

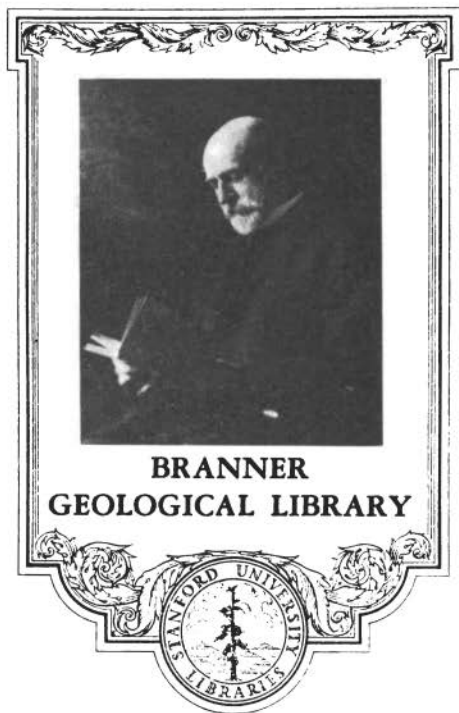
Japanese culture pearls

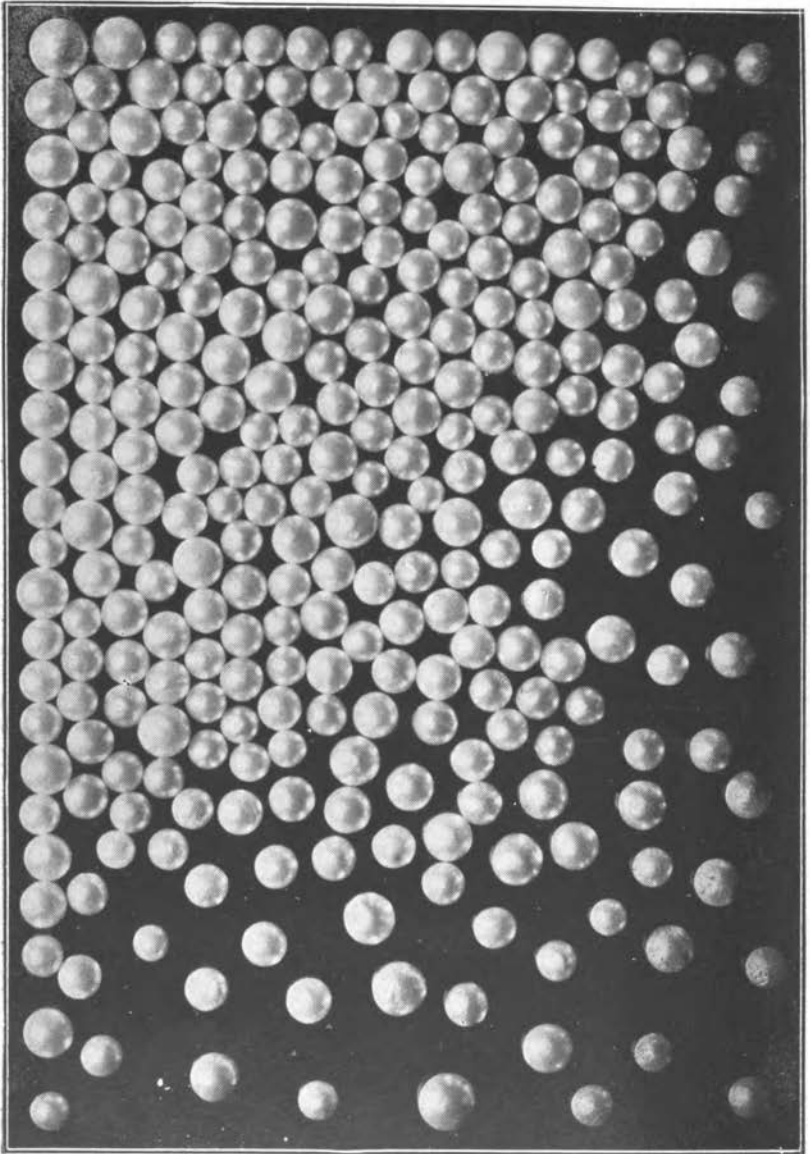
K Mikimoto

DEC 30 1911

JAPANESE
CULTURE
PEARLS

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A lot of Culture Pearls

JAPANESE
CULTURE PEARLS

A SUCCESSFUL CASE OF SCIENCE
APPLIED IN AID OF NATURE

K. MIKIMOTO

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The Nature of Pearls

Culture Pearls

The History of the Japanese Culture Pearls

The Mikimoto Pearl Culture Farm

The Japan Culture Pearls

Recognitions of Success

"Gumtai Sen" or War Fan

PEARL CULTURE

*The largest and finest
Abalone Pearl ever
found in Japan, kept
in Mikimoto's Store.*

138½ grains.



