

Neural Prosthesis

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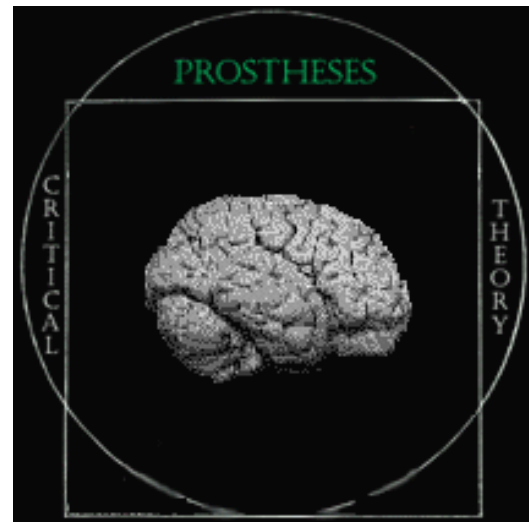
Neural prosthetic devices are artificial extensions to the body that restore or supplement function of the nervous system lost during disease or injury. Neural prosthetics are devices that are used to allow disabled individuals the ability to control their own bodies and lead fuller and more productive lives.

The goal is the development of totally implantable systems for restoring the motor control and sensory feedback for a paralyzed individual. Significant progress is being made towards the development of motor prostheses for disabled individuals, particularly for upper limb control. It is expected that future efforts will combine subsystems for functional neuron/muscular stimulation with neuron interfaces that can detect signals in the brain associated with movement. This involves implanting microelectrode arrays in the motor cortex.

Also, in working progress are technologies that go beyond electrical stimulation of the nervous system to allow controlled inhibition. Currently engineers and researchers are combining plan and peri-movement activity in order to increase performance of neural prosthetic systems. Experimentations with monkeys has led to advances in neural prosthesis for the arms and hands.

Future progress in the field of neural prosthetics included the development of improved assistive technologies in order to improve the quality of life. The new technologies are

to restore motor and communicative functions for individuals with spinal cord injuries, Amyotrophic Lateral Sclerosis (ALS), and stroke, and more.



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