

We present a poster showing an empirical study on residual aphasia and its effects on spontaneous speech. The subject of the study is mainly motivated by a situation regularly recurring in the daily working life of a Speech and Language Therapist in Germany: for some time a patient has had an aphasia, which by now has receded well. The Aachen Aphasia Test (AAT) (Huber et al., 1983) shows the diagnosis *no aphasia / residual aphasia*. In spontaneous speech slight deficits still seem to exist, but they cannot definitely be called pathological. The therapist has to decide whether to continue with or to terminate language therapy. Are the few persisting problems symptoms of a so-called residual aphasia which has to be continuously treated? Or are they only linguistic insufficiencies which occur in almost every speaker sometimes?

The importance of these questions is easily shown by the great number of persons affected. Every year 20% of those aged over 65 years, 8% of those aged between 45 and 65 years and even 0,3% of those who are 45 years old or younger are affected by a cerebral vascular accident (A Med-World AG, 2003a). About 150 persons in a million have aphasia because of a stroke and about 40 in a million show aphasia for other reasons, as e.g. brain damage following by a car accident (A Med-World AG, 2003b). At any one time in Germany there are about 400,000 people suffering from aphasia (Modellprojektbeschreibung IBRA, 2001).

In every case there is the question of whether therapy should be continued - if necessary accompanying work. Unfortunately, health insurance companies in Germany often do not accept any language therapy indication which is not based on the Aachen Aphasia Test and diagnosing residual aphasia by means of the AAT is often not possible. Nevertheless, the minimal problems disturb the everyday and professional life of persons with residual aphasia. A more differentiated analysis of mild aphasic deficiencies might be a strong argument for therapy.

Especially in German there is only little research on residual aphasia. As no clear definition of residual aphasia exists, every author uses the expression in his or her own way. Grande (1998), for example, studied the spontaneous speech production of normal speaking persons and patients with residual aphasia. Special focus was placed on different parameters such as frequency and type of ellipsis. Unfortunately, the number of patients and controls was very small (n=5 each). Another study on residual aphasia was carried out by Runge (1996). He looked at the performances of patients with residual aphasia in describing picture stories and retelling texts. It was not possible to statistically differentiate between normal and aphasic language.

Our study aims at clearly defining residual aphasia based on spontaneous speech. Therefore 10 patients with residual aphasia and 10 healthy controls were tested. The participants did not have any other neurological, psychological or other serious disease. They did not exhibit any serious cognitive or motor-speech problem. The research groups were comparable in age, sex, level of education and time post-onset. All participants were tested with the Aachen Aphasia Test. The analysis of the spontaneous speech had been broadened. Additionally, several other aspects were chosen according to recent literature on aphasic spontaneous speech, e.g. adverbial modifications and lexical cohesion, which were evaluated in detail. The parameters found were statistically analyzed with the computer program SPSS. It was investigated if the groups show differences in spontaneous speech.

Results of several *t-tests for equality of means* yielded significant differences between the groups for the following parameters: set phrases (T = 2,6; p = 0,018), word finding difficulties (T = 3,268; p = 0,006), unfinished sentences (T = 2,829; p = 0,011), number of types (open class) (T = -2,469; p = 0,024), lexical cohesion (T = -3,708; p = 0,002) and adverbial modification (T = -2,394; p = 0,028) (see table 1 and table 2).

In conclusion, residual aphasia seems to be present at every linguistic level as differences are observed at word-, sentence- and text-level. Additionally, we might conclude that the difficulties of patients with residual aphasia are mostly situated in the semantic system. The patients very often produce unfinished sentences. That perhaps demonstrates a syntactic deficit but might also be a sign of covered word finding difficulties.

As the number of patients and controls in this study is still very small, a detailed differentiation or diagnosis of single patients is not yet possible. At the moment we are working on further research including other control groups (patients with right hemisphere deficits and persons with anomic aphasia), more participants and more parameters, e.g. aspects of discourse analysis.

Altogether, this study presents an important step to the diagnosis and definition of residual aphasia. As there are only few studies on residual aphasia in German, the detailed examination, exploration and description of residual aphasic symptoms is essentially important for diagnosis and therapy.

## References

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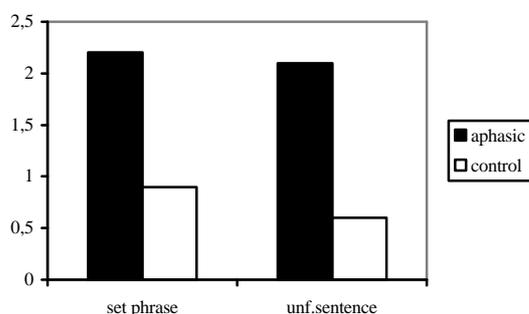


table 1: significant parameters\_1

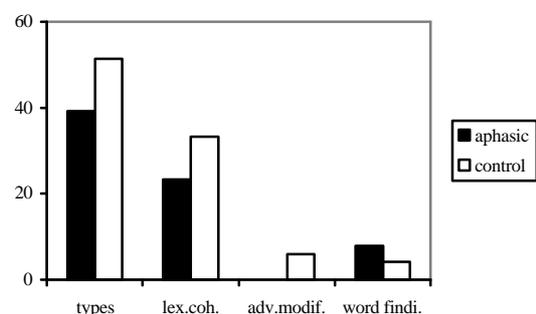


table 2: significant parameters\_2