Left inferior longitudinal fasciculus

The role of the left inferior longitudinal fasciculus (ILF) in language processing has been called into question by recent studies showing that disruption of this tract in glioma patients did not necessarily lead to detrimental effects on spoken language, especially on picture naming.

Herbet et al. showed that disruption of the left ILF with axonal stimulation in patients undergoing an “awake” surgery for a slow-growing tumour systematically induces pure anomia, but only when the temporal pole (TP) is not infiltrated by the tumour. This finding not only confirms that the ILF plays a role in lexical retrieval in normal circumstances but also suggests that the information conveyed by this tract can be rerouted to alternative pathways when the TP is widely lesioned and abandons its function. This conclusion is further supported by the case of a patient who developed a long-lasting anomic aphasia after a surgically preplanned interruption of the ILF [1].

1)
Herbet G, Moritz-Gasser S, Lemaitre AL, Almairac F, Duffau H. Functional compensation of the left inferior longitudinal fasciculus for picture naming. Cogn Neuropsychol. 2018 Jun 7:1-18. doi: 10.1080/02643294.2018.1477749. [Epub ahead of print] PubMed PMID: 29879863.