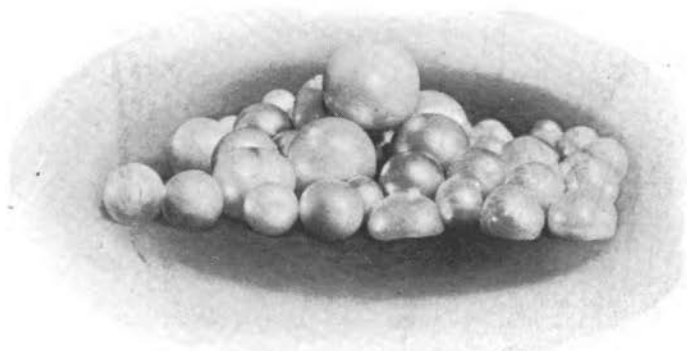
TN Henry Van Dyke's beautiful story, "The Other Wise Man" we read:—

"He had taken from a secret resting place in his bosom the pearl, the last of his jewels. As he looked at it, a mellow lustre, a soft and iridescent light, full of shifting gleams of azure and rose, trembled upon its surface. It seemed to have absorbed some reflection of the lost sapphire and ruby. So the secret purpose of a noble life draws into itself the memories of past joy and past sorrow."

Then again in another part of the story we read:—

"Never had the pearl seemed so luminous, so full of tender living lustre. He laid it in the hand of the slave. 'This is thy ransom daughter! It is the last of my treasures which I kept for the king.'"

Perhaps it would interest you to know more about this wonderful and precious jewel which could not only reflect the beauties of other gems, but also put power into the hand of the feeble wise man to save a poor girl from a life of misery.



A lot of Natural Pearls.

The Nature of Pearls

In early times people had all sorts of ridiculous and extravagant ideas about the way in which pearls were produced. Even so learned a man as Pliny believed that they were drops of dew, which falling into the gaping mouth of the mollusc, were transformed, by the animal's power, into pearls. From Ariel's song in "The Tempest,"

“Full fathom five thy father lies ;
Of his bones are coral made ;
Those are pearls that were his eyes :
Nothing of him that doth fade,
But doth suffer a sea change
Into something rich and strange,”

we see that in Shakespeare's time also, men had peculiar notions about the wonders wrought by the animals of the sea. Then, again, in Moore's poem, "Peri and the Pearl," we find:—

“And precious the tear as that rain from the sky

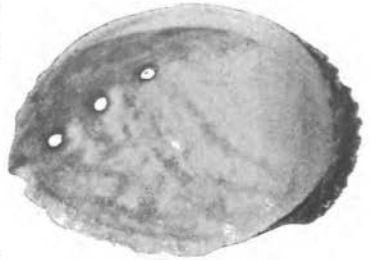
Which turns into pearls as it falls in the sea.”

Aelian thought that pearls were produced by lightning flashing into the open shells.

Turning from these fantastic, though interesting, theories let us glance at the modern explanations of the formation of these beautiful products of Nature.

You have, no doubt, often seen shells of Molluscs lined with a smooth and iridescent coating which is called *nacre* or mother-of-pearl. This coating, like the rest of the shell, is produced by the animal and is made up mostly of carbonate of lime and an organic matrix which usually presents a laminated texture. You must have noticed that the color and brilliancy of this layer differs in various species of shell. For instance in the ordinary oyster it is of a lustreless white, and in a kind of shell called *abalone* or ear shell (*Haliotis*), the nacre is of a greenish blue tinge,

changing to purple as you turn it in your hand. In another kind, known as the black-lipped-shell (*Margaritifera*), the mother-of-pearl is of a



Abalone shell



Black-lipped-shell.

greenish black color. In the shells of the true pearl-oysters the nacre is of a clear, delicate white, which has the sheen of floss silk faintly tinted with azure, exhibiting a beautiful play of color—a quality which makes these shells of great value in commerce.

