Abstract
The camera entered Iran as early as 1842, during the Qajar Dynasty (1785-1925). Naser al-Din Shah (reigned 1848-1896), was fascinated by the new medium and became both a patron of photography and an amateur photographer himself, establishing the Royal Photography Atelier in the Golestan Palace.

Aqa Reza Iqbal al-Saltaneh (1843-1889) was appointed in 1863 as Naser al-Din Shah’s first court photographer. Henceforth known as Reza Akkasbashi, his fascinating legacy includes a rare collection of several hundred stereographs (1858-65). The rudimentary and very poor examples of stereo photographs analysed here can be revealing of a stereo desire that was not paired with proper technological skill. The paper shows how stereo craze reached Iran and how early local photographers experimented with double images and photographic cameras.

Almost 40 years later, Naser al-Din Shah’s son Moazzafar al-Din Shah (reigned 1896-1907) reproduced stereographs himself during his second trip to Europe in 1903, and purchased a long list produced stereographs himself during his second trip to Europe in 1903, and purchased a long list of photographic material from the London Stereoscopic and Photographic Society.

Keywords: Iranian stereo photography, Gajar photography, Reza Akkasbashi

Introduction
The camera entered Iran as early as 1842, during the Qajar Dynasty (1785-1925). Naser al-Din Shah (Qajar 1848-1896), one of the last kings of the dynasty, was fascinated by the new medium. Only three years after its invention in Paris, his father, Mohammad Shah Qajar (1908-1848) had received, upon request, two daguerreotype cameras from Queen Victoria of England and Emperor Nicolas I of Russia.1 Evidence of Iranian daguerreotype photography has been verified for the most part through secondary sources: memoirs of court chroniclers and surviving paintings from earlier daguerreotypes. Practitioners were generally defeated by technical setbacks.2 Nas er al-din eventually became both an amateur exponent and a patron of photography, establishing the Royal Photography Atelier in the Golestan Palace in 1858, and ensuring that Dar al-Funun would offer classes in the science and art of photography. Founded by Amir Kabir, Naser al-Din Shah Qajar’s first prime minister, Dar al-Funun Polytechnic University (1851 c.-1892) was Iran’s first secular institution of higher learning.3 Austrian, Italian and French military advisors, who were familiar with the camera, were the first to experiment with the new techniques and acted as instructors. Salt-print and wet-collodion techniques were taught and practiced. For instance, the French photographer François Carhian (1818-1870) was influential in the preparation of the wet-collodion method in Iran; court photographers were trained and sent on photography expeditions countrywide; photographic practice took root among kings, princes and affluent families (Sheikh and Pérez González 2013; Pérez González 2012).

Around 1880, through a trickle-down process, the camera left the confines of the palace. Public photography studios were established in the major cities of most provinces. Photography affected an elite section of society, comprising wealthy merchants; the extended royal family, and higher echelons of provincial government and their families (Sheikh and Pérez González 2013; Pérez González and Sheikh 2015).

Aqa Reza Iqbal al-Saltaneh (1843-1889) was Naser al-Din Shah’s first court photographer, working most actively from 1858 to 1878 (Figure 1).

He had taken photography courses with the shah, and both started using the camera at the same time. In 1862, he was appointed first court photographer, with the title Akkasbashi, and from that moment onwards he was known as Reza

1) For the exact details of this very important exchange see: Sheikh, R. and Pérez González, C. (Eds.) (2013). The First Hundred Years of Iranian Photography. History of Photography 37 (1), 1, and footnote to their editorial. For detailed information on the introduction of the daguerreotype in Iran, see: Adie, Ch. (1997). De la pinture à la photographie: naissance de la daguerréotypie iranienne. Images 36, 6-11.

5) We are grateful to Alexandre Ramirez for pointing out this to us during the 3rd S&I Media International Conference held from the 28th to the 30rd June 2018 in Lisbon. Thanks are also due to Denis Pellerin for noting that some of the images that seem to be stereographs, are actually only copies or just two almost identical images printed next to each other.

