

ABU-ALI SINA (AVICENNA) AND THE DESCRIPTION OF TRIGEMINAL NEURALGIA

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In 980 A.D. in a province of Bukhara in northeastern Persia (Fig.1) a man was born who was destined to influence medical teaching and philosophical thought for centuries to come. He was Abu-Ali Sina

Koran and knew a great deal of Persian and Arabic literature. He then quickly learned and mastered rhetoric, He was a truly universal genius of the calibre of Aristotle and Leonardo De Vinci, not limited to a single

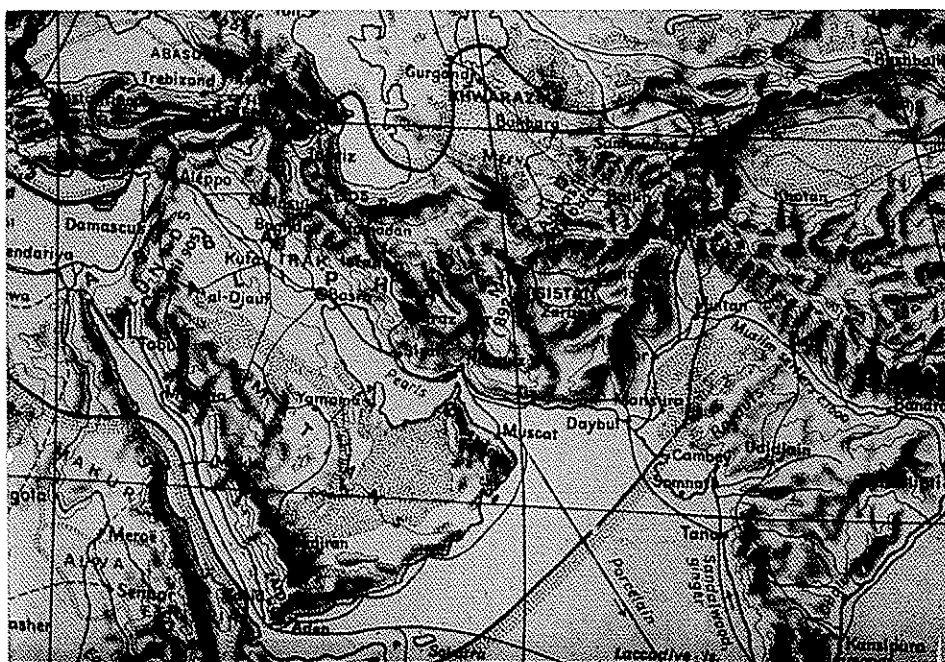


Fig. 1. Map of Iran at the time of Avicenna's birth

better known as Avicenna in the west (Figs. 2,3). Edward Brown called Bukhara the cradle of Persian literature and learning. It was the capital of Samanid Dynasty (878-999 AD).

The home town his father, Abdullah, was Balkh in present day Afghanistan. His mother's name was Setareh, a Persian word for star. Bukhara, at that time, was the capital of Samanid Dynasty, which had started in 875 AD and had increasingly become more independent from the rulers of Baghdad. The city was the center of intellectual life and an important commercial metropolis. He wrote his own biography until his 21st year. This was

later completed and supplemented by Jurjani, his pupil and close friend for 25 years.

Avicenna was an exceptional and gifted man, a child prodigy who at the age of 10 could recite the whole of sphere of achievement, and at the age of 16 he began studying medicine with such enthusiasm and industry that in less than two years he was considered an authority on this subject and was teaching other physicians. When at the age of 18 he successfully treated the Samanid prince, Nuh-ibn Mansur, he was appointed court physician and obtained the right of access to the rich Royal Library.

ابو علی سینا



Fig. 2. Avicenna

Avicenna lived during a tumultuous period of Persian history and led a very turbulent and unsettled life. In view of the ruthless suppression of all forms of unorthodox beliefs, he was forced to travel from place to place for fear of persecution or to avoid involvement in fast changing political environment of the time. His journeys, sometimes in dangerous circumstances and with concealed identity, took him to Gurgan near the Caspian sea and from there to Ray near the present day Tehran and the birth-place of Rhazes, to Hamadan in western Iran in 1014. Here he became a court minister on two occasions separated by a period of imprisonment contrived by some rival factions. During this time which lasted 9 years he would attend to the affairs of state during the day, teach and write in the evening and would then have singers and dancers for entertainment!

From Hamadan he went to Isfahan where he spent the last 14 years of his life. During a journey to Hamadan in 1037 he died and was buried there. He was



Fig. 3. Imaginary portrait of Avicenna (Madrid) 1770 AD

57 at the time (Figs. 4,5,6,7).

