It was almost 150 years ago that Pierre Paul Broca carried out pathbreaking researches on the human brain.

Pierre Paul Broca was born on 28 June 1824 in Sainte-Foy-La-Grande, Bordeaux in France. His father, Benjamin Broca was an eminent physician in the battalion of the French emperor Napoleon Bonaparte. Broca’s mother was also a rational lady with a scientific bent of mind because she had been baptised by Martin Luther’s radical view of humanist Protestantism.

Since his childhood, Broca exposed his ubiquitous genius to the spectrum of literature, mathematics and physics. He graduated with medical science at the raw age of 20. He earned the prestigious diploma – “bachelier des letters” – at the age of 16 only. As a student, Broca was inquisitive enough to gather information about the ancient, scientific researches conducted by Aristotle, Vesalius, Galen, Ibn Sina, Charaka, Hippocrates, Sushruta, William Harvey and other luminaries. Since then, Broca became curious to cruise into the enigma encircling our brain and central nervous system.

But for this Broca needed to acquire a summative knowledge about the human anatomy. He engrossed himself in the study of human anatomical evolution. He began his extensive internship with urologist and dermatologist – Phillippe Ricord at the Hopital du Midi. He was also a junior scientist under the aegis of Dr Francois Leuret. Broca also assisted the renowned French anatomist and surgeon – Pierre Nicolas Gerdy.

Supporting Charles Darwin’s scientific theory of evolution, Broca founded a society of radical and logical youth, much akin to Plato’s “Akademos” and Henryouis Vivian Derozio’s “Young Bengal” at the age of 24. Despite his persistent conflict with orthodox, exploitative and prejudiced Church authority, Broca remained confident enough to pursue his scientific studies and observations for a greater, philanthropic welfare.

Broca become the youngest faculty of anatomy at the University of Paris medical school. In 1849, he adorned the post of the secretary of the Anatomical Society and was also a doctor of science at the University of Paris.

Being inspired by the pathbreaking researches of Broca, contemporary neurologists like John Hughlings found out that the frontal lobes and the thalamus of our brain also have the capabilities to comprehend and utter words and languages.
medicine. He wanted to mingle psychology, psychiatry and clinical medicine to cure diseased humans. By following that novel avenue, Broca applied hypnotism to anaesthetize patients in surgery. As the professor of clinical surgery, Pierre Paul Broca worked in the Saint Antoine Hospital, Hotel des clinques and in the Necker Hospital.

Broca realized that to make his study more concretised within the formation and function of brain, as well as to diagnose the causes of several neural maladies, he must have to study the evolution of the human brain. He founded the Anthropological Society in Paris, in 1859, which was the world’s first anthropological foundation. Broca also published a journal on the descent of mankind – Revued Anthropologie.

Actually, Broca was more riveted to anthropological quest after going through the works of Isidore Geoffroy-Saint Hilaire, Antoine Etienne Reynaud, Augustin Serres and Jean-Louis-Armand Quatrefages de Breau—notable anthropologists of those times. Broca intensely studied the fossilized bones of our ancestral anthropoids or hominids – Diplothecus, Ramapithecus, Peking man, Homo habilis and Australopithecus Boisei. He strongly believed that there must be a direct nexus between the human intelligence and the sizes of brain, as well as cranium (skull).

However, Broca never supported the prevalent view that white skinned people or Caucasians are endowed with the best of intelligence. In his humanist viewpoint, Broca always trusted that the gift of intelligence, innovation and ready wit are found liberally within every human, irrespective of social status, caste and creed. It was Broca who calculated that the skull and bone of Neanderthal man, excavated in 1856, were one of the earliest remains of human’s ancestry, not an instance of disfigured primate.

He critically evaluated an ancient skull of an Inca tribal, found in Peru’s valley of Yucay by archaeologist Ephraim George Squier. He showed the other scientists that the skull was the testimony of an advanced, cranial surgery which used to be carried out during the reign of the Inca emperor Atahualpa, in Peru, Bolivia, Mexico, Ecuador, Colombia, Guatemala and Honduras.

April 1861 will forever remain etched as a milestone in the field of brain research. During this month, Paul Broca conducted a post-mortem or a dissection in the corpse of an imbecile person called “Tan”. He called that lunatic by that quaint name because he could not utter any other word except that one, due to his defect in speech. By dint of post-mortem, Broca discovered a unique fact. The frontal lobe of Tan’s brain (real name Albert Loborgne) was found completely shrunken, devoid of intelligence-triggering grey cells and was degenerated.

Then, Broca propounded his legendary theory about the function of brain – the left cerebrum of the human brain (which is renamed as Broca’s Area) contains the capacity center to make and understand our languages and speeches. The power of impulses, thoughts, physical movements and memory are placed in other lobes of our brain.

By probing into the autopsy report of Tan’s brain, Broca found that Tan’s brain had developed a scar, or a lesion, which had been caused by syphilis. It is true, that another French neurologist Marc Dax had a philanthropic bent of mind also. He supported female education. Like Socrates, Broca was also denounced by the orthodox community as a “corruptor of youth”.

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Quite a few scientists are enterprising enough to delve deeper into the labyrinthine structure of this brain, impregnated with an incredible maze of nerve cells and grey cells.

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