

# Stem- Spraak- en Taalpathologie

Supplement, September 2014

15<sup>th</sup> International Science of Aphasia  
Conference



**Science of Aphasia**

## PREFACE

Dear participants,

We are very pleased to welcome you to the 15<sup>th</sup> Science of Aphasia conference, being held from September 19 till September 24, 2015 in the San Camillo Hospital in Venice, Italy

The 2014 program theme is: **Aphasiology: past, present and future**

Invited speakers are: Ria De Bleser, Audrey Bowen, Marco Catani, Chris Code, Olga Dragoy, Hugues Duffau, David Howard, Peter Mariën, Gabriele Miceli, Carlo Miniussi, Lyndsey Nickels, Carlo Semenza, Cynthia K. Thompson, Evy Visch-Brink, Frank Zanow.

The SoA conferences are intended to bring together senior and junior scientists working in the multidisciplinary field *Neurocognition of language* and to deal with normal function as well as disorders. The size of the conference has a maximum of about 150 participants to ensure direct interaction between the participants. The focus of this year's conference is on the past, present and future of Aphasiology:

The San Camillo Hospital in Venice-Lido is a health care facility, mainly devoted to the rehabilitation outcomes of traumatic brain injury and spinal cord, stroke, multiple sclerosis, amyotrophic lateral sclerosis, Parkinson's disease, neuropathy and dementia.

In 2005 the hospital received recognition from the Ministry of Health of the Institute for Research, Hospitalization and Health Care (IRCCS) specializes in the "discipline of neuro-rehabilitation motor, communication and behavior." The experience in telemedicine, robotics and Brain Computer Interface (BCI) allowed the hospital to develop a communication system based exclusively on the modulation of brain activity recorded with an electroencephalograph, even without moving a muscle. This system will allow people not able to perform movements or to speak to communicate and also to carry out activities. The San Camillo Hospital is situated on the Lido of Venice. The Lido — or Venice Lido (Lido di Venezia) — is an 11 kilometres (7 miles) long sandbar in Venice; it is home to about 20,000 residents.

The city of Venice, or in Italian Venezia, is a city in northeastern Italy, sited on a group of 118 small islands separated by canals and linked by bridges. It is located in the marshy Venetian Lagoon which stretches along the shoreline, between the mouths of the Po and the Piave Rivers. Venice is renowned for the beauty of its setting, its architecture and its artworks. The city in its entirety is listed as a World Heritage Site, along with its lagoon.

We wish you a pleasant conference!

The organizing committee of SoA.

## Organization

The 15th International Science of Aphasia Conference is held in Venice, Italy, September 19-24, 2014.

**Chair:**

Prof. Carlo Semenza, University of Padova, Italy

**The 2014 scientific committee is composed of:**

Ria de Bleser (honorary member)  
Roelien Bastiaanse (chair)  
Wendy Best  
Frank Burchert  
David Howard  
Roel Jonkers  
Gabriele Miceli  
Lyndsey Nickels  
Brendan Weekes

**The 2014 abstract selection committee is composed of:**

Roel Jonkers (chair)  
Frank Burchert  
David Copland  
David Howard  
Lyndsey Nickels  
Isabell Wartenburger

**Abstract Booklet**

Alice Pomstra

# Conference Program

## Friday, September 19, 2014

**17:30 – 19:00 Reception and registration**

## Saturday, September 20, 2014

**8.30 – 9:30 Coffee and registration**

### Session One. Past: History of Aphasia

(chair Roelien Bastiaanse)

- 9:30            *Roelien Bastiaanse*: Intro: Pre Broca  
9:45            *Chris Code* : Broca and his contemporaries  
10:30          *Ria de Bleser*: German aphasiology  
**11:15**          **Coffee Break**  
11:45          *Marco Catani*: American aphasiology (Boston School)  
12:30          *Olga Dragoy*: Russian aphasiology (Luria)

**13:15 – 15:00 Lunch**

### 15:00 – 17:00 Contributed Papers I

(Chair Olga Dragoy)

- Bos.*: The neural correlates of past time reference  
*Arslan*: Source memory deficits in aphasic and healthy aging speakers of Turkish  
*Popov*: Unaccusative Verb Production Revisited: Evidence for Dual Deficit  
*Salmons*: The comprehension of Catalan OVS and OSV structures in Broca's aphasia  
*Jochmann*: The effects of slowed speech on comprehension of German non-canonical sentences in aphasics with and without hearing impairment  
*Munarriz*: The role of typological distance in differential impairments in bilingual aphasia: evidence from Spanish-Basque agrammatism.