It was with this background of so much trouble and upheaval in a relatively short life span and in the absence of proper resources that this astounding person is credited with over 250 books at least half of which are authentic, on subjects ranging from philosophy and medicine to geology, metaphysics and music. Although his mother tongue was Persian, in common with Rhazes, Fārabi and other Persian scholars of Islamic period, he wrote most of his books in Arabic which, like Latin in the west, was the scientific language of the time. A great number of his books have never been translated.

His most famous medical writing is the Canon of Medicine, an encyclopedic and monumental work of over 1,000,000 words, based on the teachings of Galen and Hippocrates but including all the prevailing knowledge of medicine with many new ideas and personal observations, although the bulk of his own clinical writings appears to have been lost. The Canon

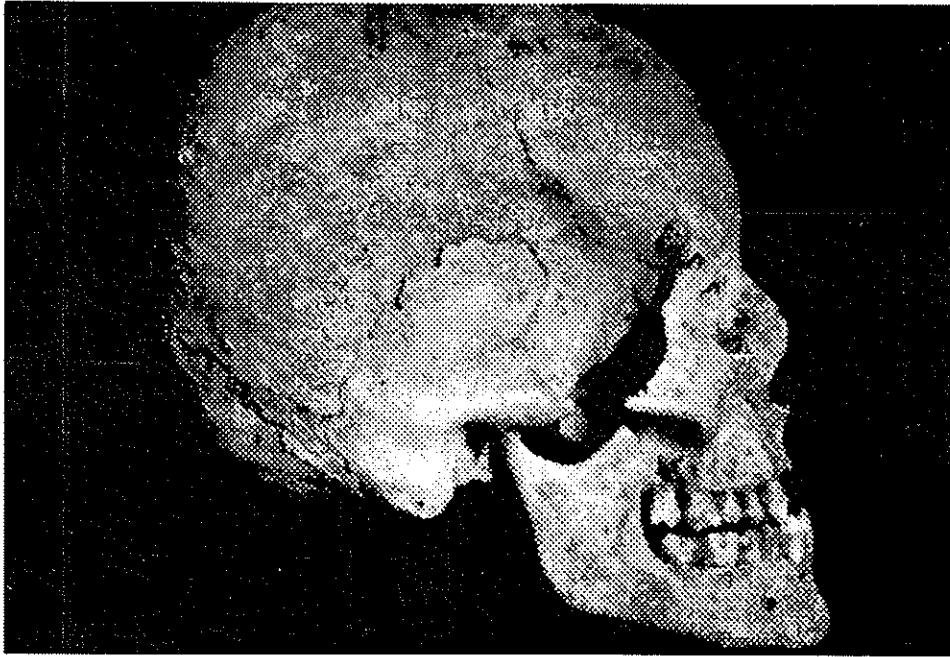


Fig. 4. Skull found in Avicenna's old grave



Fig. 5. Old building at grave site, Hamadan

was translated into Latin between 1150 and 1178 by Gerard of Cremona at Toledo. Complete Latin versions were printed in 1544 in Venice and 1658 in Louvain. The first Arabic edition was produced in Rome in 1593. It was not until 1930 that O.C. Gruner translated and published an incomplete version in English. The canon

is divided into 5 main books in the third of which there is an especially thorough description of nervous and mental diseases including perhaps the first description of meningitis and a detailed study of encephalitis as well as a dissertation on the detrimental effects of stress on general health. Between 1500-1624 over 60 editions of

