RESTRICTED DISCRIMINATION BETWEEN LOCAL ECONOMY AND GLOBAL ECONOMY IN AGRAMMATICAL APHASIA
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The problem: binding principles in aphasia
1. The economy constraints of the grammar is somehow restricted in the performance of agrammatic aphasic subjects (Vasi - Avrutin - Raugindiškis 2006). Grodzinsky et al.'s results suggest that their agrammatic aphasiast showed limitations in tasks concerning the binding of personal pronouns (=limited Principle B) as opposed to the binding of reflexive pronouns (non-impaired Principle A).

2. We conducted sentence-picture matching tests by Hungarian speaking Broca's aphasics. The results showed that Principle A was limited (not Principle B) in some complex syntactic structures. We suggest a characterisation of the limited binding principle s in agrammatic aphasia data in terms of global economy and local economy. On the basis of the local economy, decision concerning the applicability of an operation depends on what pieces of information are available within the sentence representation at hand, irrespective of other sentence representations (cf. Principle A). Global economy constraints may require comparison of several sentence representations in order for a decision to be made concerning the applicability of some operation (cf. Principle B).

3. Five syntactic structures of diverse complexity were selected. The pronouns occurring in the sentences were either reflexive or personal pronouns. For each pair of sentences, two pictures were drawn, suggesting the meanings of the respective sentences. The test material included 200 sentences and 200 pictures. The subjects saw a picture and heard a sentence and was asked to decide if what they heard corresponded to what they saw. Each sentence was heard twice once paired up with one of the two pictures, and once with the "wrong" picture. The sentences were presented randomly. The two subjects were agrammatic Broca's aphasics.

4. Results

- STRUCTURES
  - JUDGEMENTS: Correct Incorrect
  - PICTURE MATCHING

Type I: The pronoun is a direct object of a Verb
  - Reflexive pronoun: Type III: The pronoun is a constituent of a possessed NP in possessive construction
    - Reflexive pronoun: 40 (100%)
    - Personal pronoun: 32 (80%)
  - Personal pronoun: 8 (20%)

Type II: The pronoun in the possessor position of a possessive construction
  - Reflexive pronoun: 36 (90%)
  - Personal pronoun: 4 (10%)

Type III: The pronoun is a constituent of a possessed NP in possessive construction
  - Reflexive pronoun: 12 (30%)
  - Personal pronoun: 24 (60%)

As witnessed by the simpler structures (type I and II), the subjects did possess the ability to distinguish binding relations of reflexive from those of personal pronouns. With more complex structures type III and V they did not react to increasing complexity by trying to resort to some structure that was simpler or shorter. On the contrary: in their incorrect decisions they used a more costly mechanism, incorrectly. The distinction between local economy and global economy was not properly accessible for them. Instead of restricting their attention to local structural relations and ignoring other, non-local structural representations, they tried to do the opposite: they attempted to make a decision on the applicability of some structural operation by comparing alternative structural relations to one another. But the correct decisions simply needed analysing local structural relations in a local domain. This option was avoided. We suggest that such distribution of performance can be attributed to the subject's limited ability to tell local and global economy from each other.

5. Discussion
In the case of the simplest, type I structures, the subject s made correct discriminations between reflexive and personal pronouns. As the structural complexity of the sentences grew, the number of correct decisions with respect to personal pr ons decreased somewhat. Incorrect decisions were made in the context of the non-matching picture. Principle A: An interesting result is what we got in the case of types III and V, for reflexive pronouns. The subject s wrongly took the sentence initial N P to be the antecedent of the reflexive pronoun in 32 and 28 cases, respectively, as opposed to the actual, local antecedent that immediately preceded the reflexive pronoun. Structures III and V are syntactically complex. The structural complexity of some accusative alternative structural analyses and their assessment. The result is that the subject's wrongly assumed bindings for reflexive pronouns that would have been grammatical non-local bindings for personal pronouns.

References