Now it often happens that foreign substances such as sand grains, microscopic organisms of various kinds, parastic worms, crabs, or sometimes even small fishes become introduced by accident or otherwise inside the shell or into the tissues of the mollusc's soft body. In such cases, the animal sometimes begins to deposit a part of the material which goes to form the nacreous layer of the shell around or over these foreign objects, and as new material is added year after year in the form of layers, these concretions which may at first be very tiny grow to be of a considerable size. And when this takes place in a shell with specially beautiful nacre such as that of the pearl-oyster, the result may be an object of great beauty, prized from ancient times as a priceless jewel. In this strange way, pearls, the handsomest products of Nature are produced.

Such being their origin, pearls may be formed in any kind of Mollusc, bivalved or spiral. And just as the nacre of different kinds of shells differs, so the pearls themselves vary according to the shell which produces them. Thus the pearls of the common oyster, the scallop and the giant clam are milky white and not very bright, while those of the

sea mussel are usually black. The chank and the conch shells, into whose pink mouth you have so often looked, produce the pink pearls which are brought from the Bahamas and the West Indies. These pink pearls are also found in several kinds of fresh-water mussels which are plentiful in some of the streams and lakes of America, Europe, China, and Japan. Most superb of all, however, are the products of the true pearl-oysters. These are the pearls which have always been called Oriental Pearls—"solidified drops of dew," the poets have named them.




*Perfect round
and Pear-
shaped Pearls
Actual Size*

Perhaps you have noticed that pearls are of many different shapes: some round, some pear-shaped, some egg-shaped, and some of very fantastic shapes indeed. The round, pear-shaped, and egg-shaped ones are known as *oriental* or *virgin* pearls, while those of irregular shapes are called *baroque pearls*. These are sometimes found in the shapes of fishes, birds' wings, or creeping worms. The *seed* pearls which are generally used as medicine by the Chinese, are always very small and usually found together in numbers.



*"Baroque"
Pearls*



Sometimes two pearls will be found joined together by the nacreous substance, thus forming what is known as "*twin pearls*."


All of these kinds of pearls are called free pearls because they are found in the tissues of the animal's body and are not joined to the shell.

"Twin Pearls"

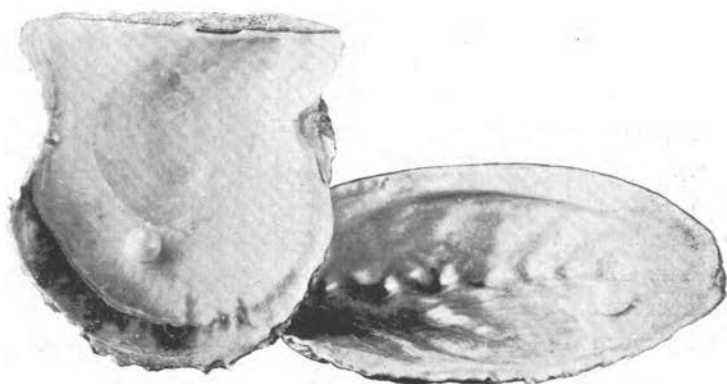
In the same way that twin pearls are joined together is sometimes happens that pearls are found attached to the inner surface of the shell. This position interferes with the symmetry of the pearl so that when it is taken

out of the shell it is flat on one side, making what is known as a "*perle bouton*"

The attached pearls are not always of inferior quality but are often highly valued. The world-renowned "Southern Cross," which was valued at £ 10,000 by the company to which it belonged, was found off Cossack, Western Australia, attached to the central part of the inside of a shell.



"Perles Boutans"



Pearl-Oyster and Abalone with Culture Pearls

Culture Pearls

When once the nature of pearls was understood, it was but natural that many experiments should be made to produce the precious objects at will. In fact much attention has been paid to this very problem by scientific men, and they are still at work upon it.

Of course we do not here refer to the manufacture of "artificial pearls" such as the so called "Roman pearls," "Venetian pearls" etc., which are not pearls at all, but are made of glass and painted with fish-silver; rather what is referred to are the attempts to make the pearl-oyster work for man and produce natural and true pearls in a reliable and methodical manner—in short a kind of "harnessing" the mollusc for the service of man.

