



Disorders of Object Recognition and Spatial Cognition ^[1]

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The various disorders of object recognition and spatial cognition primarily involve damage to areas responsible for these brain functions, such as the Broca's Area, the Wenicke's Area, and the structures that surround them.

The Aphasias

Aphasia is a condition caused by brain damage, resulting to the lack of ability to comprehend or express speech. There are two general classifications of aphasia: non-fluent aphasias and fluent aphasias.

Non-fluent Aphasias

The non-fluent aphasias include those aphasias in which there is a difficulty in expression through speech or writing. These are comprised of the Broca's aphasia, global aphasia and transcortical motor aphasia.

Broca's Aphasia

As the name implies, the Broca's Aphasia is the result of damage to the Broca's Area. The ability to initiate conversational speech is lost in this kind of aphasia. Slow and labored speech is also evident. Another symptom is poor handwriting. A person experiencing Broca's Aphasia also experiences trouble in choosing the right words when speaking or writing, also called as anomia. However, the person can still understand other people's speech.

Global Aphasia

People with global aphasia have both their Broca's and Wenicke's areas, hence the term "global". The service damage leads to poor comprehension and impaired production of meaningful, conversational speech.

Transcortical Motor Aphasia

This type of aphasia results from damage to the premotor cortical areas near the Broca's area. Transcortical motor aphasia limits the person to one to two word utterances as well as non-fluent and agrammatical speech. However, the person's comprehension remains normal. He can also repeat long sentences as well as complex ones.

Fluent Aphasia

Fluent aphasia involves those aphasia in which speech is fluent but meaningless, and comprehension of both written and spoken words is poor.

Wernicke's Aphasia

Damage occurs to the posterior portion of the superior and middle left temporal gyrus and the left temporoparietal cortex.

Damage to the Wernicke's area, the left temporal gyrus and the left temporoparietal cortex results to Wernicke's Aphasia. This condition is characterized by fluent speech, although its meaningfulness is poor. People with Wernicke's aphasia have poor comprehension of the written language and speech of other people.

Conduction Aphasia

In conduction aphasia, the left temporoparietal region of the brain is damaged. This leads to poor ability to repeat verbal information. Conversational speech as well as language comprehension are near-normal.

Anomic and Transcortical Sensory Aphasia

Anomic aphasia is a mild form of Wernicke's aphasia and is characterized by difficulty in identifying people, places, objects and events through naming them. On the other hand, transcortical sensory aphasia involves echolalia, the meaningless repetition of words spoken by another person.

Spatial Recognition Disorders

Agnosia is a condition characterized by the inability to interpret sensations and thus to recognize things. Patients with auditory-verbal agnosia can recognize non-language sounds (e.g. animal noises), but not language sounds (i.e. words and phrases). Visual-verbal agnosia patients are able to recognize spoken words, but not printed words. Alexia is the inability to read, while agraphia is the inability to write. These two conditions are due to the damage to the angular gyrus. Dyslexia [3] is another condition wherein individuals find it difficult to read either whole words (word-form dyslexia) or phonemes / sounds of letters (phonological dyslexia). Dyslexia is believed to be a result of low brain activity levels and damage to the cerebellum.

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