

The phonetic lesson of Avicenna in his book : causes of letters generation between practice and application- Analytical Critical Study

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Summary :

The researcher of language books finds that the Arabic heritage is filled with many studies in the science of sounds, this science, which is considered one of the most important sciences in the Arabic language, because of its position among its levels: its scholars made efforts, in which works were written, among them: Avicenne And his book: Reasons for the occurrence of letters, in which he dealt with how to form phonetic units and prepare them in a coordinated manner, to be able to build words in the language. In this study, we tried to shed light critically on the content, focusing on the semiotic study with critical mechanisms based on the descriptive analytical approach, as it relates to the content of this study.

Keywords : Ibn Sina, letters, sound, cause of the letters generation, Science, criticism, semiotics, levels, heritage

Biography of Ibn Sina (Avicenna):

His full name is Abu Ali Al-Hussein ibn Abdullah ibn Ali bin Sina', known as Al-Sheikh Al-Ra'eis, known in the Western as Avicenna. He one of the great Muslim scholars¹. He was born in 370 hijrah/ corresponding to 980G in Afshana*, a village near Bukhara. He wrote his biography by himself, narrated by Abu Obeid al-Jawzjani. Al-Jawzjani said that Al-Sheikh told him "His father was a man from Balkh* and moved to Bukhara during the reign of Noah bin Mansour*. His father was a ruler of a region. His father got married his mother in the village of Afshana and lived there where In ibn Sina was born"².

Ibn Sina grew up in a scientific environment from early age as his father took care of his son by bringing teachers and educators to teach him. The child who loved reading, knowledge and science reached a high level in various knowledge and sciences, none of his peers could do that. All that while he was less than 20 years old. Ibn Sina narrated his biography stating "my father brought the teachers of holy Quran, literature and I could learned them by heart while he was 10 years old"³.

His father and brother used to discuss philosophy, engineering and Indian arithmetic. He was interested to listen to these discussions. Due to the circumstance prevailing at that time, discussions used to take place at their own house. These discussions had a significant impact on Ibn Sina trends and attitudes. He said, "Father was one of those who followed Egyptians philosophy called Ismaili. He heard from them the terms "Self and Brain". My brother was the same as father. I might hear their discussions and understood the meaning but do not accept. They also used to argue on philosophy, mathematics and Indian arithmetic. I learned Indian arithmetic from an Indian greengrocer⁴. In addition to arithmetic, engineering and philosophy; Ibn Sina learned other sciences, including Figh (Islamic jurisprudence), literature and medicine.

Later life and death:

¹-Dr. Rehab Akawi, Ibn Sina (Sheikh), edition 1, 1999, Dar al al Fikr al Arabi, Beirut, p 5.

* A city in Uzbekistan famous for its schools and mosques

* - Balkh: Political capital of Khorasan, then became the religious and cultural centre of the Kingdom of Takhistan and was destroyed by Genghis.

* Noah II bin Mansur (976-997) became a ruler at 13 years old.

² Ibn Abi Isba'eih, Oyoun al Anba' fi Tabaqat al Atibba, p 204.

³ Ibid., page 2

⁴ Ibn Abi Isba'eih, Owoun al Anba' fi Tabaqat al Atibba, p 204.

After the death of his father, the political unrest that swept through that region and the death of its ruler, Ibn Sina left Bukhara at the age of eleven. He spent the remaining of his life moving between Persian cities. He spent ten years in Khawarizm. He had colitis there. He treated himself by injection, because of his skill in that. He took too much medicine and wrote his book in colitis. The disease was severe and remedies were in vain. So, resigned himself to his fate. He said, "The handler who arranged my body fails to handle anymore, medical treatment is useless"⁵. He died on Friday on the sixth of Ramadan 424 h, at the age of fifty-eight and buried in Hamadan⁶

Prior to his death, he left a testament to his friend Abu Sa'eed bin Abu Al-Khair Al-Sofi. He told his friend "Let Allah Almighty be the first and last in your mind and thought, your inner and appearance considerations, watch your God and always remember that you are standing in front of Allah, travel in mind to the Kingdom of Heaven with the great Signs of Allah. If you make a decision, make sure that Allah is exalted in the effect of such decision"⁷.