During the 1860s he accompanied the shah on his travels around the country and later on to Europe. Both king and court photographer experimented enthusiastically with different photographic techniques at court, under the supervision of hired Western photographers such as Carlihan, who came to the Persian court as early as 1858. Among the many contributions of this pioneer photographer in Iran is his work in the field of stereoscopic photography. We know that there was at least one stereoscopic camera at the Iranian court, a model similar to some of the earliest French and American wet-plate stereoscopic cameras built in the mid-1860s (Figure 2). Nevertheless, on a second deeper look at the camera, we may notice that the two lenses are not identical, neither are placed exactly where they should, and hence the camera cannot work as a stereoscopic camera. Images taken with this camera would not be stereographs, and would not produce a 3D image when viewed through a stereoscope.

One of the earliest stereo photographs made in Iran shows Naser al-Din Shah reflected in a mirror, holding a stereoscopic camera (Figure 3). However, due to the poor quality of the print, it is impossible to tell whether the camera shown here and the one shown on the previous picture are the same.

By analysing a corpus of stereoscopic photographs produced in the later 1860s, which we have been able to gather from different private collections, we can conclude that only some of them might have been taken with a stereoscopic camera. Others seem to have been made by the rudimentary method of taking two different photographs of the same subject from slightly different positions with a single regular camera. Or maybe with the locally made two-lens camera (not stereoscopic) shown above. Whether this was the case remains mere conjecture, but in the next section we will show an example to illustrate our argument.

To date, we have found no written evidence that a real stereoscopic camera was used by Reza Akkasbashi to make the stereos that he produced in the early 1860s.

Reza Akkasbashi’s legacy is huge and varied, as he often accompanied the shah in his numerous journeys around Iran and abroad to Europe. Naser al-Din’s travels can be classified into three different groups according to the objective of the trip, namely: diplomatic or court relationships, religious and holidays or pleasure.

Naser al-Din Shah was the first Iranian monarch in history to set foot on European soil. He traveled to Europe three times in the course of his reign, in 1873, 1878, and 1889. On the first two trips he was accompanied by Reza Akkasbashi. The second group includes their 1871 trip to the holy cities of Najaf and Kerbala.
During his historic first trip to Europe, Naser al-Din Shah and his retinue embarked on a voyage from the Caspian seaport of Anzali to Russia and on to Prussia, Belgium, England, France, Switzerland, Vienna and Italy, finally returning to Iran. While abroad the shah was photographed by the court photographers who accompanied him and also by well-known European commercial photographers (see the carte de visite holder with photographs of the shah and his retinue by Nadar and other French photographers, \( \text{Figure 4} \)). Passages in his travelogue describe his encounter with a number of these foreign photographers:

Nadar, a Parisian photographer of talent, had an audience, and took our photograph. Formerly, he has several times made ascents in balloons; but has now dropped that fancy, and occupies himself with his photography. He is a pleasant man and corpulent (Naser al-Din Shah 1874, p. 237).

And the shahs would sometimes be photographed by court photographers of their royal hosts in rooms prepared as studios:

After breakfast I was photographed in an upper story of the palace, by the same photographer who took my portrait when I was at Vienna before (Naser al-Din Shah 2010, p. 245).

An interesting aspect of the role of Iran in the history of stereoscopic photography is the complete absence of Iranian images in all the well-known \textit{Tour of the World} sets, including sets on Asian countries, published by leading American stereoscopic companies such as Underwood & Underwood and Keystone. In these popular sets the Near East was basically (and profusely) represented by Palestine, Syria, and Turkey. Underwood’s 100-card set (first issued in 1897) was so popular that various subsets, such as Jerusalem and \textit{The Life of Jesus} were also published separately. Underwood published a forty-eight-card set, \textit{Constantinople}, which Keystone published with minor changes as \textit{Turkey} (50 cards 1923; 72 cards 1927) (Darrah 1977, p. 131).\footnote{1) See also, for example, Hart & Anderson (Eds.) (1872). \textit{The World in the Stereoscope: A Series of Sketches, original and selected}. New York: Hart & Anderson, where no image taken in Iran is to be found.}

The activity and production of local stereo-photographers in Iran contrasts remarkably with the absence of Iranian images in these popular sets. The images produced at the Iranian court were meant to be enjoyed by the Persian king and his family. The intimate approach of these images is palpable and contrasts with the views of neighbouring countries published by Keystone and all other commercial stereoscopic companies.