It is well known that Linnaeus, the "father of natural history," claimed that pearls could be procured by piercing holes in the shell of an oyster with a fine

auger, making a small wound, and afterwards "parking" the animal for many years. But his suggestions do not seem to have been clearly understood and no one has been able to pursue his method successfully. The Chinese as is well known have been specially successful in raising pearls by inserting grains of clay between the shell and the thin outer membrane which covers the soft body of the freshwater mussel; but the best of these are of very inferior quality, and are valuable merely as curios.

At the International Fisheries Exhibition held in Berlin in 1880, some pearls were shown which had been cultivated in Germany. From looking at these one could see that the plain relief might be covered with nacreous substance, but the result was of little value. Mr. Saville Kent, late naturalist to the government of Queensland and to that of Western Australia, undertook the same experiment with the large pearl-oyster, and a gentleman on Thursday Island tried inserting a shot through a hole in the shell.

The most important of such experiments are probably those of Dr. Louis Boutan of Paris, who succeeded some six years ago in producing pearls in the abalone shell. The public was naturally greatly interested, and the newspapers in Europe and America applauded his success and called it a great discovery.

It may perhaps come as a surprise to many that before Dr. Boutan's attempts, a very extensive and

successful system of pearl-oyster cultivation had been carried on in Japan by a Mr. Mikimoto, and "culture pearl" had not only been produced but placed regularly on the market. Even at the present day, it may be claimed that this is the only pearl-oyster farm in the world which undertakes the extensive cultivation of the precious mollusc and produces "culture pearls" on a commercial scale. An account of this successful enterprise may therefore be not wholly devoid of interest.



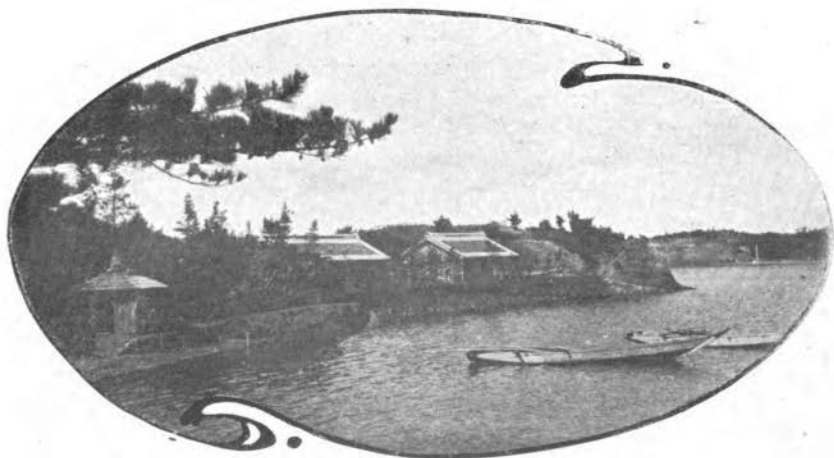
Japanese Pearl Oyster with Culture Pearl

The History of the Japanese Culture Pearl

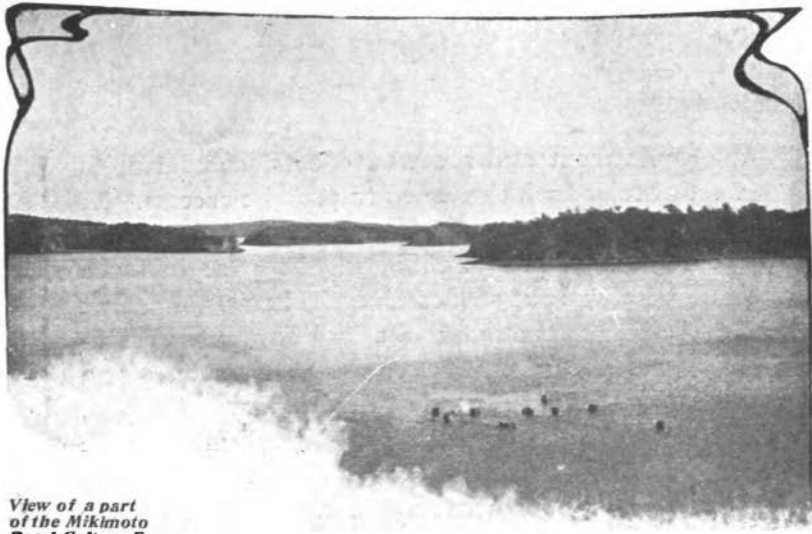
At the Third National Industrial Exhibition held in Tokyo in 1890, Mr. Mikimoto exhibited in the aquarium of the Fisheries section some living specimens of the pearl-oyster. This made him acquainted with Dr. Mitsukuri, professor of Zoology in the Imperial University, who first suggested to him the possibility of cultivating pearl-oysters and of making them produce pearls by the use of proper stimuli. Being deeply interested in the subject, Mikimoto went afterwards to the Marine Biological Station of the Imperial University at Misaki where the professor was staying, and learned from him many facts concerning pearl formation and the natural history of the pearl oyster.