4. His works and books:

Ibn Sina studied physics and metaphysics and read the books of Aristotle and Plato. He was famous in medicine and philosophy. He also worked in mathematics and astronomy. Therefore, he was a doctor, philosopher, mathematician, and astronomer. He gained fame at his time and became known as the third teacher after Aristotle and a Farabi. He added «... then I by myself read their books and explanations until I mastered logic, then Euclid,... Then I desired to learn medicine and I start reading books of medicine...»⁸

Ibn Sina also was the author of several books in various sciences, philosophy and knowledge. The works reached a legendary volume, not in its size of material quantity only but taking into account the scientific subjects and authenticated philosophy added by Ibn Sian to every science or subject in which he composed.

Historians have no agreement on the number his works. Yahya Mahdavi, Iranian researcher, provided a comprehensive list of Ibn Sina's writings; both authentic ones and the attributed. There are 132 works authentically written by Ibn Sina, and 110 works attributed to him. This works were put in two lists of medieval age; one was developed by Abu Ubayd al-Juzjani, while the other developed by unknown author⁹.

Ibn Sina works include:

1- In Medicine¹⁰

- Al-Qanun fi al- tibb (the Law of Medicine) : It is the most famous book of Ibn Sina, in which he addressed the facts of general medicine and diseases that can infect all parts of the body from head to foot. Parts of this book were written in Jourjan, the rest were written and completed in Hamadan.
- Al-Adweyah al-Qalbiyyah: written in Hamadan.
- Kolanj: written in the castle of Firdjan .
- Dafi' al-Madhar al-Kuliyyah ala al-Abdan al Inسانيyyah.

He also wrote resalats (essays) in Medicine including:

- Policy of Badan anf Fadh'il al-sharab (policy of body and benefit of drinks)
- Tashreeh al-A'dha (anatomy of organs)
- Al-ghdiyah and Adwiyah (food and medicine)

⁵ Dr. Rehab Akkawi, Ibn Sina the Sheik, p 13.

⁶ Dr Zakaria Bashir Imam, history of Islamic philosophy, Sudanese House books, p 208

⁷ Dr. Rehab Akkawi, Ibn Sina the Sheik, p 14.

⁸ Ibn Abi Isba'eih, Oyoun al Anba' fi Tabaqat al Atibba,

⁹Dr Arthur Saad Yiq, Ibn Sina, a study in Arab-Islamic thought, author Dr. Toufik Salloum, edition 1, 1987, Dar Al Farabi, Beirut, Lebanon, p 52.

¹⁰Dr. Rehab Ibrahim Suleiman Issa, Dar al-Kitab al Hadith, p 22

His book in Medicine has been translated into Latin and most of the languages. They remain the universal reference in medicine for six centuries.

2 - Philosophy and logic: Ibn Sina was interested in philosophy sciences, and read the Greek sources; such as the Aristotle, Plato and Socrates. Most famous of his books in this area:

- Al-Falsafah al-Mashriqirah (Philosophy of Mashriq (Eastern). This book was lost and the part on logic remained.
- Al-Shifa: it is encyclopedia consists of eighteen volumes, each one not less than one thousand pages.
- Al-Mujaz al-Kabeer fi al- Mantiq (Great Summary in Logic)
- Al-Isharat wa al-tanbihat (Directives and Remarks): it is on philosophy. In this book he could agree with Aristotle.
- Al-Najah fi al-Mantiq wa al illahiyat. (The Book of Deliverance in Logic and Divine)

He also wrote articles/ essays including: the Article "Al-Ishara fi 'Ilm al-Mantiq (Sign in a Logic), an explanation of Aristotle Book and the Book of al-Farabi "Aghradh Kitab ma ba'd al- tabei'a" (The purpose of Metaphysics Book).