Reza Akkasbashi, first Iranian court photographer and pioneer stereo-photographer, 1858-1864

Reza Akkasbashi’s fascinating legacy included a rare collection of several hundred stereographs (many of them being not real stereographs but fake or pseudo-stereos, as we will explain in this section) with various themes now held in two private collections: one in a private collection in Tehran and the second at the Kimia Foundation in Los Angeles.\footnote{By far more information on this collection, see: Pérez González & Sheikh, “From the Inner Sanctum.”}
The shah had a keen interest in documenting his travels through the country, especially in the north. The following image shows the photographic tent he used on these journeys (Figure 10). Both historically and aesthetically this stereograph is extraordinary. The picture was taken from inside a large tent, as it has been written on the back of the card by Reza Akkasbashi, which frames the composition to comprise three tents of various shapes and sizes scattered on the beach, with a view of the sea in the background.  

The photographs form a valuable document of the shah’s traveling entourage and encampment (Figures 11, and 12).

The oldest attempt at producing stereoscopic photographs probably took place within the walls of the Golestan Palace and in its gardens; and shortly after that, other stereos were taken during the shah’s travels to Soltanieh, Hamadan, Azerbaijan and Kurdistan in 1858 (Figures 6, 7, 8, and 9). The great disparity in the prints (format, colours, etc) and the identification of some of them as fake stereos are two major features of these images that we would like to analyse here.  

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Among them there is a stereograph of the moon (dated c. 1863, Figure 13), which suggests that Reza Akkasbashi took the earliest photographs of the moon — albeit clearly not through a telescope — from Iranian soil. The purpose of this image was manifestly aesthetic and documentary rather than scientific.

Some central questions relating to this collection of stereoscopes are: How did Reza Akkasbashi learn the stereoscopic photography technique? Who actually cut and mounted the two photographs needed for a stereo-photograph and who pasted them together on the stereo-card? How were the stereoscopes viewed once they were mounted? When do we find the first reference to stereo-photography in Iran?

Let’s start with the last of these questions. In a book published in Persian, translated from a French book by Mohammad Kazem ibn Ahmad Mahallati (1834-1896) printed in 1863, we can read a paragraph on the stereoscopic technique applied to photography (Figure 14):

**On stereoscopy:** For a few years now a particular device has been used in the West; this device gives depth to photographed objects and people. In addition, [in this kind of photograph] the convexity and concavity and distance from other objects can be discerned very clearly. Through this device one looks with both eyes; but if one looks with one eye, the projection and convexity of photographed objects will be unclear or nonexistent. The reason the depth/distance and dimension can be discerned is that the image seen by the left eye is not identical to the image seen by the right eye. Two images are seen at once and thus, following the natural habit of seeing, depth is discerned.

11) Original in Persian, translated by Ghazaal Bozorgmehr.

Through this rule it is clear that if two similar images, with slight differences, are drawn and are located next to each other, convexity and depth will appear.

In the past one famous Italian painter, thanks to his experience and his excessive intelligence, realized that in order to give depth to images, both eyes must be used, which means two similar images must be put next to each other.11

This is the first reference (that we know) to the technique of stereo photography in Iran. The author had traveled to France in 1858, together with a selected group of students from Dar al-Funun, to study pharmacy and botany in Rouen. In 1862 he returned from Paris (Atai 1992, pp. 92, 100, 136) and started teaching physics and chemistry in Dar al-Funun, where he wrote (and translated) the book on photography as a textbook for his students. Reza Akkasbashi had, however, probably learned the stereoscopic technique from Carlini before that book was published, as he was his student during the time that those early stereos were taken.

When we examine Reza Akkasbashi’s stereo-photographs (including the copied or non-stereo ones), it is immediately evident that there is no uniformity in their quality. This is not necessarily a question of the quality of the image: it may have to do with the cutting and mounting of the photographs on the card (compare for instance most of the previous stereos with Figure 15), or may have to do with the fact that they were not properly produced as stereographs.
In this last image, clearly not a stereo, the two photographs have been cut rather badly and they definitely have not been mounted properly, as we can see from the other stereos. We may also conclude that this last image is an example of a stereo taken with a single normal camera, by changing the camera position a few centimetres in order to get the two images needed for the stereo. The result is obviously not what it should have been. In the collection we find several ways of cutting and mounting the photographs on their cards, with corresponding differences in quality.

