

Life of Niels Stensen (1638-1686), who was the Pioneer Scientist and Great Neuroanatomist

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Abstract

Danish scientist, Niels Stensen was a prosperous anatomist and in addition to that a pioneer in the areas of paleontology, geology, mineralogy and bishop. With his studies on subjects of anatomy, neuroscience, paleontology, mineralogy and geology Niels Stensen has major scientific contributions despite the difficult circumstances until his death at very young age.

Keywords: Niels Stensen; History of medicine; History of anatomy

His Life

Niels Stensen (11 January 1638-25 November 1686) (Figure 1) who was recognized as a Danish scientist was born in Klareboderne Lane, Copenhagen [1,2]. His father was a Lutheran jeweler who worked permanently for King Christian IV of Denmark. After his father died in 1644, his mother married another jeweler [1].

Stensen was very clever and could speak German, Dutch, Italian, French, Latin, Hebrew, Greek and Arabic fluently, so some thought he was a scholar. He went to the most prestigious school in the country, Von True grammar school (1647-1656). During 1654-1655 when Stensen was 16, plague outbreak killed nearly one out of every three people in Copenhagen including more than 200 of his scholars [3]. In Rostock, he was studying medicine as a student of Thomas Bartholin (1616-1680). Stensen went to Amsterdam in 1660 to get anatomy lectures from Gerhard Bläes (1626-1682). By cutting a sheep's head, he discovered the parotid gland's excretory duct. In 1661, he passed to the University of Leiden to study under Frans de la Bøe (Franciscus Sylvius) (1614-1672) and Johannes Van Horne (1621-1670). Until he received his medical degree from University of Leiden, he wrote two books; *Observationes anatomicae* (1662) and *De musculis et glandulis observationum specimen* (1664) in which he claimed that heart was just a muscle, not the origin of animal heat, vital spirits or source of blood. In 1664 after his graduation



Figure 1: The portrait of Niels Stensen (1638-1686) which can be found at https://en.wikipedia.org/wiki/Nicolas_Steno Accessed 15 December 2017.

he moved to Paris and then in 1666 he moved again to Rome, Italy and work with Marcello Malpighi (1628-1694). After invitation by the Grand Duke Ferdinand II who offered titles as anatomist of S. M. Nuova and member of Accademia del Cimento, he moved to Florence. Stensen converted to Catholicism and nominated as bishop by the Pope Innocent XI in 1667. He appointed missionary duty Lutheran North. He became a priest in 1675. In 1684, he moved to Hamburg. In 1686, he died at Schwerin [1,4].

He was a great anatomist therewithal a pioneer in the areas of paleontology, geology, mineralogy and bishop [1]. His name has numerous alternate spellings such as Niels Stensen/Steensen (Danish version), Nicolai Stenonis (academic and Latin name), Nicolaus Stenonis or Nicolas Sténon (French version), Niccolò Stenone (Italian version) and Nicolaus or Nicolas Steno (English version). Hereby, Stenson's name can be written differently according to the source or the language. At the present time, his name recognized generally as Nicolaus or Nicolas Steno [2,5].

His Publications

In 1662, he wrote a book named *Observationes Anatomicae* and in 1664, he wrote a book named *De Musculis et Glandulis Observationum*. In 1669 he wrote *Discours sur l'anatomie du Cerveau* in which he compared the brain anatomy descriptions of Descartes and Willis in which (Figure 2). In 1667 *Elementorum Myologiae Specimen and Canis Carchariae Dissectum Caput*, in 1669 *De Solido Intra Solidum Naturaliter Contento Dissertationis Prodomus* were published and a scientific letter titled *De Vitulo Hydrocephalo Epistola* was published in 1673 [1].

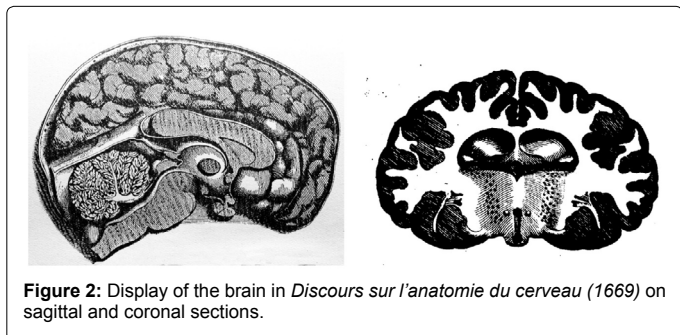
Lymphatic system, muscular system, heart and brain (Figure 2) were the main subjects of Niels Stensen's studies. The lower opening of incisive canal, today known as incisive foramen was described by him. Both parotid ducts in other words Stenon's duct and the mineral "stenonite" were named after him in his honor.

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Conclusion

With his studies on subjects of anatomy, neuroscience, paleontology,

mineralogy and geology Danish scientist Niels Stensen has major scientific contributions despite the difficult circumstances until his death at very young age. For this reason, he should be appreciated.

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