Mikimoto's home was Toba in the province of Shima, one of the localities in Japan famous for large yields of pearls. Directly after his return there he began experimenting on his newly acquired idea. At first it seemed almost like pursuing a fleeting shadow and his friends laughed at him for "throwing his money into the sea." He, however, persisted, trying all sorts of experiments and changing his methods from time to time relying on suggestions and advice from Professor Mitsukuri and Dr. Kishinoue. At the end of four years of hard work,

disappointment and renewed efforts, some results were obtained which seemed to promise success. In 1896, things had so far progressed that the experimental stage was a thing of the past and the enterprise was put on a commercial basis. A patent for the new method was obtained from the government, and the cultivation of the pearl-oyster on an extensive scale was begun at the island, Tatokujima, in the Bay of Ago leased sometime before for the purpose. At the end of 1898, the first, though small, crop of pearls was harvested and placed on the market. These have been given the name of "culture pearls" by Professor Mitsukuri. Since then, the enterprise has been steadily growing in every way, and the skill and experience obtained by handling millions of pearl-oysters have enabled the establishment to maintain a constant improvement in the quality of the pearls produced.



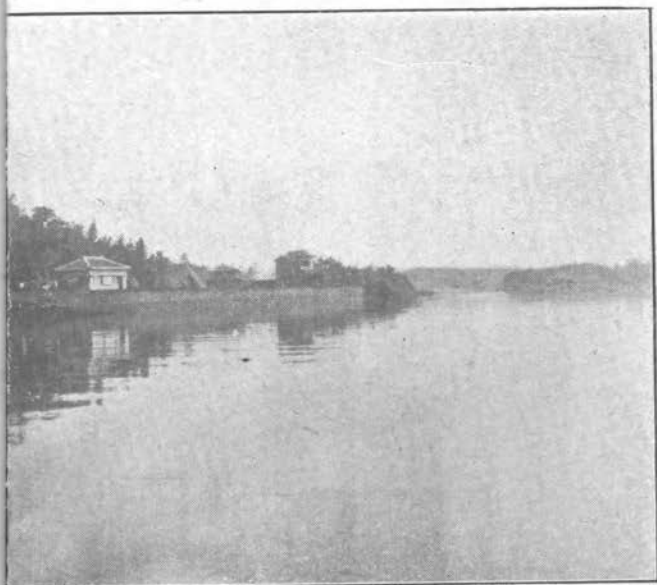
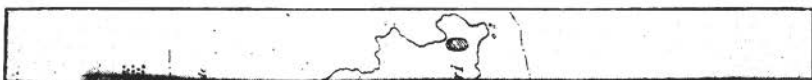
A Part of the Mikimoto Pearl Culture Station, Tatoku Island.



*View of a part
of the Mikimoto
Pearl-Culture Farm*

The Mikimoto Pearl-Culture Farm

About a dozen miles south of the famous Shrine of Ise is the sheltered Bay of Ago, long famous for producing the best quality of pearls. It is a remarkably quiet body of water some six miles in length and three miles in breadth, with an average depth of ten fathoms, although it is over twenty fathoms deep near the entrance. The coast line is cut into with many deep and irregular indentations which, besides affording excellent shelter and ground for the pearl-oysters to thrive in, have the additional merit of making the scenery exceedingly picturesque. The fact that the "Kuroshiwo," the great "gulf-stream" of the Pacific, sweeps near by, is also undoubtedly an important factor in making this a favorite haunt of the precious mollusc.