The rudimentary process of creating a stereo-photograph with one single-lens camera was very difficult to master, as we can read in early books on the technique of stereo photography, such as *The World in the Stereoscope*, in a section devoted to that issue:

> If the pictures are taken with a single camera, the instrument must be set in two different positions successively to get true right and left eye pictures. In order to give the proper relief, the centers of the lens should be placed two and half inches apart, the average distance of the center of two eyes. The distances seem unnaturally drawn out in the stereoscopic view if the angle at which its pictures are taken is greater than that of natural vision. Very few artists employ the proper angle, some using six or eight inches, or even ten or twenty. The result is that millions of stereoscopic photographs are circulated which have no real artistic value. Streets are seen twice as long as in nature, buildings are enormously increased in depth \( \ldots \). Sometimes, on the other hand, no change whatever of the camera position is made. The same picture is printed for each eye. The result is the loss of the true stereoscopic effect, as well as injury of the vision in the effort to produce this effect. Great care should be taken in the selection of views; for a great number of the pictures published are stereoscopic in name only (Hart & Anderson 1872, p. 24-25).

We know from a book Naser al-Din Shah wrote about his travels in north-west Iran that he actually pasted some of the photographs himself, and this constitutes a very important testimony as it definitely shows the desire for stereo:

> I cut the photographs of the stereo-photographs of some of the photographs \[sic\] that we took in Sultan Abad and Shahrestanak, and pasted them in the stereo-card. It was quite difficult to do that.

Regarding false or fake stereos, Arthur Judge devoted a chapter to them in his book *Stereoscopic Photography. Its Application to Science, Industry and Education* (1929), where he explains and notes the difference between what he calls false stereograms and pseudo-stereograms. He refers to false stereograms in this way, explaining the different possibilities of getting (consciously or not) a false stereo:

> False Stereograms - Many people unacquainted with the subject, imagine that a pair of identical photographs be mounted at the correct inter-ocular distance apart, namely 2 ½ ins., that a stereoscopic result will be obtained, when the combination is viewed in a stereoscope. This is, of course, quite incorrect, since we have shown, the two pictures forming the pair must be taken from different viewpoints, and therefore dissimilar.

In Oliver Wendell Holmes’ article *The Stereoscope and the Stereograph* published in the journal *The Atlantic Monthly* in 1859, the author writes not only about how to produce stereographs, but also how to view them properly:

> How shall we make one picture out of two, the corresponding parts of which are separated by a distance of two or three inches?

We can do this in two ways. First by squinting as we look at them. But this is tedious, painful, and to some impossible, or at least very difficult. We shall find it much easier to look through a couple of glasses that squint for us (Wendell Holmes 1859, p. 744).

Figure 15 – Reza Akkasbashi, Naser al-Din Shah’s encampment, 1864, Kimia Foundation


In the past, unscrupulous or ignorant people have mounted identical photographs on stereoscopic mounts and offered them for sale: this fact had something to do with the fall in popularity of stereoscopy some years ago. If the two prints of a stereoscopic negative are improperly trimmed, or are mounted out of parallelism, the stereoscopic result frequently will not be realized.

Similarly, if two similar points on the pictures are mounted at the correct distance apart, viz. 2 ½ inches, but if either are orientated so that horizontal lines become inclined it will be difficult to merge the views and a false stereogram may result. Further, if two points from a stereoscopic negative be properly trimmed and mounted parallel but at too great distance apart (namely over 3 ¼ inches between corresponding points), the ordinary person will be unable to merge the two views and no stereoscopic effect will be obtained (Judge 1926, p. 131).

Judge defines the pseudo-stereogram as follows:

Pseudo-Stereograms – There is another type of false-stereogram which one frequently experiences, namely, in the case of the incorrect transposition of the two stereoscopic pictures, so that the left eye sees the right picture in the stereoscope, and the right eye, the left. One occasionally comes across cases of stereoscopic prints, which have not been transposed before mounting, so that when viewed in the stereoscope, the true effect is not obtained. Stereoscopic camera pictures, which are incorrectly mounted in this way are termed pseudo-stereograms (Judge 1926, p. 132).

Many of the images that we have studied so far present either of the technical problems pointed out by Judge, hence fall into his category of fake stereos.

Mozaffar al-Din Shah (1853-1907) and Aboul Qhasem Nuri (1874-1933)

Just five years old when his father began taking photography lessons, Mozaffar al-Din Mirza (his name as a prince) began posing for the camera at an early age, around 1865. Later he favoured peaceful settings with his own crew of court photographers far from the capital city, and enjoyed viewing photographs presented to him (Figure 16).

