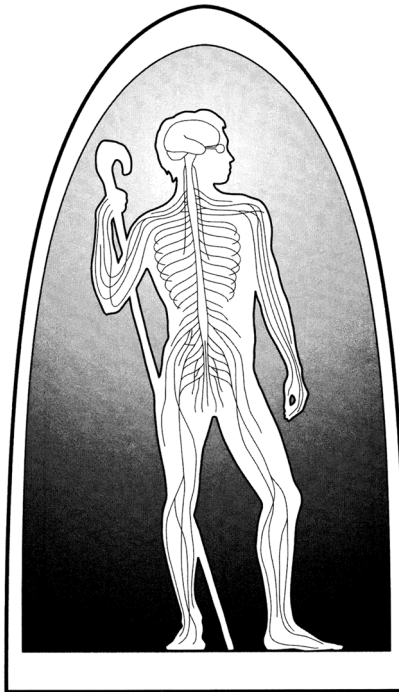


1

ANATOMY OF THE NERVOUS SYSTEM AN OVERVIEW



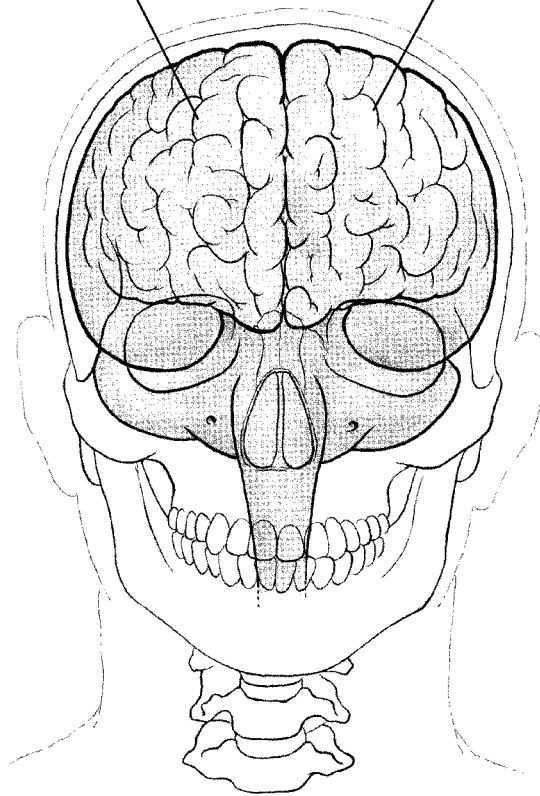
*The magnificent anatomy of the human nervous system -
brain, spinal cord, nerve roots, trunks and nerves supplying the
entire body i.e. organs and extremities.*

The nervous system consists of the brain and spinal cord (central nervous system), and nerve roots, trunks, and nerves (peripheral nervous system). The nervous sys-

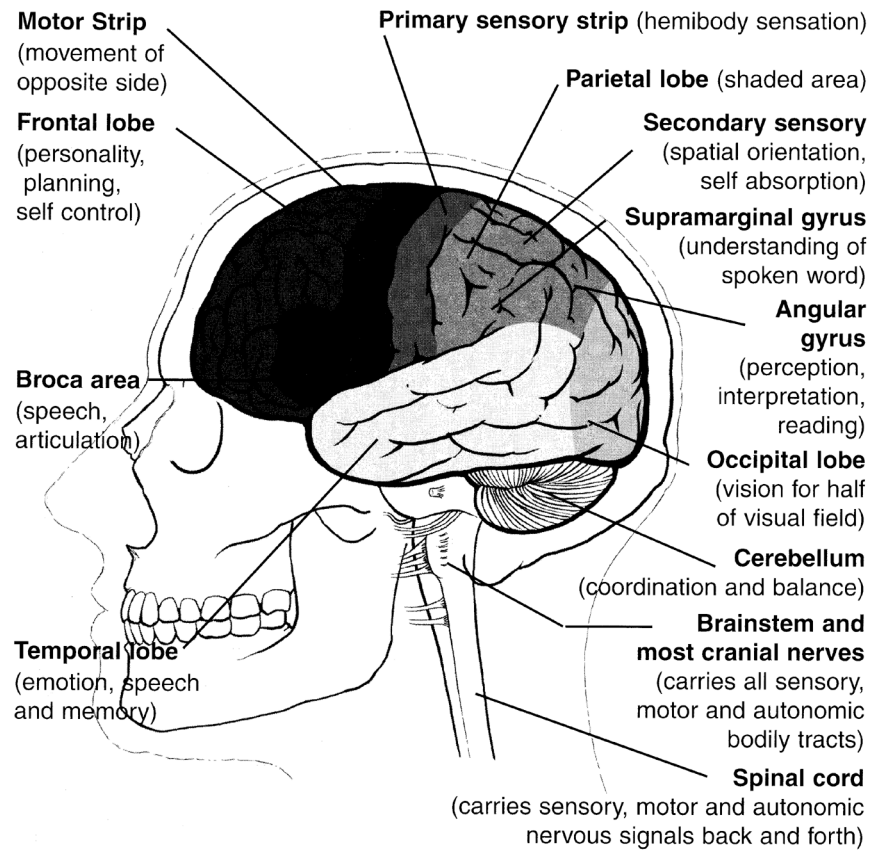
tem is well protected inside the bony skeleton, especially the central part. The peripheral part is protected under the skin, musculocutaneous tissues, and the ligaments. The **brain** consists of the cerebrum, the cerebellum, and the brainstem. Each part of the brain has a specific function and a global function. Further emphasis will be explained in the subsequent chapters. The following figures illustrate various functions of the brain.

