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## Assessing DP in a Case of Agrammatism.

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### Introduction

Whereas a lot of research in aphasia has examined the functional structure of verbs and their projections, a lot less attention has been devoted to nominal functional projections (Determiner Phrases, D - Cinque, 2002).

The aim of this pilot study was to develop an assessment tool to systematically examine the representation and processing of the DP in aphasia. Probes were constructed following a logic of increasing DP complexity. The ultimate aim is to test alternative theories on DP against the performance of agrammatic patients. Different theories may predict different hierarchy of difficulty. As an example of application of such instrument the performance of one patient is reported here.

### Case Report

SM is a 56 years old Italian speaking man with 11 years of education who developed agrammatism following a vascular lesion in Broca's area.

### Methods

Four tasks of increasing difficulty were administered. Each task provided a target word, e.g. "cook": SM, instructed with several examples, was required to produce the following structures: a) article+noun (il cuoco - *the cook*) or demonstrative+noun (questo/quel cuoco - *this/that cook*); b) article+quantifier+noun (i molti cuochi - *the many cooks* - this is correct in Italian); c) article+ adjective+noun/adjective+noun (il bravo cuoco/il cuoco bravo - *the good cook/ the cook good*); d) functional adjective+lexical adjective+noun (ogni bravo cuoco - *every good cook*). Nouns varied for gender and number; word frequency, age of acquisition and length were balanced. As a control a VP task was administered, requiring to produce, given a past participle, the structure: e) auxiliary+adverb+past participle (ho già dormito - *I have already slept*).

### Results

SM's errors were as follows:

- a) 41/120: plural substitution with singular (9), article omission (3) wrong number agreement (3), substitution of article with demonstrative (6), other (20). The same amount of errors were committed for articles and for

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- demonstrative. No gender error was committed.
- b) 33/50: adjective omission (1), article omission (9), gender errors (17), other (6). Number was always correct.
  - c) 71/92: adjective order errors (17), wrong article (30), gender errors (4), adjective omission (2), non requested verbs (10), other (16).
  - d) 37/40: wrong order for lexical adjective (33), gender errors (5), non requested verbs (2), random (4). Multiple errors could affect a single structure. The preferred structure was functional adjective+noun+lexical adjective, used also when not correct.
  - e) 30/48: wrong or omitted auxiliary (21), wrong order for adverbs (9).

### **Discussion**

Although incomplete, the set of tasks presented here was able to provide an assessment of DP-related processing. The key findings are:

(1) An equal number of errors in the production of articles and demonstratives. If demonstratives are lexical elements they should be relatively spared.

(2) While gender errors tend to increase with the increase of difficulty, number errors do not appear but in the easiest structures.

(3) The increment of complexity favours appearance of default strategies: thus, in functional adjective+lexical adjective+noun the harder item (functional adjective) may appear first, then the noun, then the lexical adjective.

### **References**

Cinque, G. (2002). *Functional structure in DP and IP*. Oxford: Oxford University Press, Oxford.