

Theory of Mind impairment and its linguistic consequences

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Theory of Mind (TOM) is a cognitive ability that allows individuals to see the world through the eyes of others. This ability is essential for participation in discourse which requires inferencing of speakers' intentions. Some individuals show TOM impairment after they sustained damage to the right brain hemisphere. These individuals are expected to experience difficulty in linguistic tasks that require consideration of other's point of view.

I will present two research projects, the first focused on ***using and comprehending intended referents*** of various referring expressions (e.g., he, himself, the/a boy). The tasks required both syntactic and TOM related abilities. The participants were 21 right brain damaged participants. Their TOM ability was evaluated using the *aTOMia Battery*; a battery composed of 8 types of TOM tasks. Fourteen participants showed TOM impairment (aTOMia) and 7 participants showed intact TOM. The participants with *aTOMia* performed consistently worse than the participants with intact TOM and a control group on the TOM related linguistic tasks. In contrast, their syntactic abilities, which are not dependent on TOM, were intact.

The second research further investigated the consequence of TOM impairment by testing the understanding of two types of non-truth conditional meanings. One task tested ***Comprehension of factive verbs***, verbs that trigger the presupposition that the information expressed in the clause they embed is a true fact– (I forgot that it rained → it rained). The second task tested ***Comprehension of the contrast conjunct "but"*** e.g., the clause "The coat is nice but heavy" implies that the speaker doesn't like it. We tested 17 right brain damage patients. Eleven participants were aTOMic and 6 showed intact TOM ability. The results showed that the TOM-impaired participants were able to distinguish between factive and non-factive verbs and comprehended the factive presupposition. In contrast, they failed to infer the speaker's intention when using 'but' to convey her attitude. These findings suggest that while lexical information was preserved the ability to infer implicated meanings was comprised.

Taken together, the results show that the TOM ability is related to specific linguistic abilities, and that the way patients with aTOMia perform in these linguistic tasks can teach us about the nature of the knowledge required to engage in a meaningful discourse.