In aphasia, semantic processing is commonly assumed to be affected by impairment specific to language. Imagability (Mo or Li) has been argued to induce asymmetry in processing of nominal lexical units as this feature of the mental lexicon unit is sensitive to the stimulus modality and to the conceptual system. Double modality of the representation of concrete nouns in the mental lexicon, verbal and non-verbal representation, contrasted with single, verbal, representation in abstract nouns (Paivio 1990, 2010), is argued to facilitate the processing of a concrete noun and slow down semantic access, access and any further processing of an abstract noun (Sabatelli et al., 2005).

General assumptions about types of aphasia are as follows: Broca's aphasia is defined as an impairment in syntactic processing described as 'agrammatic', mostly in processing of syntactically complex sentences and task of verbal function.

Materials and Methods
Participants: 30 aphasic participants (among them specifically 11 Broca's and 11 anomic aphasia) and 30 paired neurologically healthy participants (gender, age, education, right/left handed) - all native speakers of Croatian.

Behavioral classification for aphasic patients (clinical assessment) and CT scan data.

Material: Set of semantic tests of different complexity from the battery of tests Psycholinguistic Assessments of Language Processing in Aphasia (PALPA) adapted for Croatian (Kay et al. 1992, Erdeljac et al. submitted).

The first test is designed to examine the processing of the lexical feature of Imagability; Auditory and Written Synonym Judgments (PALPA-49 and 50).

Two follow-up comprehension tests of lesser and higher processing complexity: Spoken and Written Word-Picture Matching (PALPA-47 and 48) and Word-Semantic Association (PALPA 51).

Research Aims
1. To investigate the difference in the semantic processing of Hi and Li words in aphasic patients compared to healthy controls when presented with visual or auditory stimuli.
2. To compare accuracy of Hi and Li words for Broca's and anomic aphasia on semantic processing tasks of different complexity.
3. To investigate the correlation between the semantic processing of Hi and Li words and the stimulus modality.

H1: Activation of lexical mental representation depends on the imagability and on the complexity of the task. The accuracy is expected to be higher in the condition with higher imagability and the lower complexity of the task. The accuracy is expected to be lower in the condition with lower imagability and the higher complexity of the task.

H2: Anomia is taken to be an impairment of the ability to retrieve words, and Broca's aphasia is taken to be agrammatism, or the inability to understand and produce certain grammatical structures. For that reason, Broca's aphasics are expected to score higher than the anomic aphasia on semantic processing tasks of any complexity.

EXPERIMENT 1

PALPA 49 AUDITORY SYNONYM JUDGMENT
PALPA 50 WRITTEN SYNONYM JUDGMENT

EXPERIMENTS 2 and 3

PALPA 47 SPOKEN WORD-PICTURE MATCHING
PALPA 48 WRITTEN WORD-PICTURE MATCHING
PALPA 51 WORD SEMANTIC ASSOCIATIONS: HI AND LI WORDS

REFERENCES

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IMAGABILITY ASYMMETRY IN MENTAL LEXICON OF CROATIAN APHASIC AND HEALTHY SPEAKERS