### 17:00 – 17:30 Short presentations Poster Session I

(Chair Sylvia Martinez-Ferreiro)

### 17.30 – 18.30 Poster Session I/Coffee

- Adelt*: Do Pronouns Make a Difference? On-line Processing of Relative Clauses in the Visual-world Paradigm

## Science of Aphasia XV, Conference Program

*Brandao*: Communicative strategies in expressive aphasia: discourse as a guideline for rehabilitation

*Capitani*: Lexical-semantic errors are more consistent than phonological errors on the repeated naming of the same picture: a study on aphasic patients.

*Feiden*: Anomia and paraphasia in oral speech production

*Fyndanis*: Structural case in agrammatic aphasia: Evidence from Greek

*Gora*: Cross-language influences in multilingual aphasia

*Haaland*: "I wake up every day thinking I can write" – an agraphia treatment study

*Ishkanyan*: Syntactic comprehension deficits in Armenian-Russian bilingual speakers with aphasia

*Jap*: Sentence Comprehension in Aphasic Speakers of Standard Indonesian

*Khakalo*: A Vaster VAST: Comprehension and production of verbs and sentences in Russian

*Knoph*: The impact of Semantic Feature Analysis on verb production in two multilingual speakers with aphasia

*Satoer*: Glioma surgery in eloquent areas, can we preserve cognition?

### Sunday, September 21, 2014

#### Session Two. Presentations I: Awake surgery

(Chair: Evy Visch-Brink)

9:30

*Hugues Duffau*: Perspective from a neurosurgeon

10:15

*Peter Mariën*: Perspective from a neurolinguist

**11:00 – 11:30**

**Coffee Break**

11:30

*Carlo Semenza*: Perspective from a numberologist

12:15

General discussion

#### 13:00 – 15:00 Lunch

#### 15:00 – 17:00 Contributed papers II

(Chair Davide Crepaldi)

*De Witte*: Non-Organic Language Disorders after Awake Brain Surgery

*Groenewold*: The effects of direct and indirect speech on English discourse comprehension in aphasia

*Romanova, et al*: Facilitation effect in proper and common noun naming

*Bose*: Relationship between semantic transparency of compound words and semantic processing skills in aphasia: Data from compound word reading

*Ribu*: Imageability and phonological neighborhood density effects in speech processing

*Keulen*: Foreign Accent Syndrome: a typological overview

#### 17:00 – 17:30 Short presentations Poster session II

(Chair Sylvia Martinez-Ferreiro)

#### 17:30 – 18:30 Poster session II/ coffee

## Science of Aphasia XV, Conference Program

- Bambini*: The Italian version of the Communication Outcome after Stroke (COAST) scales for patients and caregivers  
*Jesus*: Assessment of Aphasia in Portugal: Past, present and future  
*Manouilidou*: Lexical-semantic deficits in Mild Cognitive Impairment, et al: the case of abstract vs. concrete nouns  
*Pellet*: Outcome of computer-assisted treatment in a case of non-fluent primary progressive aphasia with apraxia of speech  
*Penalosa*: Associative learning and retention of novel labels for novel visual referents in patients with chronic aphasia  
*Stavrakaki*: Production of verbs with alternating transitivity by patients with Primary Progressive Aphasia  
*Vlasova*: Speech disorders and its postoperative progress in patients with symptomatic epilepsy  
*Wimmer*: Verbal Agreement Inflection in Wernicke's and Broca's Aphasia – a comparison  
*Zanini*: When verbs help naming nouns: a study on derived nominals in aphasia  
*Azimova*: Verbs in Uzbek agrammatic spontaneous speech  
*Zivanovic*: Predictors of Post-Stroke Aphasia Recovery – A Systematic Review  
*Vukovic*: Quality of communication life in individuals with Broca's and Conduction aphasia  
*Lesniak*: Language dissolution and restitution in L1 and L2

