

60 centimeters and a depth of nine meters each would be dug. And in this way, the well-diggers would reach salty water mixed with oil at 17 meters below the surface. Once every four or five days the oil and water mixture would be collected from these ditches with a bucket that was, in the words of De Morgan, "inappropriate and worn out".

However, 'Abdol-Ghafar Najm-ol-Molk', an Iranian engineer who had inspected the southwestern regions of Iran nine years before De Morgan in 1882, by the order of King Nasereddin, also happened to witness the recovery of oil by the residents of that region. In his book entitled *The Itinerary to Khuzestan*, he writes that "the oil and water mixture was collected by a bucket. On the side of the bucket was a slit that let liquid escape, until a sound could be heard that was not the sound of water, which the workers could recognize well, due to their numerous repetitions." So we can see that, contrary to the beliefs of De Morgan, the bucket was not "worn out" and an opening had deliberately been put in place to separate the oil from the salty water.

The oil recovered with this method, which would come to around 250 liters with each repetition, would be sold at one toman per 60 liters, which was equal to eight French francs. The remaining salt-water would also be heated until evaporation, leaving behind a salt that smelt of oil, which would be sold for three shahis, which was the equivalent of 12 centimes. Some 10 to 12 people would work any single oil well and would each be paid a rial a day, which was the equivalent of 80 centimes. Natural oil fields were considered to be government land and would usually be rented out by the government. If an oil reserve happened to be situated on someone's personal property, the property owner was free to exploit the reserve, but had to

pay an amount of tax to the government.

But why wasn't De Morgan's article noticed by French policy-makers, especially at a time when France was forced to purchase its annual consumption of 500,000 barrels of oil from America and Russia? The answer to this question can be found in France's foreign policy during the last years of the 19th century. After France's defeat to Germany in 1870, German politicians headed by Bismarck, were trying to isolate France in Europe as much as possible. As a countermeasure, France was strengthening its ties with Russia and England in an attempt to forge alliances with the said countries. This strategy meant that France acted as a mediator between Russia and England over regions, such as Iran, where the political-economical interests of the two countries could cause clashes between them. To manage this France had no other choice but to forfeit its own economic interests.

So if at the beginning of the 19th century, in the eyes of Napoleon Bonaparte, Iran was a bridge for French forces to cross into India and threaten English interests, by the end of the 19th century, French politicians looked at Iran as an opportunity to establish a trilateral alliance with England and Russia. This strategy reached its climax in the 1907 contract between Russia and England for the carve-up of Iran, which was facilitated and signed by France's invisible hand. As a consequence, when De Morgan published his article in 1892, the government of France preferred strengthening its cultural presence by lobbying for concessions on archeological excavations, rather than oil recovery concessions, which would threaten the economic interests of Russia and England in Iran. In line with this policy, three years after De Morgan's visit, the French ambassador to Tehran, 'Rene Dubalva', landed the second archeological contract

with Iran, in consideration for a 50,000 francs (equal to 10,000 tomans) gift to King Nasereddin.

Thus, French archeologists were granted the permission to conduct excavations on any part of Iran's soil, with the exception of holy sites, on condition that they give Iran an equal share of all the objects they unearthed, except antique gold and silver jewelry which would be delivered to the King of Iran. Even though a year after the contract's signature, King Nasereddin was killed by a bullet from Mirza Reza Kermani's pistol, the heir to the throne, King Mozafaredin recognized France's exclusive concession for archeological excavations, by means of a decree delivered in October 1907. At this very time, Jacques De Morgan returned to Iran for a second time, but this time as the representative of all the archeologists excavating for France in Iran.

De Morgan retired in 1912. His letters to his daughter in the days following his retirement (some of which have been published in his memoirs) tell of a deteriorated physical condition and financial hardships. These letters show that De Morgan didn't reap any financial benefits from his research on Ghasr-e-Shirin's oil. In 1923, in a long letter addressed to one of King Ahmad's associates, De Morgan offered to share his research and experience with the government of Iran and to take on the management of an international company he and some of his European friends were thinking of establishing for the recovery of Iran's oil.

De Morgan was keen to return to Iran once more to investigate the western and southwestern regions of Iran in hopes of finding oil rather than antiques. But the Grim Reaper didn't give him the opportunity, as within approximately a year of him writing his letter, he passed away in June 1924, at 67 years of age.

Translated by: Sajjad Khoshroo

Jacques De Morgan, a mine engineer who ended up being an archeologist, was born on 3 June 1857 to a well-off family residing in the Loir-et-Cher region in central France. Jacques' father, Eugene De Morgan was also a mine engineer, and Jacques' interest in his father's profession led him to the School of Mines in 1878. While studying at the school, Jacques went on scientific excursions as a geologist, rather than an archeologist. Jacques would publish the findings of these scientific excursions on the Society of Geologists' bulletin.

After De Morgan graduated from the School of Mines in 1882, he commenced his scientific research, which was based entirely beyond the borders of France. But, as De Morgan himself acknowledges in his memoirs, his professional career actually started with his first scientific excursion to Iran in 1889. De Morgan was on this trip, which lasted some 27 months, as an officer of France's ministry of mines, to travel to a vast region of Iran's plateau and inspect the regions of 'Van' and 'Armenia'. In other words, he was responsible for inspecting 'Orartor' and 'Heyti', the cradles of our civilization. To this end, De Morgan first traveled to the Caucasus region and then to 'Batoom' in the proximity of 'Tbilisi'. There he conducted some excavations on an ancient 'Telvan' cemetery dating back to the Byzantine period. After sending the discovered artifacts to France, he made his way towards Iran.