3. Mathematics: He also wrote in mathematics. He works in mathematics include¹¹ :

- Mukhtasar Iqlidis (Summary of Euclid).
- Mukhtasar Al magest (Summary of Al-Magest)
- Mukhtasar 'Am (General Summary)
- Mukhtasar al-Aritmatika (Summary of arithmetic)
- Resalat al- Zawiya (An essay on the study of Angles)

4- Natural Sciences¹². His work include:

- Resala fi Ibtal Ahkam al- Nujum
- Resla fi al-Ajram Al Olwiyyah was Asbab al- Barq qa Ra'id (an Essay in heavenly bodies and causes of light and thunder)
- Fi al Fada'
- Resala fir al- Nabat wa al Hayawan (an essay in plant and animal).

5- Music¹³:

- Jawami' 'Ilm al- musiqi (the encyclopedia of music)
- Madkhal to Sina'it al Musiqqa (Introduction to writing music)

In Phycology and Ethics¹⁴:

- Al-Bir wa al- Ethim (righteousness and sinful)
- Sharh Kitab al- Nafs (explanation of phycology book)
- Maqala fi al- Nafs (Essay in Phycology)
- Maqala fi al- Akhlaq (essay in Ethics)
- Malqala fi Tahseel al Sa'ada (essay in obtaining happiness)

6- Literature

There was a philological debate between Ibn Sina and Abu Mansur al-Jabie, a well-known philologist in Arabic language and literature. Abu Mansur told him that he is a philosopher and wise but "you have not read what is satisfactory to your words in language". These words were very harsh and unpleasant for Ibn Sina to be described as ignorant of Arabic language and literature. Therefore, he concerned himself with studying books of literature and philology for full three years, until he mastered these branches of knowledge¹⁵.

¹¹Zakaria Bashir Imam, history of Islamic philosophy, Sudanese House books, p 193

¹² I'm Digitales, eyes doctors layers news p 205.

¹³ Ibn Abi Isba'eih, Oyoun al Anba' fi Tabaqat al Atibba, p 204, p 205.

¹⁴ Ibid, p 216

¹⁵Ibid, p 216.

His works in literature include:

- 'Mujamma' al Lughah al 'Arabiya (Arabic language Academy)
- Resala Asbab Huduth al Huruf (Causes of characters generation), which is the subject of this Article.

1- Description of the book:

Name of the book: Resalat Asbab Huduth al Huruf (Causes of letters generation)

Author: Abu Ali al-Hussein bin Abdullah Ibn Sina (370 – 498 Hejri)

Verification: Muhammad Hassan al Tayyah and Yahya Mere 'Alam

Introduction and reviewer: Dr. Shaker Al-Fahham and Prof. Dr. Ahmad al-Ratib al-Naffakh

Published by: Arabic language Academy in Damascus

Number of pages: 168

Number of narrations: two narrators

Number of chapters: six chapters in each narration

Color of cover: grey

2- Abstract of the book: "Asbab Huduth al Huruf" (the causes of characters generation) by Ibn Sina. An examination study to the book by Dr. Mohammad Hassan al-Tayyan and Yahya Mere 'Alam, with introduction written by Dr. Shaker al-Fahham and Dr. Ahmad Ratib al-Naffakh. In this book, Ibn Sina discussed the sound of the language and causes of characters generation and he described its articulations. Dr. Ibrahim Anis said, "When we read this essay few years ago, we noted that it partially addresses the phonetics of language in a unique manner, unlike Sibawayh and Arabic philologists. Ibn Sina describes the matter in the language of the coroner in his description of the parts of tongue and throat"¹⁶.

- The Resala (essay) includes six chapters:

Chapter I, titled what cause sound generation?

Chapter II, titled what produces language characters?