Right hemisphere
Non-dominant except for
50% of left handed people

Left hemisphere
Dominant in most right-
handed people

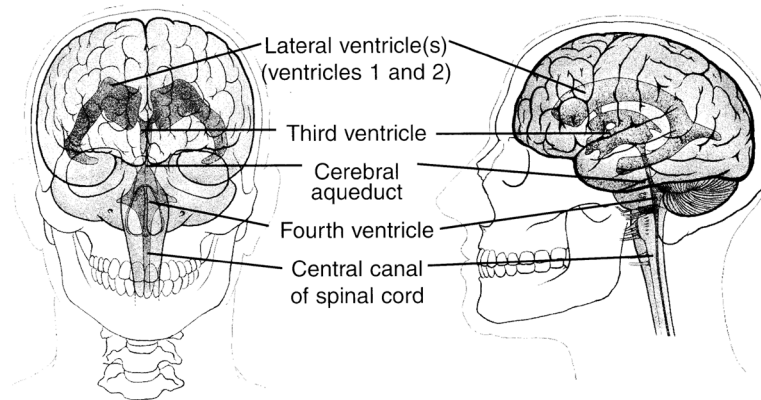


The human brain has left and right hemisphere separated by a rigid sheet called the falx cerebri.



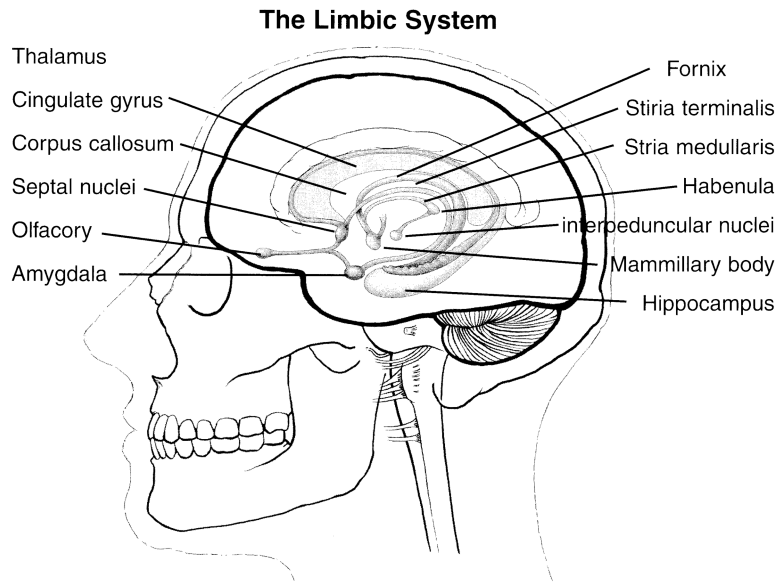
Overview of the human brain anatomy. Anatomical diagram illustrates names and functions of different brain parts.

The Ventricular System



The brain contains natural cavities that contains cerebrospinal fluid which circulates through the entire central nervous system (brain and spinal canal)

There are **twelve cranial nerves** which are essential for the facial senses (upper cranial nerves); **Olfactory (I)** and **Optic (II)** nerves for smell and vision, respectively), **Oculomotor (III)**, **Trochlear (IV)**, and **Abducent (VI)** nerves for eye movements and **Trigeminal (V)** nerve for facial sensation and mastication, **Facial (VII)** nerve for facial movement and **Cocchleo-Vestibular (VIII)** for hearing and balance. The neck and autonomic nervous system (lower cranial nerves); **Glossopharyngeal (IX)** for mouth sensation, swallowing and phonation, **Vagus (X)** nerves for swallowing, phonation, cardiopulmonary, and digestion), **Accessory (XI)** nerve for neck movement and **Hypoglossal (XII)**; nerve for tongue movements. The **Spinal Cord** extends below the skull to the mid-back (lumbar level 1-2). The **Cervical** (first part of the spinal cord) cord gives sixteen spinal nerve roots to provide nerve supply to the neck and upper extremities. The **Thoracic** (intermediate part) cord gives twenty-four spinal nerve roots that supply the chest, trunk, and abdomen. The **Lumbosacral** (lower part) of the spinal cord gives rise to twenty spine nerve roots that supply the lower extremities and sphincteric (Bowel, bladder and sexual) functions. Spinal roots give rise to trunks, plexuses, and nerves. Nerves carry sensory, motor, and autonomic functions. Sensations include pain, temperature, touch, vibration and position, and specific e.g. taste.



*Deep neural circuitry of the emotions and memories,
papez circuit*



*The emotional circuits called "Papez circuit located in the depths of
the brain, the limbic system is a multicircuit, the surrounding
images indicate the limitless extent.*

Inside the nervous system, there are phenomenal structures that are laid down by the creator. Looking at these structures makes the human mind humble, worshipping the Lord. I will try to go with my mind in the spiritual and philosophical directions knowing that I am a limited human being. Let me give you an example. At any given time, signals and commands going back and forth from the brain to the remaining parts of the nervous system. The wires (neurons) in the entire system of a single human body number in hundreds of billions. The billions of wires have some connections with other human beings. The world population is in the billions, and each person has billions of wires, and all of those are connected to the one God. Can you imagine the multiplicity of all those billions with all the years from the beginning to the end of the earthly world? And if nothing goes in vain, billions and billions of nervous contents are accumulating over the years to be revealed at the end of days. There are billions of interconnections that exist between the visible and invisible; past, present, and to come; physical and spiritual; dead and living worlds. Hopefully, this example stimulates your mind in regards to the tight connection between Christianity and the human Brain.