Somewhat to one side of the middle of the Bay towards the north is the small island of "Tatokujima," the center of Mikimoto's enterprise. When first taken possession of, it was uninhabited, but now it supports a flourishing colony of several dozen families and many hundred individuals all connected in some capacity with the pearl-oyster culture. The sea-bottom around the island was at first leased, the area being increased from time to time until finally in 1903 and also 1905, the Government recognizing the importance of the enterprise granted the use of a very large portion of the bay, so that at the present day, the whole of the sea area leased by Mikimoto extends for 29 nautical miles.

The pearl oyster cultured on these grounds belong to the species (*M. martensii*) abundant in the Bay of Ago and found more or less in all parts of Japan. They closely resemble

the Indian species found near Ceylon, famous for producing the finest pearls in the world. These molluscs live at depth not exceeding seven fathoms, and are anchored to rocks, stems of algae etc., by threads which the animals secrete.



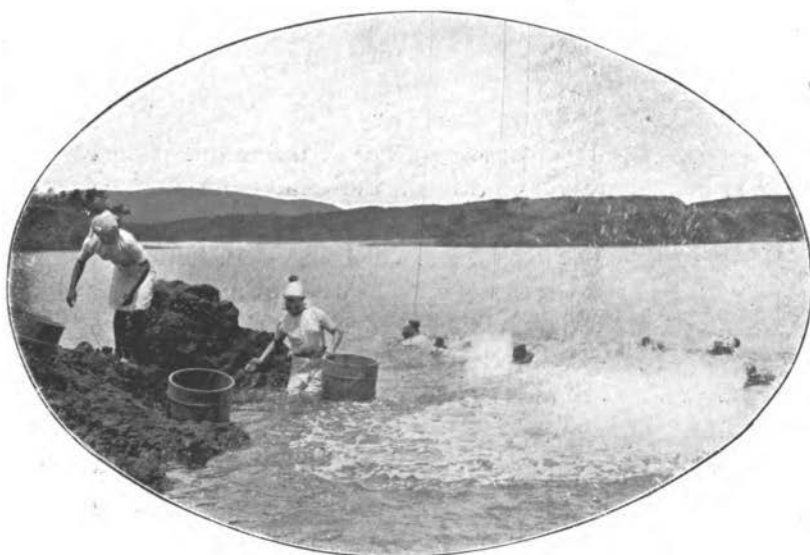
Living Japanese Pearl-Oysters anchored to a stone

The methods practised at Mikimoto's farm are as follows:—

Every year during the months of July and

August, small pieces of rock and stone are placed in spot where the larvae of the pearl-oysters have been found to be most abundant. Soon small oyster-spat are found attached to them. As this takes place in the shallow waters of not more than a few fathoms, they would die from cold, if left there during the winter; so together with the rocks to which they are anchored they are removed to deeper waters and carefully laid out in beds prepared for them. Here they lie, until they reach their third year, when they are taken out of the sea, and undergo an operation which leads to pearl formation. This consists chiefly in introducing into them the small pearls or round pieces of nacre which are to serve as the nuclei of pearls. The shells are then put back into the sea and left undisturbed for at least four years more. At the end of that time, they are taken out, and it is found that the animal has invested the inserted nucleus with many layers of nacre and *has in fact produced a pearl.*

Pearl culture as we have described it may seem to be very simple, but in reality it is by no means an easy work. Large mortality among the pearl-oysters from various causes, the ejection of the inserted nuclei, the depredations of the oysters' enemies, uncertainties attendant upon long years of waiting, are some of the drawbacks which beset the industry. The most dreaded of all the evils is perhaps the invasion of the so-called "red current." This has been ascertained to be due to an immense accumulation of microscopic



Women-divers at Work on the Shore of Tatoku Island

organisms causing a discoloration of the sea-water. Wherever this appears, it is followed, for some reason not yet well understood, by a wholesale destruction of marine organisms, and when it invades the pearl-culture grounds, it may undo in one day the work of years. Another unwelcome intruder of the culture ground is a sea-weed called "Mirumo" (*Codium*), which if allowed to grow luxuriantly will cover up the pearl-oysters and stop their growth or even kill them by, so to speak, smothering them. Again the Octopus plays sad havoc among the pearl-oysters which it seems to consider a great delicacy. The Starfish is another animal which especially enjoys a meal of pearl-oysters.