De Morgan reached the capital, Tehran, in the middle of November 1889. During his short stay of a few days in Tehran, De Morgan went to meet King 'Nasereddin' in the Golestan Palace. This meeting took place at a time when the Ghajar King was still bitter over the memory of the French archeological delegation headed by Marcel Dieulafoi. The story was that, Marcel Dieulafoi and his entourage signed the first archeological agreement between Iran

and France on 22 November 1884 where they agreed to conduct archeological investigations in the 'Shoosh' region and after two seasons of digging, they would divide the unearthed objects equally between the two countries. However, when the team finished its excavations, in utter disregard for the contract, it proceeded to take its entire findings back to France. Due to this matter, the Iranian government, while expressing its displeasure, terminated the contract and prevented French archeologists from conducting further excavations in 'Shoosh'.

Even four years after these occurrences, De Morgan's pleas to be granted excavation rights for the duration of his short scientific excursion fell on the King's deaf ears. So after only one week in Tehran, De Morgan left for the coastal areas of the Caspian Sea. In 'Astarabad', without informing the governor of the 'Valikhan' region, De Morgan started excavating on 'Khargosh Tappe' (Rabbit Hill) for a month -from 18 January to 15 February 1890. When the central government in Tehran got word of these excavations the King made a strict order to prevent their continuation. Following this episode, Jacques De Morgan decided to test his luck in 'Lankaran', an Iranian city that had fallen under Russian rule some years ago, especially since the local Russian authorities would be providing him with his excavation tools.

De Morgan's excavations in this region achieved remarkable results, as he was able to unearth -and send to France's ministry of mines(tools and objects dating back to the Renaissance and the Iron Age. After this success, De Morgan reentered Iran through its northwestern borders and reached 'Tabriz' on 20 August 1890. During his three weeks in the city, in which he bought antique objects for French museums, he also managed to meet with Prince Mozafaredin Mirza, who gave a decree

which facilitated his travel and research in the western and southwestern parts of Iran. Additionally, due to the request of Kermanshah's governor, 'Zeynolabedin Gharegazlo' also known as 'Hesam-ol-Molk', De Morgan investigated the oil fields of 'Ghasr-e-Shirin' for a three day period from 18 to 21 March 1891. It appears that 'Hesam-ol-Molk' had made this request based on the order of Chancellor 'Mirza Ali Asghar Khan Amin-o-Soltan' and as a consequence, the results of these investigations were produced in two copies, one sent to the Embassy of France in Tehran and the other to the Chancellor himself.

De Morgan landed in France on the first of November 1891, and four months later in February 1892, he published an extensive account of his studies on Ghasr-e-Shirin's oil as a scientific article in the Paris-based Mines Magazine. In the introduction of this eleven-page article, De Morgan made clear that the study was undertaken solely for the government of Iran, and he personally as an officer of the French government, had no rights or interests in the financial exploitation of the oil fields. He then proceeded to introduce the geographical features of the 'Zahab' region and, with the help of some graphs, asserted that 18 kilometers north of 'Ghasr-e-Shirin', in a region called 'Chah-Sorkh' (Red Well), there exists a considerable oil field, the exploitation of which would be very lucrative.

In the concluding sections of the article, De Morgan pointed to the traditional methods the local residents used to recover some of this oil and explained that some people would make a living off of this activity. The method they used was as follows: first three consecutive ditches would be dug with respective diameters of 6, 4.8 and 3.5 meters and depths of 50.5, 1.1 and 5 meters. Next, two parallel wells at the depth of eight meters, with a diameter of

Jacques De Morgan and Discovering Oil in Iran

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The study of the history of oil in Iran usually shows the French Jacques De Morgan was the first to publish -in Paris- the results of his research on the oil fields found in the 'Ghasr-e-Shirin' region, during his trip to that region in the spring of 1891, as part of his first scientific excursion to Iran from September 1889 to November 1891. This report certified the existence of oil reserves in the 'Ghasr-e-Shirin' region; and drew to itself the attention of an English capitalist by the name of William Knox Darcy. Eventually, on 28 May 1901, with the mediation of 'Anton Ketabchi Khan', a Christian go-between of Georgian descent with plenty of influence with the Ghajar dynasty, the English embassy in Tehran had Iran's King Mozafaredin sign the "Darcy Oil Concession".

This short and compressed historical account brings some questions to mind, such as, what was De Morgan's motive for conducting his oil research in the 'Ghasre-e-Shirin' region? If these studies were undertaken for the government of France, why didn't French policy-makers pay any special attention to its results, and how was it that the English eventually benefited from its findings? Since it was the publication of De Morgan's article that led to the Darcy Concession, did De Morgan reap any benefits from the exploitation of oil in Iran? And finally, when De Morgan was carrying out his research on the oil of the 'Ghasr-e-Shirin' region, to what extent were the local residences of that region aware of the existence of oil in their birthplace, and if they were recovering this oil, what method were they using? These are the questions the author seeks to briefly address during the course of this article.