

Ibn Sina (ابن سینا) (Avicenna) 980-1037.

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Figure 1: Ibn Sina (Source: Sneghka, 2013).

Who was Ibn Sina (Avicenna)?

- Ibn Sina, known in the West as Avicenna, was a Muslim philosopher and doctor who was commended for his philosophical explorations and writings during the Islamic Golden Age and pre-modern era. At just 10 years old, Avicenna memorised the entirety of the Qur'an and eventually began studying the works of Hellenistic thinkers such as Ptolemy and the Isagoge of the Greek philosopher Porphyry.
- Avicenna and his work were heavily influenced by Greek Aristotelian philosophy, particularly Aristotle's Metaphysics. His disquisitions shaped medieval and Renaissance scholars tremendously.
- At 16, he began studying medicine and discovered that not only was he able to educate himself theoretically, but he could also invent new methods and practices of dealing with the sick. He did not expect any financial gain and as a result, Avicenna became widely recognised for his practices across Ancient Persia.
- He became renowned as the "Father of Clinical Pharmacology" (Khan et al. 2015) due to his famous works, the most well-known being his medical encyclopaedia, *The Canon of Medicine* and his philosophical encyclopaedia, *The Book of Healing*.
- Whilst much of the Western world were experiencing the Dark Ages, Avicenna managed to fill the Islamic world with the prosperity of modern medical and scientific wisdom.

The Canon of Medicine

- Avicenna's desire to "untangle the knot of death" was the focal point of the Canon of Medicine. (Buranova, 2015).
- The *Canon of Medicine*, also known as Avicenna's '*Al-Qanun fi l-tibb*', which translates to the Law of Medicine is noted as one of Avicenna's most famous works. His books were the target of criticism by Renaissance scholars. Medieval physician Arnold of Villanova described him as a "professional scribbler who had stupefied European physicians by his misinterpretation of Galen" (Arnold of Villanova [no date]) as cited in (Flannery, 2021).
- However, the medical practices that Avicenna built upon in the *Canon of Medicine* complied with the ideologies in the Greco-Roman texts and because of this, despite increasing criticism by Renaissance scholars, they would continue to use it to educate their students on the fundamental principles of science.
- Galen's medical writings that feature in this book are divided into systems that are related to Aristotelian philosophy, an example of this being the fusion of Galen's humoral system with Aristotle's doctrine of three life sources.
- *The Canon of Medicine* is separated in to five parts. Book 1 is titled *al Kulliyat* meaning 'generalities' or 'universals' and is concerned with the central framework of Avicenna's medical practices. Book 2 was able to

The Canon of Medicine

- Book 4 encompasses pathology – the study of disease. The last book, book 5, looks at compound drugs and their applications.
- The book opens with a definition of the science of medicine. It states that “medicine is the science by which learning the various states of the human body in health and when not in health, and the means by which health is likely to be lost, and when lost, is likely to be restored”. (History of medicine, 2008).
- It reinforced Aristotle’s claim that tuberculosis was contagious. This was a turning point in medical history as during the Middle Ages, no progress or advances were being made in relation to this disease. It challenged the theory of Hippocrates. Hippocrates disagreed with Aristotle and Avicenna and believed that the disease was not actually contagious, the theory of tuberculosis being able to spread from person to person was not universally accepted in Europe. Avicenna went on to develop methods of quarantine to help stop the spread of TB.
- New insight on the symptoms and complications of diabetes were given by Avicenna. Facial palsy and paralysis was described in depth in his book. Avicenna also managed to identify the Bennett’s fracture, hundreds of years before the Irish surgeon Edward Hallaran Bennett, who the fracture is now named after did.

The Canon of Medicine

- The book educated many on how to test new drugs safely and efficiently. Animal testing was contested because as Avicenna states, “testing a drug on a lion or a horse might not prove anything about its effect on man” (StudyMode, 2012). French psychologist Claude Bernard, being inspired by *The Canon of Medicine*, later went on to study drug efficacy on human subjects based off experiments on animals.
- Avicenna was also the first person to associate pulse rate with one’s inner feelings. He said that passion was the core of this disorder and created a parallel of ‘love-sickness’ by using the story of a young prince who fell in love with a girl from another town to explain his theory. He characterised this disorder as an obsessive one that could also be compared to depression and broken-heart syndrome.
- Much of his work in *The Canon of Medicine* can be attributed to the heart. He identified the difference between healthy blood and blood that is impure. Healthy blood, as Avicenna describes it as thin and smooth flowing. Impure blood is thick and often causes vessels of the heart to clog. This description of heart disease helped underpin the causes of the disease, leading Avicenna to pinpoint that thick, impure blood is caused by the diets of the patients.
- In his book, *Introduction to the History of Science*, George Sarton wrote: "The Qanun is an immense encyclopaedia of medicine. It contains some of the most illuminating thoughts pertaining to distinction of mediastinitis from pleurisy; contagious nature of phthisis; distribution of diseases by water and soil; careful description of skin troubles; of sexual diseases and perversions; of nervous ailments." (Sarton, 1997).