It may perhaps interest the reader that a large part of the submarine work, such as the transplanting

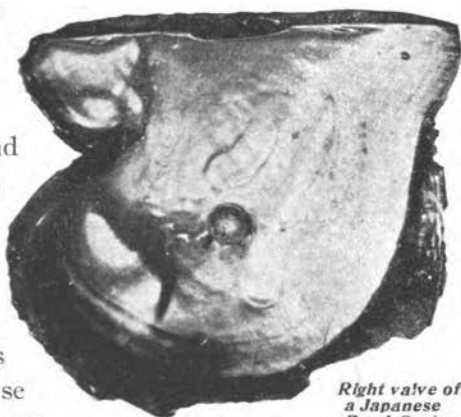
of the oysters, spreading them out on the beds, taking them out of the sea or putting them back there is done by women divers. This is universal in the Ago Bay and in many other parts of Japan. There has been a belief from time immemorial that women can work better and longer under water than men, and the women divers of Ise are often mentioned in classic literature. Perhaps this curious condition of things may furnish the modern student of social science an excellent opportunity to investigate the effect of the transference of the wage-earning to the women.



Diver in diving suits getting off boats

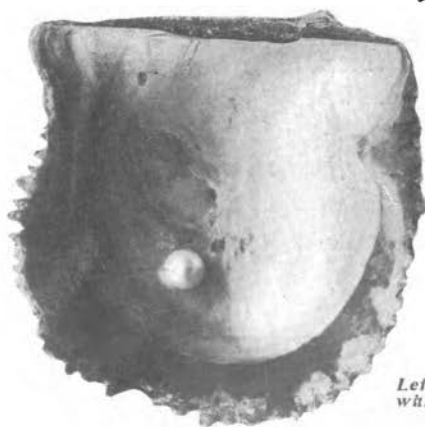
The Japanese Culture Pearls

The "culture pearls" produced as described above are found to be usually attached to the shell, that is, they are to be classified as "perles boutans" and must be detached from the shell before they can be used. This to some may appear a drawback but the results, in successful cases are very fine. They look exactly like true pearls,— which in fact they are — not only in color, and lustre, but also in their perfect shape and symmetry. In rings, brooches, studs, scarf-pins and every other case where half pearls are