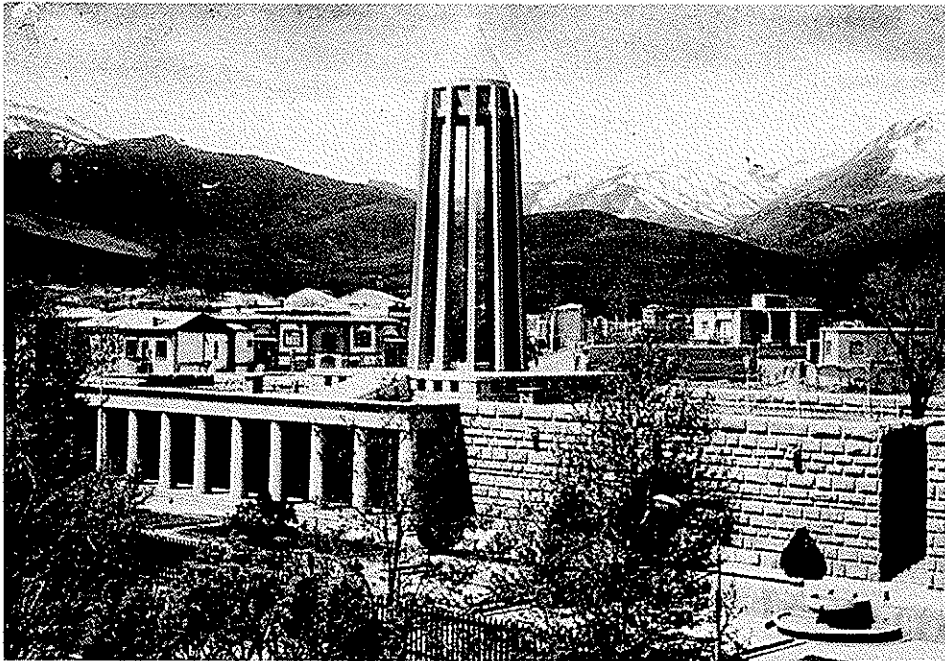


Fig. 6. New mausoleum



Fig. 7. Old tombstone

complete or partial latin translations were published. Canon was taught as late as 17th century in Europe (Figs. 8,9,10).

Dr. John Penman of London in an excellent chapter on trigeminal neuralgia (TG) in the Handbook of

Clinical Neurology in 1968 gives the credit for the first description of trigeminal neuralgia to 16th and 17th century authors, all of whom described single case reports (1).

Fuller description followed in the 18th century in the



Fig. 8

work of Andre (2) who coined the term Tic Douloureux and Fothergill (3) in his classical description of 14 cases. Dr. Penman writes "Avicenna has often been credited with a description of TG but this belief arose from misunderstanding of a medieval Latin version of his Canon of Medicine. There in the heading of his chapter on facial paralysis the Arabic word laghwa is correctly translated *tortura faciei* which means twisting of the face with no implication of pain".

This is probably not the case. A translation directly from Arabic quoted by prof. Ameli, an Iranian neurosurgeon, in his article on this subject in the *Journal of Neurological Science* in 1965 (4) and a more recent translation suggest otherwise. Avicenna wrote "Laghwa is a type of organic disease affecting the face. It causes abnormal changes on one side of the face including lips and eyelids. The cause of this affection is either paralysis or spasm. In the paralytic type as one side of the face has become weak and loose, the other side pulls it. If paralysis remains for 6 months there is no hope for cure. Know that sometimes laghwa is a forerunner of hemiplegia. If it is of the spasmodic type, there may be pain in the face and head with not much change in power and sensation".

The treatment is also given separately in the two types, poultices, liniments or warm medicines for the paralytic and hot baths, rest in a dark room and wine are suggested for the spasmodic type.

In the chapter on diseases of teeth Avicenna writes, "Know that toothache is due to a cause in the tooth itself but occasionally the cause lies in the nerve or

gums. If the pain is not deep and affects the jaw and if the teeth should feel a little numb then it is due to the diseases of the nerve". Later on, he gives this as the explanation as to why toothache is not always cured by extraction.

Ismail Jurjani, another Persian physician born in the middle of the 11th century who was trained in medicine under a student of Avicenna, wrote a book in Persian entitled, "*Zakhireh Khwarazmshahi*" the *Thesaurus of the Shah of Kwarazm*, in 1127.

In a paragraph in this book, which has never been translated, Jurjani writes "There is a type of pain which affects the teeth on the one side and the whole of the jaw on the side which is painful. With the pain there is spasm of the face and severe anxiety. It should be known that the pain is from the nerves which are attached to the roots of the teeth. The cause of the spasm is the proximity of the artery to the nerve". An interesting observation considering the recent ideas on the aetiology of TG.

It is therefore probable that Avicenna and Jurjani knew and recognized TG, rare as this condition must have been in those days of short life expectancy.

