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# Representation and processing of idioms: evidence from aphasia

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## Abstract

Idiomatic expressions are often considered ‘automatic speech’ that need not be syntactically or morphologically parsed. However, there is a great structural variation within idioms, which could imply that not all idioms are processed alike. In the present case study with a deep dyslexic patient we compare reading of Finnish verb phrase idioms and noun phrase idioms. On the basis of the present experiments, we conclude that noun phrase idioms are processed more holistically than verb phrase idioms. Moreover, it seems that in verb phrase idioms, processing of inflected complement nouns is context-sensitive: our patient showed improved performance on these items as long as they were primed with sentence context (be it semantically adequate or not). This suggests that idiomatic inflected nouns may be stored as parts of their syntactic constructions. © 2001 Elsevier Science Ltd. All rights reserved.

*Keywords:* Idioms; Aphasia; Agrammatism; Deep dyslexia; Morphology; Finnish

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## 1. Background

Idioms are often included in what is called ‘nonpropositional language’, i.e. in that portion of our linguistic competence that consists of such phenomena as figurative expressions (e.g. metaphors, idioms and proverbs), slang, clichés, social speech formulae, and indirect pragmatically loaded requests (van Lancker, 1987; 1993). A commonly used definition of the idiom is that it is a multi-word expression that (i) carries conventional meaning and that (ii) this meaning is not compositional in the Fregean sense, and that (iii) the expression is more or less syntactically fixed or frozen (Moon, 1998; Nunberg, Sag & Wasow, 1994). Idioms, like nonpropositional language in general, are often considered as ‘automatic’ speech, i.e. expressions that do not have to be syntactically or morphologically parsed. This assumption rests largely on the observations of differences of the language

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performance of right hemisphere damaged (RHD) and left hemisphere damaged (LHD) patients: LHD patients perform better in nonpropositional expressions than RHD patients, and RHD patients perform better, for example, in syntactically free phrases and grammatical words (van Lancker & Kempler, 1987; Kempler, van Lancker, Marchman & Bates, 1999). However, recent studies have shown that idioms and other formulaic expressions are not necessarily unanalyzed units of language: on the contrary, it seems that, at least in the case of normal speakers, even idioms are parsed syntactically and morphologically during language comprehension (Burgess & Chiarello, 1996; Flores d'Arcais, 1993).

For long it was quite categorically assumed that processing of idioms was related only to right hemisphere function (see also van Lancker, 1987). Recently, however, many studies have questioned the strict dichotomy of the roles of the hemispheres in language processing. Burgess and Chiarello (1996) noted that

The last 20 years has seen the attainment of a notable degree of neurolinguistic sophistication beyond the stereotype that (right-handed) humans are strongly lateralized for language in their left hemisphere (LH) and for visuospatial processing in their right hemisphere (RH). Although there is a consensus that language production is strongly left lateralized, it is now less controversial to acknowledge that the RH possesses certain language comprehension abilities. An increasing amount of evidence suggests that both the RH and LH contribute to the comprehension of semantic relations.—Thus, both hemispheres contribute to lexical-semantic processing required by the language comprehension system. A more specialized account of hemispheric capability emerges, however, when the language subsystems that underlie the processing of syntactic structure are considered in comparison with figurative processing. The domain of syntactic processing appears to be more clearly an LH function. (Op. cit., 67–68.)

Idiom studies offer us new views to language in several ways: idioms form a 'gray area' in between words and sentences, and the idiomatic combination of words usually carries much more information than the same words alone would carry. Idioms are often also metaphorical expressions that are used affectively (for overviews of figurative language, see for example, Gibbs, 1994; Cacciari & Glucksberg, 1994). There is, however, no simple and elegant solution to the definition of the idiom. Traditional views of idioms as 'long words' or 'dead metaphors' have been shown to be insufficient, and not in the least after the rise of cognitive linguistics. It seems that a strict and exhaustive definition of an idiom is impossible because of the heterogeneous nature of and variation in the forms and functions of idiomatic expressions. Idioms seem to form a continuum along syntactic fixedness and/or semantic opaqueness (Moon, 1998; Nunberg et al., 1994; Niemi, Hiltunen, Mäkisalo, Nenonen, Penttilä & Tynkkynen, 1995). Due to the heterogeneity of the idiomatic expressions, different kinds of idioms may also be processed differently.

### *1.1. Finnish morphology*

Since Finnish is typologically different from most other languages studied in idiom analyses so far, we have some novel possibilities to study also the morphology of

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