

## A Brief History of Ancient Iranian Medicine

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### Introduction

The origins of Iranian medicine, like most ‘origins’, are lost in mists of time, but we can surmise some of the practices of healers of prehistoric times from anthropological studies in extant primitive societies.

Medicine has always been intertwined with magical rites and rituals including incantations, dance and the use of talismans to thwart off evil intentions as a preventative measure. Some of these rituals can be seen in the practices of Witch Doctors of Africa, the Medicine Men of North American Indians and the Shamans of Siberia and Mongolia. The administration of herbal remedies as well as psychoactive plants and mushrooms was also part of their practice.

Surgery, however, remained a distinct specialty till much later periods. The setting of broken bones, extraction of arrowheads and spear points, repair of open wounds and even trephination of skulls are well attested to from prehistoric skeletal remains.

### Ancient Iranian Medicine

Iran, the land of the Aryans, has had an ancient and turbulent history. It has been invaded many times by Central Asian tribes to the North, by ancient Mesopotamians from the West, by the Macedonian Alexander and by the Arabs from the South, and at times of strength, it has invaded neighboring countries forming several vast empires. During these bilateral invasions, it has been influenced, and has influenced some of the most diverse cultures of the world with which the Iranians have come in contact throughout these millennia. But despite all these vicissitudes of fortune, Iran has during the past 2,500 years, managed to maintain a continuous thread of culture which has remained uniquely Iranian, yet enriched by foreign acquisitions.

The history of Iranian medicine can be traced back to Zoroastrian teachings which maintained many of its original Aryan traditions and beliefs.

Around 2,700 years ago, during one of the final waves of Aryan migrations, two groups of Aryans, the Medes and the Persians, settled in the Iranian plateau to the East of the Zagros Mountains. Some two centuries later these two groups united and formed the Persian Empire. The Medes were formed of six tribes, one of which, the Magi, consisted of a hereditary priestly cast and were probably derived from the Central Asian Shamans that still exist in Central and North-Eastern Asia as heal-

ers. These Magis were adept in astrology, herbal medications and magical acts. It is probable that these Median Magi (the three wise men from the East of Biblical fame; The Gospel according to Mathew 2:1) and from whom the word magic is derived, later formed the Zoroastrian hereditary priesthood known as the *mobeds* who directed the ritual religious rites as well as acting as the healers of the soul. Later, a special class of physicians and surgeons were formed but the power of healing with prayers and the incantations of religious texts remained within the domain of the Magis and Mobeds and was considered as the superior method of healing.<sup>1</sup>

### Avestan or Zoroastrian Medicine

What is known as Avestan or Zoroastrian medicine, the essence of which has been gleaned from the extant religious texts, is an extension of the ancient Aryan World View in which prevention of mental and physical illness was of paramount importance and was achieved through religious observance of moral purity and physical hygiene. These important tasks were supervised by the religious high cast Mobeds and Magi priests and in case of illness, the reading of religious mantras and prescription of herbal medications were administered by the same Magi healers.

There were strict admonitions against pollution of flowing water and the air was to be kept purified by burning of wild Rue and Frankincense. The soil was to be cultivated with food crops and fruit trees and kept free of putrefying matter and fire, a symbol of purity of the Deity, kept in eternal flames and free from contamination.

According to *Vidaevadata* (Vendidad), the fourth section of the Avesta (the Zoroastrian holy Book),<sup>2</sup> there were two other types of healer-physicians:

- The *Kard Pezeshk* or Surgeons
- The *Gyah Pezeshk* or Herbalists

These latter two groups of physicians were of lower cast than the Mobeds. The surgeons had to pass an examination wherein they had to demonstrate their skills with the knife by first curing three non-Zoroastrian patients before they were licensed to practice surgery. As for the Herbalists, it is again mentioned in the *Vidaevadata* (Fargard VII, 44) that Ahura Mazda (the Zoroastrian Deity) had given Thritha, the first physician, 10,000 herbs to combat diseases, and this same Thritha is mentioned in the *Yasna* 9.7 (the second and more ancient section of Avesta) to have been the first priest of the Haoma (Vedic Soma) the sacred plant which bestowed eternal life and whose rites and rituals were sanctified by Aryan customs.

This Avestan system of medical practice, which has been extracted from extant Zoroastrian religious texts, is all that re-

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mains of any written scientific, medical or philosophical treatise which must have existed throughout the 1,200 years from the beginning of the Achaemenid dynasty in 553 B.C.E. to the end of the Sassanid dynasty in 651 C.E., before the Arab invasion of Iran. Early Islamic zeal condemned all non Koranic texts to be destroyed.