The Book of Healing - (Published 1027).

- Contrary to *the Canon of Medicine*, *The Book of Healing* is not concerned with physical illness and medicines. Instead, Avicenna published *The Book of Healing* in attempt to heal the ignorance of one's mind and soul. The book is divided in four parts: logic, natural sciences, mathematics, and metaphysics.
- Avicenna proposed that the relationship between mind and body was a fundamental one. The mind influences the body which can be seen through voluntary movements. The body follows the orders that are given by the mind, but these orders are swayed by our emotions and will.
- Avicenna (1027) as cited in Payne (2017) uses the analogy of a plank of wood that acts as a bridge over a rift to further explain his theory. He writes in the book that if a person consistently imagines themselves falling whilst crossing the bridge, then inevitably the will because the "natural power of limbs accord with it".
- Avicenna uses this analogy of the bridge and the rift to show just how these prominent negative emotions can affect both the function of the body and mind, leading the person experiencing these emotions to ultimately believe the hypnosis.

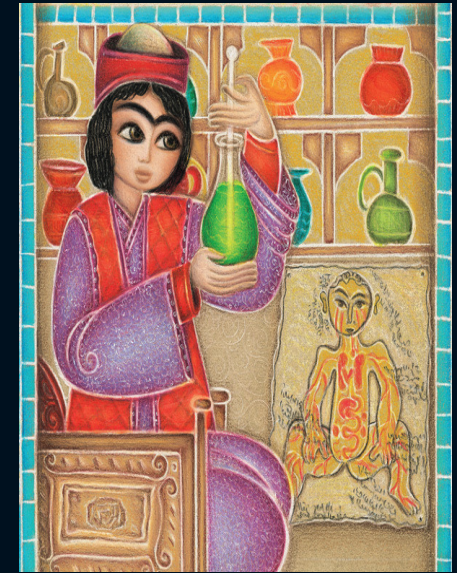


Figure 2: Islamic manuscript paintings (Source: Popova, 2015).

The Book of Healing

- The theories on negative mental state proposed by Avicenna can be avouched for by the sociological theory of the 'self-fulfilling prophecy'. It has been argued by many sociologists that when someone is told that they cannot do something, they habitually begin to adhere to those negative thoughts.
- Another example of negative thoughts being the core of human sickness is evident through the impact of stress on the immune system in the body. Psychological stress in the mind can lead to illnesses which prevent the body from functioning normally., ultimately making them sick.
- Avicenna spent a lot of time comparing the human mind to a mirror. As humans, we have the potential to take a clear look at who we are. The more we can understand our reflection, the more polished and translucent our lives become. The more polished and translucent they become, the closer we get to enlightenment and thus, true knowledge.
- The idea of logic also played a big part in Avicennian thought and *The Book of Healing*. His theories of logic became known as the 'Avicennian logic' which offered an alternative way of thinking that differed from Aristotelian logic. It soon became the primary system of logic in the medieval Islamic world.
- His logical theories were compiled of propositional calculus and hypothetical syllogism.

Avicenna's Anecdotes and Practices

“There are no incurable diseases – only the lack of will. There are no worthless herbs – only the lack of knowledge.”
(Avicenna, 1025).