Chapter III, discussing anatomy of throat and tongue.

Chapter IV, Ibn Sina presented the partial causes of each Arabic alphabets.

Chapter V, Ibn Sina discussed similar alphabets not included in Arabic language.

Chapter VI, Ibn Sina ended the Resala (essay) by stating that these characters may be heard by non-verbal movements.

3- Presentation of the Resala chapters:

4- CHAPTER I: What produces sound?

Ibn Sina defined sound as "I believe that the close sound is caused by the air vibration rapidly and hardly pushed caused by any power resulting to vibration"¹⁷. He also discussed the reason of sound occurrence and believed that it would not happen except by beating or tearing out an object. He confirmed his thought in his book al-Shifa too. Beating is like beating a rock or piece of wood, the sound product occurs simultaneously with the act or after. Tearing out is like splitting or cutting a piece of wood into pieces"¹⁸. He mentioned the role of airwaves in sound production by stating that "both cases need air waves".

He added that human voice has three features, namely:

¹⁶ Zakaria Bashir Imam, History of Islamic philosophy, Al-Dar al Sudania, p 211.

¹⁷ IBID, p 206

¹⁸ Dr. Zein Kamel al Khuwayki, linguistic sounds, vol. 2008-1429 h, Dar Al-Ma'rifa al Jamiyyah, p 61

1. Husky and sharp: means the level of voice or the pitch. Husky means the harsh voice like men's voice and sharp is similar to women's voice. The difference between them is the ratio of bandwidth or number of vibrations.
2. Faint voice or loud voice: it is known nowadays as bandwidth/ amplitude on which the voice is high.
3. Smooth, sold voice and occurring intermittently (breaking sound): Ibn Sina means the quality of sound, by which we recognize certain voice from other. It depends on the shape of the wave¹⁹.

CHAPTER II: Causes of letters sound to occur.

Ibn Sina discussed in this chapter about the tone of the voice (pitch) and its intensity that depends on the nature of the beaten body. If the body has coherent particles, such as the solid objects of metals, the sound tone usually produced is sharp, while not sharp if the objects are less density.

Ibn Sina used two terms in this chapter; sound outputs and silencers²⁰; Outputs means the output of the air or the manner of getting the voice out, from the nose such as the letters (Meem and noon in Arabic) or from the mouth with the rest letters.

Silencers means the locations where the air is kept, totally or partially.

We notice in this chapter that what Sibawayh called "severe sound" and modernizers called it "explosive" sound, Ibn Sina called that "single" sound. What Sibawayh called "soft sound" and modernizers called "friction sound", Ibn Sina called "compound sound". He divided the characters into single; i.e. the sound with air silencer is complete or full, and compound sound where silencing and production go together²¹.

CHAPTER III: The anatomy of throat and tongue

Ibn Sina devoted this chapter to the anatomy of the larynx and tongue. He said that larynx is composed of three cartilages; one is located in the front of the throat, get touched, under the chin called thyroid Cartilage. Its shape is like windpipe, its convexity part towards outside and forward, while its concave part towards inwards and backward. The second cartilage is located opposite to its surface and its surface is linked by binders in both sides; right and left, separated from the first one, called innomination. The third cartilage is like a windpipe mounted on both vartilages²² (Thyroid and Innomination), linked to Innomination Cartilage and meet Thyroid Cartilage but not linked. There is a joint between Innomination and Thyroid Cartilages called Arytenoid Cartilage.

Ibn Sina could identify the most important cartilages of the larynx and they play the role in producing voice and talk.

The tongue is the most important organ in sound production. Ibn Sina said that the tongue uses eight muscles in its movement²³; two come from the sagittal appendages at right and left side of the ear, connected to the sides of the tongue. Two muscles came from the upper bone similar to al-lam and extended into the mid of the tongue. Two muscles come the lower sides of this bone extended into between transverse and longitudinal muscles, and two are located under the lower muscles.