Several physicians are mentioned in the Avesta, including 'Vivangahan' who brought the sacred and magical herb 'Ha-oma' or 'Soma' to humans followed by Abtin, Atrat and Purshaspa who was the father of the prophet Zoroaster.

A particular Magi called Se'na or Sen-Murv lived on a lofty mountain, probably Damavand, and for this reason, he came to be known as Se'na Morgh (*morgh* meaning bird) or Simorgh.

As legend has it and as mentioned in Ferdowsi's *Shahnameh* (The Book of Kings, written over a 1000 years ago), it was this same physician, Simorgh, who performed The 'Rostamineh' operation to deliver Rostam from the womb of his mother, Roodabeh, as the child was so large that he could not be delivered normally. This operation which has become known as the 'Caesarian Section' is erroneously attributed to the birth of Julius Caesar by such a procedure. At the time of the Greeks and the Romans, no woman survived such an operation and it was performed to deliver the baby once the mother had died or was dying. The procedure was associated with the name of Julius Caesar through the writings of the Roman historian 'Pliny the Elder' in the first century CE who had claimed that one of Julius Caesar's ancestors was delivered in this manner and not, in fact, Julius himself.

In Greek mythology, it is said that Asclepius, the father and symbol of Greek medicine was delivered in such a manner when his father, the God Apollo, had in a jealous rage killed the maiden Coronis who was pregnant with his son Asclepius, and later Apollo was repentant and rips open the side of the dead Coronis and snatches his son from the burning pyre. In all these myths and stories, the mother does not survive the surgery except in the story of Rostam where his mother, Roodabeh, survives and recovers after the surgery performed by Simorgh.<sup>4</sup>

### The Sassanian Era and Gondeshapur

There was, however, a major leap in Iranian medicine during the Sassanian era from the 3<sup>rd</sup> to the 7<sup>th</sup> centuries C.E., when the most famous center of medical learning in Iran was the Gondeshapur Hospital. Again a dearth of primary written sources regarding the medical activities in this center makes definitive statements difficult. What is certain, however, is that the Sassanid king, Shapur I, as recorded in his trilingual stone inscription at Ka'ba-ye Zardosht near Persepolis ordered the foundation of both the district and the city of Veh-Andiyok-Shapur [Better is Shapur's Antioch], later known as Gondeshapur, as a Royal city in Khuzestan. In the same inscription, Shapur commemorates his victory over the Roman Emperor, Valerian III and the sacking of the Syrian metropolis, Antioch, around 256-260 C.E. and the transportation of Roman officers and soldiers to various districts in Iranshahr, including Fars and Khuzestan. Furthermore, as there were many Nestorian Christians resettled in Khuzestan, Shapur appointed Demetrianus as the Bishop of Veh-Andiyok-Shapur.<sup>5</sup>

There are few other extant primary source references to Veh-Andiyok-Shapur, the most relevant being that around 610 C.E.

there was a medico-philosophical disputation convened at Gondeshapur by the order of Khosrow II (the Sassanid King) in which the Drustbed (Chief Physician) Gabriel of Siggar participated.

A firm reference to the Gondeshapur Hospital is when in 765 C.E. the Caliph al-Mansur summoned Jewarjis bn Jebrail Bokhtisu, the then Christian head of Gondeshapur Hospital, to Baghdad. The Bokhtisu family remained in Baghdad as physicians and translators for many generations.

Later Arab and Iranian historians including Ibn Nadim, al Ghefti and Ibn Abi Usaibia wrote accounts of the activities in the Gondeshapur Hospital relating how that center became the hub of medical learning where Greek, Nestorian Christians, Indian and Iranian Physicians gathered to teach and practice medicine, surgery and pharmacology. At that center, many medical treatise were translated into Pahlavi from Indian and Greek texts including the writings of Hippocrates and Galen. With the conquests of Islam, medical centers shifted to Baghdad, the capital of the Caliphate, and Gondeshapur gradually descended into oblivion.

In historical retrospect, perhaps the most important legacy of Gondeshapur was the transmission of Greek, Iranian and Indian medical knowledge of the time to the Islamic world, centered in Baghdad, which translated and compiled this knowledge into Arabic. These writings remained as a treasure store to be rediscovered and retranslated into Latin by the European world during the Renaissance.

