



The History of early promulgation of eyeglasses in Persia

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Abstract

Background & Aims: From ancient time the human being was familiar with refraction of light through the crystals. One of the earliest finished natural crystals as a lens belongs to 3000 years ago named as Nimrud lens. The purpose of this research was to find when the use of eyeglass was promulgated in Persia

Methods: To answer the question, we looked for the first use of the “eyeglass” or its synonyms in the Farsi literature and Persian ancient artistic paintings.

Results: Jami was the first the Persian poet that used a synonym of eyeglass in his poems. The frequency of its use in Farsi poems has been increased from 16 century onward. We also found two Persian paintings demonstrating the use of eyeglasses in the Safavid period.

Conclusion: Eyeglass was introduced from Europe to Persia. The use of the eyeglasses in Persia was promulgated in the 15th century and early Safavid period onward.

Key words: Eyeglass, Farsi literature, Spectacle, Jami

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Introduction

The human being was familiar with refraction of light through the crystals that were found in nature. The most famous finished natural crystal is the 3000-year old Nimrud lens which was used as a magnifying or burning lens (1). Between 1011-1021 A.D. Ibn al-Haythamal-Başrī (Abū ‘Alī al-Ḥasan ibn al-Ḥasan ibn al-Haytham, 965-1040 A.D.) wrote a seven-chapter treatise named “*Kitab al-manazir*” (the book of optics). Ibn al-Haytham described the characteristics of lenses, essentials and principles refraction of light when it

passes through colorless surfaces such as: glass, air and water in his treatise. (1-3) Ibn al-Haytham told: "the shapes of visual objects appear distorted when seen through a colorless object". (3) A century later this work translated into Latin and extensively influenced the development of optics in Europe between 1260 and 1650A.D.

The purpose of this research was to find when the use of lenses as eyeglass was promulgated in Persia (1-3).

Materials and Methods: To answer, we reviewed and looked for the first use of the word “eyeglass” and its synonyms in the Farsi literature and historical notes. We also present two ancient Persian paintings demonstrating the use of eyeglasses in the 17th century.

Results

To the best of our knowledge the word “eyeglass” or its synonyms were not presented in the Persian word dictionaries until 15th century; however, the meaning of

از فرنگی شیشه ناگشته چهار
هنوز بس نبود در تلاوت سورم
بی فرنگی چشم ها از شیشه های تا به دان

From the 16th century onward the poets have mentioned about the eyeglass (Maktabi Shirazi ?-1468/1494; Hatefi Khargerdi 1454- 1521; Vahshi Bafqi 1532- 1583), refraction of light (Vahid Qazvini 1607-1699; Kalim Kashani 1581/1584 -1651), function of the lenses (Ashraf Mazandarani 1620-1704), eyeglass material (Najib Kashani 1652- 1711), eyeglass components such as case, rim and frame (Tasir Tabrizi ?- 1718) and optician as a job (Seidaei Nafsi 1635/1637-1706/1710) in their Farsi poems (4).

Doctor Mahbobi Ardakani in his book about the history of new civilized organizations in Persia has mentioned that Venetian merchants presented to Ozun Hassan (1423- 1478A.D.) two gifts: the first was a musket and the second was eyeglass. (5) During the Safavid period (1501-1722 A.D.) the use of eye glasses and other optical instruments became widespread in Persia. During the Shah Abbas period (reign: 1588-1629) Raphael Du Mans, a French missionary, made a telescope with a segment of straw and two eyeglass lenses in Isfahan (6). During the XXXVth Scientific

“eyeglass” has been presented from the 15th century onwards in the Persian word dictionaries (1). Jami (Nur ad-Dīn Abd ar-Rahmān Jāmī, 1414- 1492 A.D.) was the first Persian poet who used eyeglass for presbyopia (1, 4). Jami in the late of Timurid period (1370-1507 A.D.), was the first Persian poet that mentioned a synonym of eyeglass in his poems. He used the term “foreign glass” instead of the eyeglass because in that time eyeglasses were imported from Europe to Persia (1) .

Jami in different part of his Divan told:

از دو چشم من نیاید هیچ کار
دو چشم کرده ام از شیشه ی فرنگی چهار
در نیاید خرده کاریهای نقشش عقل پیر

Instruments Symposium, Istanbul University 26-30 September 2016, an exchange receipt issued by Domici family in Italy was alluded for buying eyeglasses for Persia during the Safavid period (Personal communication).

Spectacles with colored glasses and decorative eyeglass promulgated during the Qajar dynasty (1875-1925A.D.). Naser-ad-Din Shah (1831- 1896 A.D.) in his dairy to Mazandaran indicated that he had to use spectacle with green glasses because of his eye pain (4).

The earliest pictorial evidence in Persian painting is drawn by Muin Musavvar (1617, Isfahan- 1797). He was a pupil of Reza Abassi (Kashan, 1565- Tabriz, 1635A.D.). In 1673, he posthumously portrayed his mentor (Reza Abassi) with eyeglasses (Figure 1) .

Figure 2 demonstrates an old man holding a draft. It is drawn by Mir Seed Ali (circa 1565) during Safavid period. According to the evidences it may concluded that the use of the eyeglasses in Persia was promulgated in the 15th century and early Safavid period.



Figure 1. Posthumous portrait of Reza Abbasi (Kashan, 1565- Tabriz, 1635) with eye glasses, drawn in 1673 by his pupil Muin Musavvar (1617, Isfahan- 1797)

Adopted from: https://en.wikipedia.org/wiki/Reza_Abbasi#/media/File:Mu%27in._Portrait_of_Riza-i-Abbasi._1673._Princeton_University.jpg. (Public domain) Accessed on September 17, 2018)



Figure 2. Old man with a draft drawn (circa 1565) by Mir Seyid Ali Mussavar (1510-1572). Available at: https://commons.wikimedia.org/wiki/File:Mir_Seyid_Ali_Mussavir.jpg. Accessed on September 19, 2018. (Public domain)

Discussion

The first eyeglass invented in Italy about 1286; however, the inventor is unknown. (2, 8) In the

13th century, Roger Bacon (1214-1294A.D.) described the magnifiers and explained for the first time how to magnify visual objects using pieces of glass spheres.

Bacon wrote: "for this reason, this tool is useful for elderly people and people who have weakness in their vision as it allows them to be able to see any letter however small it was, if it was magnified enough." (3) In a sermon addressed by Dominican friar Giordano da Pisa (circa: 1255–1311A.D.) on February 23, 1306, he wrote: "It is not yet twenty years since there was found the art of making eyeglasses, which make for good vision." In 1604 the first correct description as to why convex and concave lenses could correct myopia and presbyopia was published by Johannes Kepler (3, 7). In the beginning of the 14th century, the eyeglasses were first mentioned in the medical books in Europe (3).

In the European art there are many paintings that demonstrate people with the early use of eyeglasses. The earliest pictorial evidence for the use of eyeglasses is the portrait of the cardinal Hugh de Provence reading in a scriptorium drew by Tommaso da Modena's in 1352 on a wall fresco in the city of Treviso, Italy. Since drawing of people was discouraged in the early Islamic art, the pictorial evidences of the use of eyeglass in the Persian paintings is limited (3).

Conclusion

1) Eyeglass was introduced from Europe to Persia. (3,
2) The use of the eyeglasses in Persia was promulgated

in the 15th century and late Timurid and early Safavid period onward.

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