the same preferences and patterns of performance with common as with proper nouns, even though (in)definiteness is related to word order only with the former.
- 3) Do HSs with different dominant languages (English vs. Hebrew vs. Finnish) behave differently in this domain?
 - ▶ **YES**: the Finnish-dominant HSs are the most target-like, while the Hebrew-dominant ones are the least target-like

Why no transfer of (in)definiteness?

- ▶ Cho and Slabakova (2014), a study with L2-Russian learners, assumed that learning word order was all about (in)definiteness
 - ▶ However, since they tested common nouns, the word order reflects information structure as well as (in)definiteness.
- ▶ Our findings with common vs. proper nouns suggest that (in)definiteness is irrelevant: HSs recognize that previously mentioned NPs encode old information, regardless of (in)definiteness.
- ▶ Why no L1-transfer here?
 - ▶ Perhaps because there is no particular reason to assume that word order can encode the same properties as a morpheme can.
 - ▶ Cross-linguistically, word order tends to be about discourse properties.

Why an advantage for Finnish-dominant HSs?

- ▶ The Finnish-dominant HSs are the most proficient in Russian, and also the only ones whose dominant language has scrambling.
- ▶ Both proficiency and transfer are possible explanations.
- ▶ Note that Hebrew-dominant HSs were not much lower than Finnish-dominant ones in terms of proficiency, yet were much less target-like on word order.
- ▶ So transfer from Finnish is probably the right explanation.
- ▶ However, the samples were too small to allow for any definitive conclusions.

Heritage vs. L2 acquisition of Russian

- In addition to the HS results reported here, we also have results from 17 L1-English L2-Russian learners (L2ers).
- The L2ers had overall lower proficiency in Russian, and also did much worse than the HSs on the AJT: both word orders were allowed, with a preference for SVO regardless of information structure.
- The domain of word order may be a place where HSs have an advantage over L2ers, due to early exposure.
- However, we need to test more advanced L2ers in order to ensure that the relevant variable is early exposure rather than advanced proficiency.
- Our findings suggest that the word order – information structure relationship is relatively robust in Russian HSs; unlike morphosyntax, which has been found to be incompletely acquired or attrited (e.g., Polinsky 2006, 2007)

Future plans

- ▶ To collect more data from all the HS groups.
- ▶ To collect data from proficiency-matched L2 and HS groups.
- ▶ Eventually, to examine other information structure configurations: do HSs recognize the role of contrastive focus in Russian word order?
- ▶ It would also be interesting to examine whether knowledge of word order in heritage Russian is related to the education that HSs receive in Russian.

Thank you!

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