### The Golden Age of Persia

After the Islamic conquest of Iran, in mid-7<sup>th</sup> century C.E., Iranian science and culture was plunged into a two hundred-year slumber.

With the ascendancy of the Abbasid Caliphate in 750 C.E., the Islamic world entered a 'Golden Age of Learning'. The Caliphate moved to Baghdad, established the 'Houses of Wisdom', and gathered all the learned men of the Islamic Empire to those centers where ancient works of science and philosophy were translated into Arabic by Greek, Jewish, Syrian and Iranian scholars. The Abbasids, who were sympathetic to the Iranian culture and their system of governance, became reliant on Iranian bureaucrats for the organization of their Empire.

At the same time, the Iranian Samanid Dynasty (819-999 C.E.) came to prominence from Transoxania and north of the Greater Khorasan in Eastern Iran, from where started the renaissance of Iranian language, culture and sciences in what Richard Frye describes as 'The Golden Age of Persia',<sup>6</sup> which lasted till the end of the 11<sup>th</sup> century C.E.

A brief list of renowned scientists who hailed from that region during this period include the mathematician Khwarazmi (780-850 C.E.) whose Hindu or Arabic numeral (decimal) system was later introduced into Europe, and the words 'algebra' and 'algorithm' derive from his writings and his name; the astronomer-mathematician, Omar Khayyam (1048-1122 C.E.) who made significant contributions to Algebra, but is better known in the West as a poet through Fitzgerald's translations of his *Quatrains*.

Of the Iranian Physicians of that era who are well known in the West and who, together with Galen, dominated the European medical curricula for several centuries up to the 19<sup>th</sup> Cen-

ture C.E., suffice it to mention Zakariya Razi (865-925 C.E.) whose 'Al Hawi' or 'Liber Continens' was a medical text in the Islamic East and medieval Europe for several centuries; Ali ibn Abbas Majoosi Ahwazi (died 982 C.E.) Known in the West as Haly Abbas; and Abu Ali Sina (865-925 C.E.) famed as Avicenna in Europe with his 'Cannon of Medicine'. The medical works of these physicians are well known worldwide but some of their important contributions to philosophy and other sciences may need to be briefly mentioned here.

Abu Ali Sina wrote several treatises and commentaries on Aristotelian Philosophy and Neo-Platonism which were influential in medieval European Scholasticism. Zakariya Razi was an alchemist before he started his medical studies and wrote several books and treatises on alchemy of which only four survive. Razi's significant achievement was to change alchemy from an occult practice shrouded in mystery into a rational and empirical science of chemistry. One of his innovations was to classify matter into 'solids', 'liquids' and 'gases' and to subdivide naturally occurring matter into 'animal', 'vegetable' and 'mineral'. He further described his alchemy in three sections viz: knowledge of chemical substances; knowledge of instruments; and knowledge of its methods to achieve specific chemical reactions. He was incidentally, also the discoverer of alcohol, sulfuric acid and ammonium chloride.

I believe that it is no exaggeration to describe Razi as a forerunner of what we today recognize as a scientific man. He crusaded against prejudice and superstition and based his scientific opinions on a rational and empirical basis and experimental methodology. Perhaps, most importantly, he was one of the first free thinkers to question the authority and the pronouncements of earlier 'sages' if he thought them unreasonable, as he did with some of Galen's medical statements. Such rebellious questionings were considered anathema previously and for many centuries later. In the introduction to his book, 'Doubts about Galen', he writes "...In medicine and philosophy blind obedience and surrender to authority is unacceptable and imitation is

not wisdom but that reason and logic must guide one's thoughts and Galen himself had chastised those who attempt to impose their opinions on their students without reason or logic".<sup>7</sup>

Most of the Iranian scholars of that time visited and taught in Baghdad, the center of the Eastern Caliphate, for short or longer periods of time. Almost all of these scholars and physicians wrote their works in Arabic which like Latin in Europe was the *lingua franca* of science and philosophy. In the middle Ages, when Europeans came into contact with the Islamic Civilization, they translated many works of science and philosophy into Latin and thus their authors became erroneously known as Arabs in later European history from the Renaissance to the present day. Professor Edward Brown, in his book 'Arabian Medicine'<sup>8</sup> writes that "When we speak of 'Arabian science' or 'Arabian medicine' we mean that body of scientific or medical doctrine..... written in the Arabic language... which was for the most part produced by Persian, Syrian, Jews and in lesser degree by Greeks, but only to a very small extent by genuine Arabs."

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