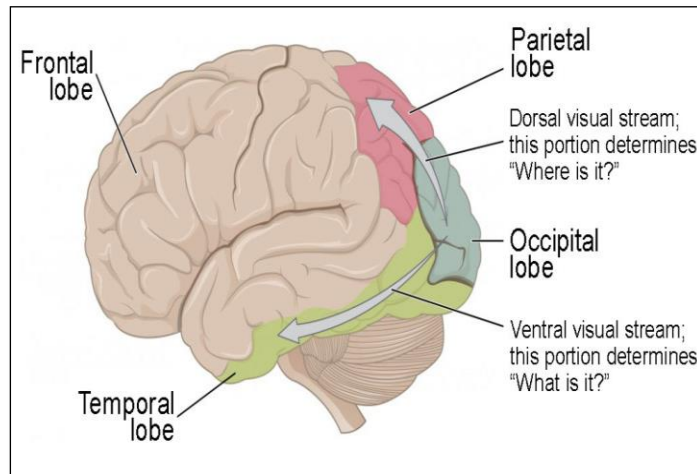


Understanding the Mechanism of Visual Perception and Action

Over almost 40 years, two distinct streams of neural information processing has remained a valid theory. According to Visual Dual-Stream Theory, the two distinct neural pathways of particular functional significance originate from primary visual areas and reach the inferior temporal (ventral) and posterior parietal areas (dorsal) of the brain. However many aspects of the theory such as specific roles of individual brain regions and their interactions with each other, are poorly understood.



Scientist at the Department of Biotechnology's autonomous institute National Brain Research Centre (NBRC), Manesar, India has addressed several unresolved questions regarding the fundamental aspects of theory using Functional Magnetic Resonance Imaging (fMRI) recordings on healthy human volunteers. The fMRI measures brain activity by detecting changes associated with blood flow. It has been seen that when an area of the brain is in use, blood flow to that region also increases. fMRI scans were repeated after seven practice sessions that were conducted in a non-MRI environment to investigate the effects of changes in the brain activity.

The study has shown that there is more complex context-driven functional networks selective of "what" and "where" information rather than segregated streams of processing along ventral and dorsal brain regions.

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