- Avicenna used several psychological methods to treat his patients. In one instance, it is said that a malnourished prince of Persia refused to eat and suffered delusions that he was a cow. The prince suffered from melancholia – a major depressive state. The prince would often beg to be killed and state that he wanted to die so that his flesh could be turned in to “a good stew” (Blanton–Peale Institute, 1961).
- Avicenna told him that he should not worry anymore and instead be happy as a butcher was on his way to slaughter him. Avicenna then proceeded to approach the prince with a knife. He then asked where the cow was so that he could kill it. The man responded with a simple moo and then was laid on the ground where Avicenna pretended to slaughter him.
- Avicenna then stated that the cow was much too lean and not ready to be killed, so for it to be ready for death, it must be fed properly and then it would be big enough to be killed. The prince began to eat regularly in hopes that he would gain weight so that he could be slaughtered by the butcher. Once the Prince became healthy enough, his delusions went away, and he was completely cured.
- Avicenna introduced around 30 herbs to medicine that help manage and, in some cases, cure depression. He “prevented and managed depression based on lifestyle modification, natural remedies and manipulation” (Araj–Khodaei, 2017).

The Legacy of Avicenna and the Impact of his Works.



Figure 4: *Commemorative medal issued by the UNESCO* (Source: Nizamoglu, 2015)

- To honour the 1,000th birth anniversary of Avicenna, UNESCO minted a medal in 1980 which was designed by Victor Douek. The front of the medal depicts Avicenna sat surrounded by his disciples and the back includes his signature alongside a phrase by Avicenna written in Arabic and Latin which means, “Cooperate for the well-being of the body and the survival of the human species” (UNESCO, 2017). The Soviet Union ruled Bukhara during the time of Avicenna’s birth. In 1980, his birth was celebrated by the Soviet states with artistic pieces, illustrations, and poems.
- In 2003, UNESCO established the Avicenna Prize for Ethics in Science. Once every two years, individuals that have shown or produced eminent achieves within the field of ethics in science are awarded a prize. The prize given to the winners consisted of a certificate and gold medal of Avicenna.
- His contribution to medicinal intellect was significant for his time. He separated and differentiated systemic circulation and microcirculation, eventually leading him to discover that germs are the main transmitters of disease which later went on to be developed by Louis Pasteur and his germ theory.

The Legacy of Avicenna and the Impact of his Works.

- Despite Avicenna's vast impact on modern day medicine, philosophy and science, his name is often not included in historical books. A great deal of Avicenna's work is unrecognised in the West.
- Thomas Aquinas, a respected philosopher also took Avicenna's attempt to personify and "reconcile religion and empiricism/rationalism" (Khalil Center, 2021) to form his own philosophy.
- Avicenna created an Islamic doctrine that contained intricate and significant forms of philosophy which remained a key philosophical teaching undeterred by the attacks of al-Ghazali and Fakhr al-Din al-Razi.
- His work became so important to the Islamic culture that it formed the "core of the curriculum at Islamic religious schools until the 19th Century" (Morris, 1992) and aided other scholars with their own treatise. Avicenna's theories were essential to the development of the modern world and "these works, or portions of them, were read, taught, copied, commented upon, quoted, paraphrased and cited by thousands of post-Avicennian scholars – not only philosophers, logicians, physicians and specialists in the mathematical or exact sciences, but also by those who specialized in the disciplines of rational theology" (Wisnovsky, 2012).
- Today, Avicenna is idolised by much of present-day Afghanistan and Tajikistan. Museums and colleges were founded all around the world, usually named after him to commemorate his legacy. His work being credited to the development of logic in Medieval Europe.

The Legacy of Avicenna and the Impact of his Works.

- Avicenna's legacy and impact on the modern world is perfectly demonstrated by Al-Juzcani who declared that "medicine did not exist until Hippocrates invented it. When he died, Galen revived it. It was blind; Huneyn bin Ishak gave it eyes. Rhazes bestowed on its coherence. And Ibn Sina made it a whole and hale" (Aligabi, 2020).
- 'Avicennism' became interdict in Paris in 1020 due to his prominent doctrines of the classifications on the soul, particularly regarding his existence-essence distinction of the soul.
- The Iranian architect Houshang Seyhoun known for his architectural legacy which "included over one thousand private villas" (Iran Chamber Society, 2021), built the 'Avicenna Mausoleum' which has now become "one of the hallmarks of Iran's history in the world of culture and science" (Cmin, 2020).
- Avicenna's status in Iranian culture was secured after the Iranian Revolution. In 1989, Iranian political and religious leader, Grand Ayatollah Ruhollah Khomeini, sent Mikhail Gorbachev, a Soviet politician a letter "encouraging him to read Avicenna's philosophical treatises" (Bodetti, 2019).
- There is even now a crater on the moon that has been named after Avicenna.



Figure 3: *Avicenna Mausoleum*. (Source: Farhadi, 2020).

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