Whether Avicenna had recognized this particular neurological condition or not there is little doubt that he was an acknowledged master of all the known learning of his day. As Prof. Julian Huxley said in a lecture delivered during celebrations of the millenary of Avicenna's birth, "He was the product of a statistically very unlikely combination of genes creating an individual with outstanding capacities far above the level of mere

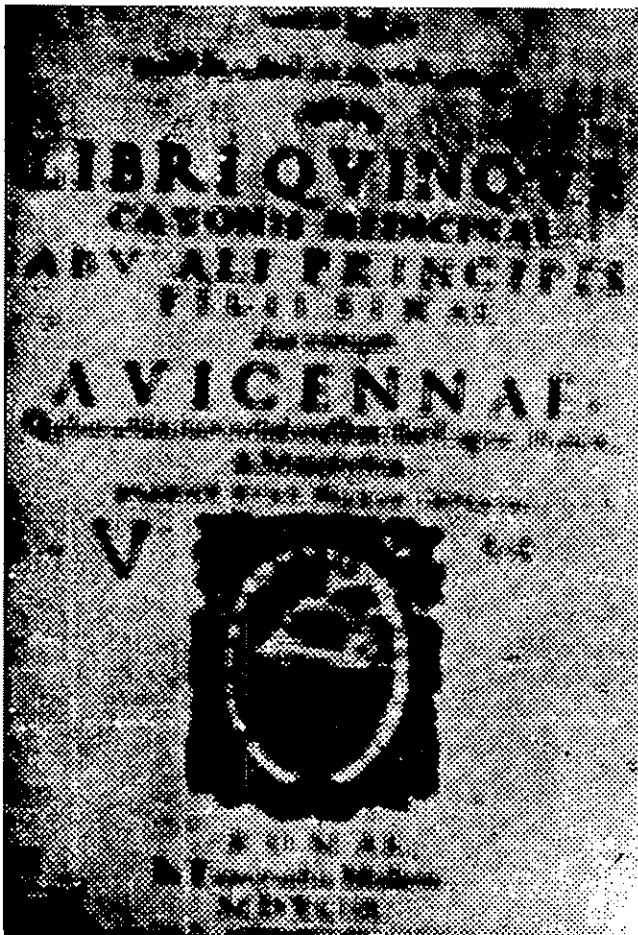


Fig. 9. Canon of Medicine. Cover page (first edition) Rome 1792

talent". He was compared to Plato by Sir William Osler, put in Paradise by Dante in the Divine Comedy, mentioned by Chaucer in the Prologue to the Canterbury Tales and 600 years after his death, recommended as essential reading by William Harvey. Yet, like all true men of knowledge, he was fully and acutely aware of the limitations of the human mind in unravelling the mysteries that surround us. In a quatrain translated by Edward Fitzgerald that authentically belongs to him and not to Omar Khayyam, he writes:

*Up from Earth's Center to the Seventh Gate.
I rose and upon the throne of Saturn sate.
And many a knot unravelled by the road.
But not the knot human fate.*

Centuries earlier, Socrates (470-399) BC had declared the same hopeless limitation of human intellect:

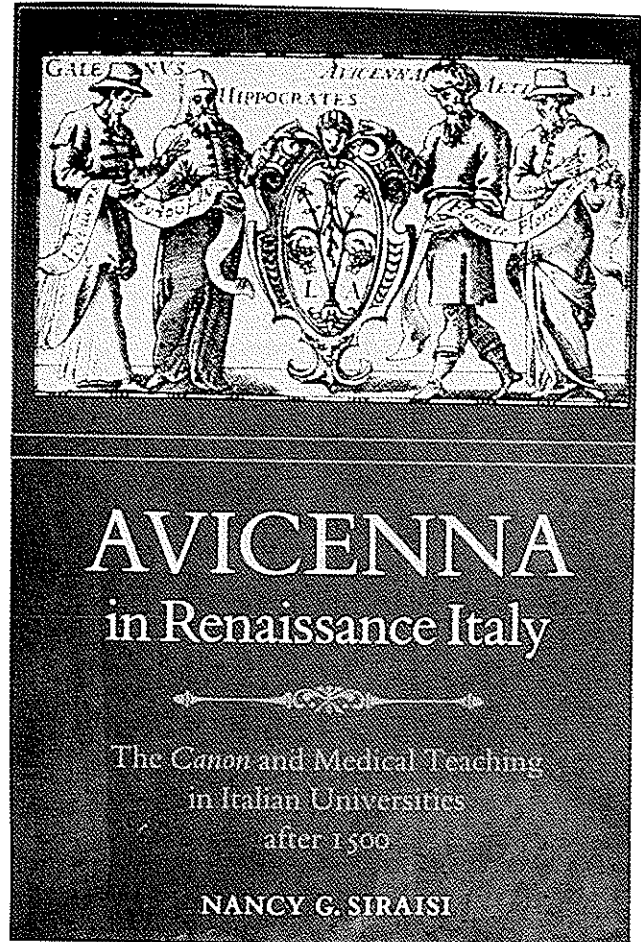


Fig. 10.

*Well has thou Sung
Athen's wisest son.
All that we know is
Nothing can be known.*

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