How electric currents influence neurons in the study of neuroscience.When a magnetic field changes, it creates a small electric field inside tissue that can conduct electricity.Electric currents in the environment may originate from physical stimulations via, for example, electrodes placed on the skin or close to nerve structures, or from exposure to fluctuating magnetic fields, as is done during Transcranial Magnetic Stimulation (TMS).As the imposed potential reaches a critical threshold--about -55mV--voltagegated channels open, allowing Na+ ions to enter the neuron.Neurons are excitable cellsThey transmit small electrical pulse and signals called(action potentials).The membrane potential of a neuron--ie the potential across the membrane--is typically about -70 millivolts (mV).That Sam membrane potential can be modified by external electric currents that come into contact with neural tissue.This inrush results in depolarization of the membrane---and an action potential is triggered Thereby, the electrical signal can pass along a nerve cell.This resting state is brought about by the concentration differences of ions on each side.If this change is big enough, neurons fire.