**18:30 Meeting Scientific Committee**

## **Monday, September 22, 2014**

### **Presentations II: Aphasia Trials**

(Chair: Ria de Bleser)

- 9.30 *Audrey Bowen*: Randomized Control Trials: The ActNow study  
10.15 *Evy Visch-Brink*: Randomized Control Trials: The RATS studies

#### **11.00 Coffee break**

- 11.30 *Lyndsey Nickels*: Single Subject Experimental Design  
12.15 *David Howard*: Single Subject Experimental Design and Randomized Control Trial: The Semafor study

**13.00 Lunch, Excursion and Dinner**

## Verbs in Uzbek agrammatic spontaneous speech

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### Introduction

In the neurolinguistic literature, spontaneous speech in agrammatic aphasia is characterized as being non-fluent and effortful, with reduced speech rate. Sentences are usually very simple, and mean length of utterance (MLU) is short (Rossi and Bastiaanse, 2008; Thompson, Shapiro, Li, & Schendel, 1995; Vermeulen, Bastiaanse, & Van Wagensingen, 1989). Verb morphology is impaired, and there is a preference for non-finite verbs, while inflectional morphemes of verbs are omitted or substituted (Bastiaanse, & Jonkers, 1998; Bastiaanse, Hugen, Kos, & Van Zonneveld, 2002; Saffran, Berndt, & Schwartz, 1989, Rossi & Bastiaanse, 2008). Our study contributes to aphasiology by providing further evidence of features of agrammatism from a language which was not described previously. Uzbek is a language of interest because it is an agglutinative language with a rich morphology. Verb morphology is especially interesting; one verb may have more than 100,000 forms including periphrastic forms (Pulatova, Pulatov, Muminova, 2003). The aim of the current study is to illustrate which kind of features Uzbek agrammatic spontaneous speech share with other languages, and which kind of specific features it has. Based on recent studies we make following predictions:

1. As an agglutinative language with rich and regular morphology Uzbek agrammatic speech will present spared morphology (Knoph, 2011; Alexiadou & Stavrakaki, 2006; Abuom, Obler, & Bastiaanse, 2011);
2. Uzbek agrammatic speakers will use significantly fewer verb forms referring to the past than the present (Bastiaanse, Bamyaci, Hsu, Lee, Yarbay Duman, & Thompson, 2011);
3. Lexical aspect (Aktionsart) which is expressed via actionality constructions is impaired because it requires integration of information from different linguistic levels (Yarbay Duman, Altinok, Özgirgin, and Bastiaanse, 2011).

### Methods

#### *Participants*

The participants were 2 agrammatic speakers and 10 non-brain-damaged speakers. One male (69 years old, right handed, 11 years post onset) and one female (53 years old, left handed, 7 years post onset) brain-damaged individual, who had a stroke in left hemisphere, participated in our study. The woman is left-handed, however, she was the only left-handed

person in her family. That is why we decided to include her to our study. They are both native speakers of Uzbek, and they used the language as primary language in daily life. Ten non-brain-damaged (NBD) subjects participated in the experiment as a control group (6 females and 4 males, with the mean age 50, age range 39-70). They were matched to the brain-damaged people for education, occupation, gender as closely as possible.

### **Materials**

A spontaneous speech interview was held. The participants were asked three questions:

(a) *Can you tell me about how your speech problems started (agrammatic speakers)/about your most recent illness (for NBDs)?*

(b) *Can you tell me about your current work/hobbies?*

(c) *Can you tell me about your plans for the future?*

### **Results**

Table 1 provides the results of the analysis. Since there were only two agrammatic speakers involved, we used scores outside the normal range as the (very conservative) measure for significance. We can see from the table 1 that the agrammatic speakers' MLU and speech rate were outside the range of the NBD speakers. Even though the groups did not differ in production of noun-tokens, noun-types nor in verb-tokens and verb types (only in MO), variables such as copulas, actionality constructions and non-finite verb forms were outside the normal range for the Uzbek agrammatic speakers. In addition, the number of ungrammatical sentences is higher than that of NBD speakers, but the usage of embeddings is inside the normal range (but NBDs hardly use embeddings either). Time reference through verb inflection did not differ between groups, nor did the use of non-past forms and past forms.