If the father could claim to be the progenitor of photography in Iran, the son was the proud importer of the movie camera to Iran after his second trip to Europe (1903). It was also on this trip that Mozaffar al-Din Shah purchased from the London Stereoscopic and Photographic Society a long list of materials for both regular and stereoscopic photographs. The invoice that he received from that company, dated July 31, 1903 (Figure 17) lists two cameras, slides, cards, 400 plates, films, several lenses and objectives, as well as cases etc., amounting to a total of some £112. Some handwritten notes in Persian indicate that all these items were selected on August 2 by one of the shah's court photographers, and that the entire order was to be sent to the Persian court.

Mozaffar al-Din Shah’s visits to Europe (1900, 1903 and 1905) differed from those of his father. His bad health conditioned the route he took in Europe. The next photograph (Figure 18) shows him sitting on his bed in Carlsbad (then Austro-Hungarian Empire, now Czech Republic) during his second trip. The fifty-year-old ruler stares deeply into the lens of the camera. In
front of him, we see an old camera on a low table atop a few photograph albums. Although the photographer who took this picture is unknown, he would most likely have been one of the two court photographers in the shah’s European retinue:

14) John Gustavson, curator of photography and expert in old cameras at the George Eastman House in Rochester, believes the camera in the picture may be an Ernemann Klapp. The camera appears to be a tropical version, with a polished teak body, as it does not appear to have a leather covering (email communication: June 2015).

The shah also took photographs during his European travels, and we have found three of his stereo images in a private collection in Iran, all three taken during his second European trip (1903). In the first image, taken in Marienbad (also then Austro-Hungarian Empire, now Czech Republic), the shah himself wrote that the photographed animal had been killed by Prince Mitterneg (sic) himself (Figure 19).

The second and third stereos were taken in a Belgian coastal resort, where the shah spent some time (Figures 20 and 21). In his travelogue he writes that he took and bought photographs (and postcards) in several European cities (Mozaffar al-Din Shah 1983, pp. 31-32; 71-74).

15) After in-depth analysis of this photograph, Reza Sheikh and Carmen Pérez González concluded that the arrangement of the bed and the size of the room do not suggest the king’s bedroom. This is probably the photographer’s bedroom, to which the king has just paid a visit. The camera on the table also points to this, and the folios below may be photograph albums or a plain log of the trip, as it would have been the photographer’s responsibility to document the journey.
Also, from these years are some stereo-photographs taken by one of Mozaffar al-Din Shah’s court photographers, either Aboul Ghasem Nuri (1874-1933) or Mirza Ebrahim Khan Akkasbashi (Figure 22).

In one of them the photographer himself can be seen with his camera (Figure 23) and in the other Mozaffar al-Din Shah, at his desk, may be signing documents (Figure 24). Aboul Ghasem Nuri copiously documented the daily life and interests of Mozaffar al-Din Shah, as Reza Akkasbashi had done with his father, Naser al-Din Shah, a few decades earlier, but he also took some well-composed stereographs of street life (Figure 25). Mozaffar al-Din Shah did not travel personally to the sacred cities of Najaf and Karbala, but sent Aboul Ghasem Nuri, where he produced remarkable portraits of religious leaders, some of them also embellished with calligraphic inscriptions of philosophical thoughts. The stereographs that he produced were probably taken with the photographic material the shah had purchased at the Photographic Stereoscopic Company in London.

In conclusion, we can state that, along with Shah Mozaffar al-Din himself, the first stereo-photographers in Iran were the court photographers Reza Akkasbashi and Aboul Ghasem Nuri. They used what looked like stereo-photography (but was not, as many of them were not real stereos but fake ones) to document the trips and daily life of the shahs and their extensive families. Nevertheless, the most important aspect of stereo-photography, to obtain a 3-D final image by melding two images into one, seems not to have been fundamental for either the shahs or their photographers, especially for the earliest ones. We still do not know whether the court possessed a stereoscope-viewer, which would help to clarify this point. It might have been that these outstanding pioneer Iranian photographers just took stereoscopic photographs as an interesting technological and aesthetic exercise, given the stereo-craze that was sweeping Europe during the last decades of the 19th and the first of the 20th century.
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Bibliography