CHAPTER IV: The partial causes of each Arabic letters.

Ibn Sina devoted this chapter to address the Arabic letters. He addressed each letter of Arabic language, describing its outlets in an accurate scientific manner.

CHAPTER V:

¹⁹Ibn Sina, Resalat the production of letter, exmined by Mohammad Hassan and Yhya Mere, 370- 498 h, Dar al-Nashir, Arabic language Academy publications, Damascus, p 56

²⁰ Ibn Sina, al-Shifa, Natural sciences, examined by Father George Kanawati and Sa'eid Zayed, written by Dr. Ibrahim Madkour, edition 1, 1975, Arabic library, Ministry of Culture- Egypt, p 70

²¹ Dr Ibrahim Anis, sounds of language by Ibn Sina, edition1, 1963, Arabic language Conference magazine Egypt, p 139-142

²² Dr. Zein Kamel al-Khuwaysi, Linguistic Sounds, 2008 G, Dar al Ma'rifa al Jami'yah p. 64

²³ Ibn Sina, causes of letters generation, p 61.

Chapter V: Similar characters not included in Arabic language.

Ibn Sina devoted this chapter to character he heard in other language other than Arabic, including:

Characters similar to the letter “Jeem” in Arabic: they are four including the character pronounced in Persian at the beginning of the well in Persian, “CH” is similar to Jeem in Arabic.

There are three letters that believes to similar to Arabic letters “Zid” (Z), Seen (S), and Sad (ص) .

The letter (Zid Seen): he compares it to Khuwarism language. He said that “Zid Seen” is heard in Persian language in their pronunciation of the word Zurfa, which “SH” produced by the vibration of the tip of the tongue with assistance of opening between the teeth. He attributed this letter “to Persian language.

Ta’ Zid: This sound, even he has not attributed to certain language. It seems that they try to pronounce Arabic Ta’, which “Dha” pronounced by accent as we hear it in some Quranic recitation, in particular al-Kisa’ie in reciting the verse (Hata Yudsir al-Rua’a wa Abuna Sheikhun Kabeer). Al-Kisa’ie pronounces “Sad ص “ to become similar to Zid accent.

He addressed the letter “F” similar to “B” which he attributed to Persian sound. For example the word “Barandi” in Persian which means the spider.

Stressed B: he compares this sound to the Persian word “Peruzi” which means victory.

The letter “M and N”: Ibn Sina said that M and N may be limited to the air outlet in cavity at the end of the nose²⁴.

CHAPTER VI:

In this chapter we may hear these letter by non-verbal movements:

In this chapter, Ibn Sina explained how to produce sounds by non-verbal movements. He tried in this chapter to find out the similarities between the languages and what is called non-verbal sounds.

He said that “EIN ع “: it is to hear every air outlet hardly from wet outlet.

The letter “Kh خ” produced by any the friction of an object.

Kaf ق : it is produced by tearing objects and pulling

GH غ .

Kaf ك: produced by dropping solid large object on another similar simple object.

G ج : produced by dropping some liquids on liquid, such as a drop of a quantity of water on still water sinking therein.

SH ش : produced by penetration of liquids

Dh ض : produced by generation of bubbles from liquid.

Ta’ ط : produced by clapping hands but do not touch each other.

T ت : produced by knocking using a finger hardly.

F ف : produced by rustle of leaves.

B ب : produced by pulling soft contiguous objects²⁵ .

Some sounds mentioned in this chapter indicate, according to Dr. Ibrahim Anis, that Ibn Sina connects the sound of language to other nature sounds... he provided us with each letter with similar movements we can notice in our life, whether produced by someone or accidentally²⁶.

²⁴ Ibid, p 64-65

²⁵ Ibn Sina, Resalat in the causes of letters occurrence, p 89

²⁶ Dr. Ibrahim Anis, linguistic sounds, edition 2, vol. 4, 1962, Anglo-Egyptian bookshop, Egypt p 124

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