### **Discussion**

In comparison to NBDs' speech, Uzbek agrammatic speech has a lower speech rate, shorter utterances, and a higher percentage of ungrammatical sentences. The use of nouns and verbs is preserved, although in NK the number of verb types is outside the normal range. This result is in line with the findings from morphologically rich languages such as Swahili and Italian (Abuom & Bastiaanse, 2012; Crepaldi, Ingignoli, Verga, Contardi, Semenza, & Luzzatti, 2011). Our prediction regarding the morphology is supported: noun and verb inflection is intact. However, our expectation based on PADILIH was not justified (Bastiaanse et al., 2011). Uzbek agrammatic spontaneous speech did not show selective impairment of reference to the past. Reference to the past and reference to the present are used almost equally often by both groups, contrary to the results reported for Swahili by Abuom and Bastiaanse (2011).

As expected, Uzbek agrammatic speakers were poorer in using lexical aspect (actionality) in their spontaneous speech than NBD speakers. This finding is in line with Nanousi, Masterson, Druks, & Atkinson, (2006) and Stavrakaki & Kouvava (2003), who found aspect impairment in Greek. In agrammatic aphasia, verbs are problematic, and production of lexical aspect requires simultaneous retrieval of two different verbs, of which one is finite and the other one is non-finite. We predicted poor use of actionality constructions based on the



*Integration Problem Hypothesis* (Yarbay Duman, et al., 2011), which says it is difficult for agrammatic speakers to integrate information from different linguistic levels.

The number of non-finite verbs used by Uzbek agrammatic speakers was outside the lower range of the NBD speakers. This finding contradicts other studies, which reported that non-finite verbs are relatively preserved in agrammatic aphasia (e.g. Bastiaanse & Jonkers, 1998; Rossi & Bastiaanse, 2008; Abuom & Bastiaanse, 2012), but in line with Slobin (1991), who noticed poor usage of non-finite verbs in Turkish, where non-finite verbs are used in grammatically complex structures. In Uzbek, participles or verbal nouns are used in speech as a linguistic unit, the semantics of which belong to the verb while the syntactic features belong to the adjective and noun. Thus, the use of participles and verbal nouns is more complex than the use of a simple verb and simple noun: it requires processing at several linguistic levels (semantics, syntax and morphology). This is exactly what is difficult for agrammatic speakers (Yarbay et al., 2011; Abuom et al., 2013),

To conclude, Uzbek agrammatic speech shares a number of features with agrammatic aphasia in other languages, such as slow effortful speech, short sentences, high percentage of ungrammatical sentences. Uzbek agrammatic aphasia demonstrates relatively well spared inflectional morphology and equally preserved noun and verb word classes. However, Uzbek agrammatic speakers have a problem with non-finite rather than with finite verbs. This is explained by the complex processing which is required for non-finite verbs in Uzbek. Information from different linguistic levels needs to be integrated, which is notoriously difficult for agrammatic speakers.

## References

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Table 1: The comparison of analyzed variables of agrammatic speakers and NBD speakers’ spontaneous speech.

	Agrammatic speakers			NBD speakers	
	NK	MO	Mean	NBD’s range	Mean
MLU	7.794	5.322	6.558	10.93-20.27	14.15
Speech rate	30	27	28.5	62-108	86
Noun-tokens	57	68	62.5	36-80	53.2
Noun-types	42	48	45	29-61	44.2
Verb-tokens	39	32	35.5	25-59	46.5
Verb types	17	26	21.5	19-44	37.9
Copulas	2	1	1.5	3-9	5.2
Actionality constructions	0	0	0	1-13	6.7
Ungrammatical sentences	22 (65%)	27 (46%)	24.5 (55%)	0-10%	0.4 (2.1%)
Embeddings	0	2(3.38%)	1 (1.69%)	0-16%	2 (7.42%)
Finite verbs	37	27	32	17-38	26.7
Non-finite verbs	2	7	4.5	10-25	16.7
Past forms	11	17	14	10-27	16.6
Non-past forms	26	10	18	8-23	16.3