

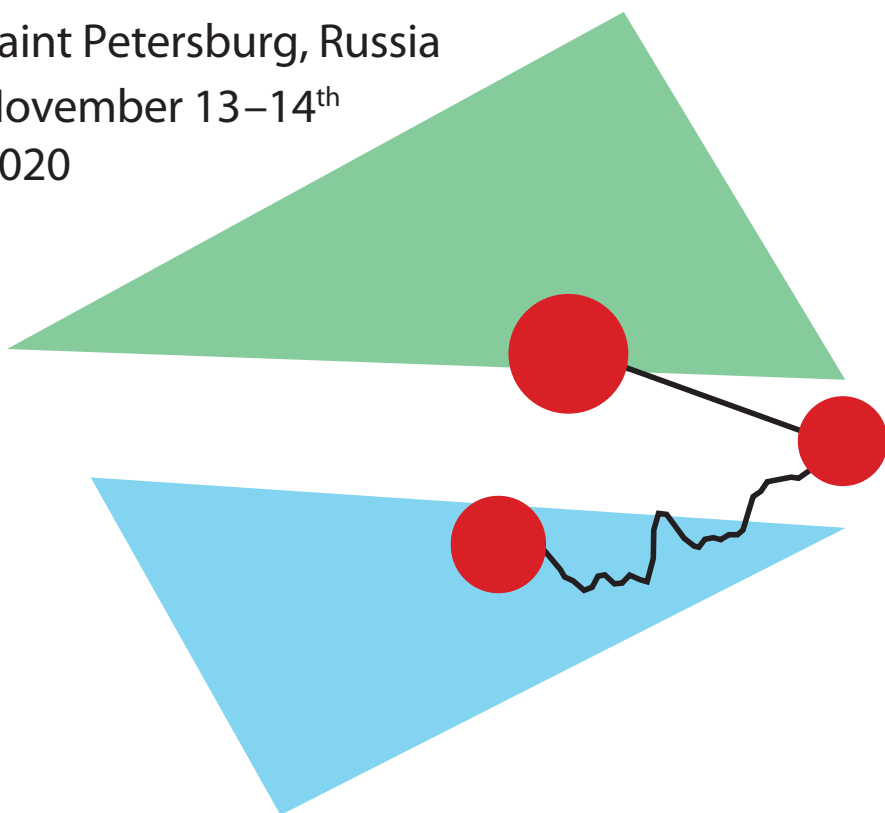
Proceedings of the 4th International Conference on

NEUROBIOLOGY OF SPEECH AND LANGUAGE

Saint Petersburg, Russia

November 13–14th

2020



Organised by the Laboratory of
Behavioural Neurodynamics,
Saint Petersburg State University

Government of the Russian Federation
Saint Petersburg State University

**Proceedings of the 4th International Conference
on Neurobiology of Speech and Language**

Organised by the Laboratory of Behavioural Neurodynamics,
Saint Petersburg State University

November, 2020

Edited by Olga Shcherbakova



Saint Petersburg, Russia

Neurobiology of Speech and Language. Proceedings of the 4th International Conference on Neurobiology of Speech and Language / Ed. by O. Shcherbakova.— St. Petersburg: Skifiya-print, 2020.— 76 p.

ISBN 978-5-98620-483-3

Front cover by Alexander Kirsanov

Abstracts' compilation and verification

by Varvara Averyanova, Ekaterina Blinova

Management and coordination by Ekaterina Perikova

Web page: <http://cogneuro.spbu.ru>

Supported by the grant of the Government of the Russian Federation
№ 14.W03.31.0010 (P.I. Yu. Yu. Shtyrov)

ISBN 978-5-98620-483-3

© Authors, 2020

<i>Irina Korkina, Anastasiya Lopukhina, Victoria Reshetnikova, Nina Ladinskaya</i> Grammatical roles assignment in Russian-speaking children	59
<i>Ekaterina Andriushchenko, Olga Shcherbakova</i> Does metacognitive regulation of emotions contribute to the understanding of ambiguous texts?	60
<i>Tatiana Isaeva, Olga Shcherbakova</i> Digital or printed? Interaction between text format and its understanding. . .	61
<i>Nina Zdorova, Mariya Khudyakova</i> How do Spanish natives and Spanish learners resolve pronominal anaphora?	63
<i>Kirill Gavrilchenko, Maria Akulenkova</i> Speech dysfunction with damage of the subcortical structures of the brain as a result of the ischemic stroke.	64
<i>Valeriia Palii, Zoya Rezanova</i> The cognitive processing of the grammatical gender of Russian nouns by Russian natives and Turkic-and-Russian bilinguals.	65
<i>Ekaterina Stankova, Dariya Lundina,</i> <i>Alexandra Kuznetcova, Elizaveta Galperina</i> Oscillatory brain activity during selective word retrieval in healthy adults . .	66
<i>Elena Riekhakaynen, Maria Boboshko, Yulia Lisitskaya</i> Russian words for speech audiometry in children	68
<i>Nataly Nuzhina, Peter Prodius, Irina Mukhina</i> Neurophysiological features of brain stages of visual verbal information processing under the conditions of target mental activity	69
<i>Alexandra Puchkova, Alexandra Berlin Khenis</i> Word length and frequency effects on eye movement parameters in elementary school children reading textbooks.	70
<i>Uliana Kochetkova, Pavel Skrelin, Vera Evdokimova, Daria Novoselova</i> Perception of irony in speech	71
<i>Ivan Shkurko, Elena Riekhakaynen</i> Does sound determine synesthetic color? Evidence from Russian	73
<i>Tatiana Akhutina, Aleksei Korneev, Ekaterina Matveeva</i> The neuropsychological assessment of verbal memory in preschoolers and primary schoolchildren	74

'cost' of reading digital text. Further research with additional conditions is needed to validate and extend the present results.

This work was supported by the RF Government grant No. 14.W03.31.0010.

Nina Zdorova¹, Mariya Khudyakova¹

¹ National Research University Higher School of Economics

How do Spanish natives and Spanish learners resolve pronominal anaphora?

In pro-drop languages, null subject pronouns tend to be co-referred with their subject antecedents in case of referential conflict (Carminati, 2002). The present study aims to answer the question whether Spanish native speakers and Spanish learners with Russian L1 resolve pronominal anaphora in line with that strategy. Anaphora resolution is understudied on this language pair, which in turn combines a full null-subject language (Spanish) and a semi null-subject language (Russian).

The experimental group of Spanish L2 learners with Russian L1 (N = 42) was compared to the control group of Spanish L1 speakers from Latin American countries (N = 90). All participants performed a self-paced reading experiment, namely, reading pairs of sentences word-by-word. The first sentence introduced two animate constituents of the same gender (Subject and Object), whereas the second sentence started with a third person Singular pronoun (null or overt) referring to one of those constituents. We expected to see a speedup in reading time on either of the pronouns which would imply the existing null-subject bias in pronoun resolution.

The analysis of residual reading times with a linear mixed-effect model (performed in R, Version 4.0.0) revealed no significant effects of the antecedent syntactic role, pronoun form or their interaction in Spanish L2 learners ($p = .8$).

However, a significant interaction between the antecedent syntactic role and pronoun form was found in Spanish L1 speakers ($p < .001$),

indicating that they read overt subject pronouns co-referred with the subject antecedents faster than other conditions.

We observed a difference in the strategies applied by native speakers and Spanish L2 learners in pronominal anaphora resolution. Spanish natives indeed co-referred a pronoun form with a syntactic role of the antecedent, whereas Spanish learners did not. The results demonstrated by Spanish native speakers are compatible with those showed by Italian natives (Carminati, 2002) and by native speakers of Mexican Spanish (Keating et al., 2011). At the same time, the results demonstrated by Spanish learners with Russian L1 resemble the ones by English-Spanish heritage speakers and L2 learners (Keating et al., 2011).

Kirill Gavrilchenko¹, Maria Akulenkova¹

¹Kursk State Medical University

Speech dysfunction with damage of the subcortical structures of the brain as a result of the ischemic stroke

In patients who have experienced ischemic stroke localized in the subcortical brain structures, symptoms that are not typical for lesions of these areas are often observed (Moretti, Caruso, & Crisman, 2018). That is due to the close location of many highly specialized structures, and numerous cortical-subcortical connections as well (Fuertinger, Horwitz, & Simonyan, 2015). Thus, a primary analysis of non-aphasic speech dysfunctions developing as a result of such damages is conducted.

The sample included 17 patients diagnosed with ischemic stroke. The abnormal focus was localized in subcortical brain structures. Research methods: Montreal Cognitive Assessment (MoCA) (Nasreddine, Phillips, & Bedirian, 2005), “10 words” technique (Akhutina, 2012), observation, qualitative analysis, Spearman’s correlation coefficient.

The subscales of MoCA showed the following: “Naming” — 1 out of 3 points in 88% of the participants; “Phrase repetition” — 0 out of 2 points for 100% of the participants; “Speech fluency” — 0 out of 1 point in 76% of the participants. The mean score for “10 words” technique was 3.6. We also

Approved for printing 01.12.2020.

Order 6940. Number of copies printed — 30.

Printed by «Skifiya-print» printing office

197198 St. Petersburg, B. Pushkarskaya str.,10, build. 3., room 32-H