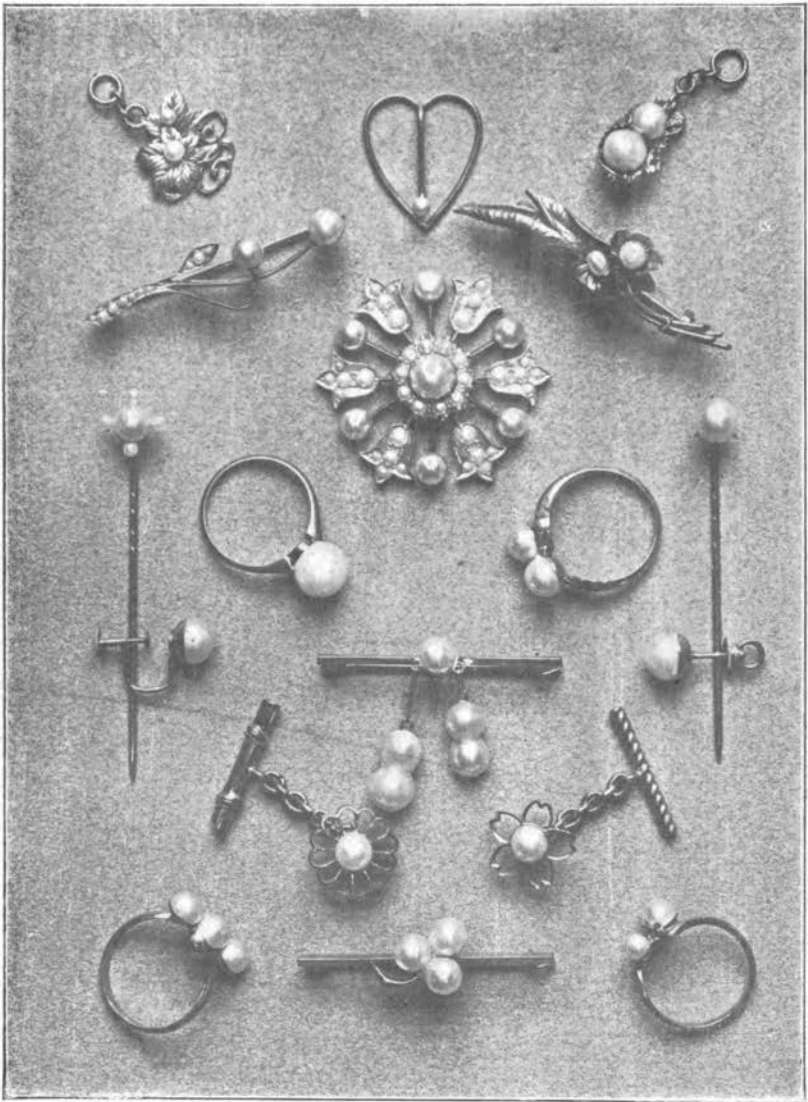


Right valve of a Japanese Pearl-Oyster with Natural Pearl attached

used, the "culture pearls" can be employed and will be found to meet the requirements perfectly. Meanwhile Mr. Mikimoto entertains hopes of soon being able to produce in marketable quantities "free" or "oriental" pearls by culture.



Left valve of a Japanese Pearl-Oyster with Culture-Pearl in place



Jewels mounted with Culture-Pearls

Recognitions of Success.

The late Prince Komatsu did Mr. Mikimoto the great honour of visiting his culture farm and inspecting the pearl banks on the 21st December, 1900. After his return to Tokyo he sent a large silver cup on which was engraved in the Prince's hand-writing, "The work of man helps nature"

On the 26th June, 1907, the Princesses Yamashina and Kuni gave him great pleasure by visiting his store in Ginza, Tokyo.

Mr. (now Viscount) Sone, when Minister of the Agricultural and Commercial Department visited the culture grounds. They have also been visited by many distinguished foreigners and Japanese.

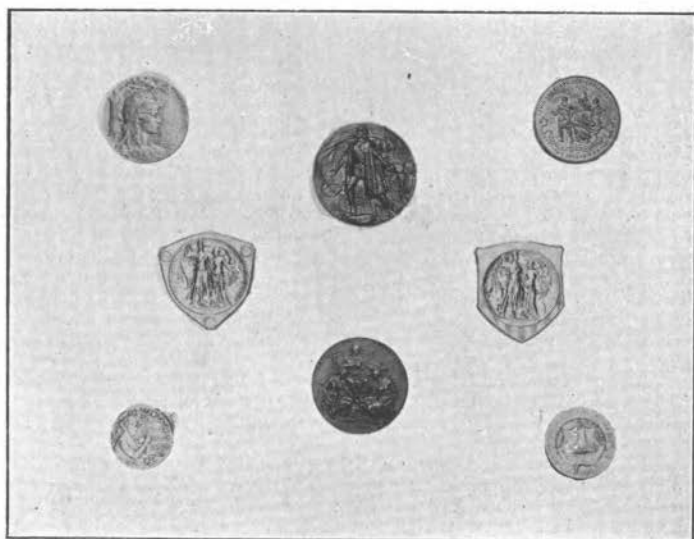
In November, 1905, when His Imperial Majesty the Emperor was at Yamada for the purpose of worshipping at the Great Shrine, Mikimoto was called specially to His Majesty's place of sojourn on the 17th, and was asked by the Minister of the Imperial Household about the history and the present state of the Culture Pearl Industry.

On the 28th June, 1906, the Bureau of Decorations of the Imperial Cabinet honoured Mikimoto with the Green-Ribbon Medal, in accordance with the Imperial Order, for his energetic diligence in this Industry.

PRIZES AWARDED BY THE FOREIGN EXPOSITIONS.

1898 Norway Fisheries Exposition.....	Silver Medal
1900 Paris Exposition.....	Silver Medal
1902 Russian Fisheries Exposition	Gold Medal
1904 St. Louis Exposition.....	Grand Prize
1905 Liege Exposition	Grand Prize
1905 Portland Exposition.....	Gold Medal
1906 Milan Exposition	Grand Prize

etc. etc. etc.





AWARD OF MEDAL

TO

KOKICHI MIKIMOTO,

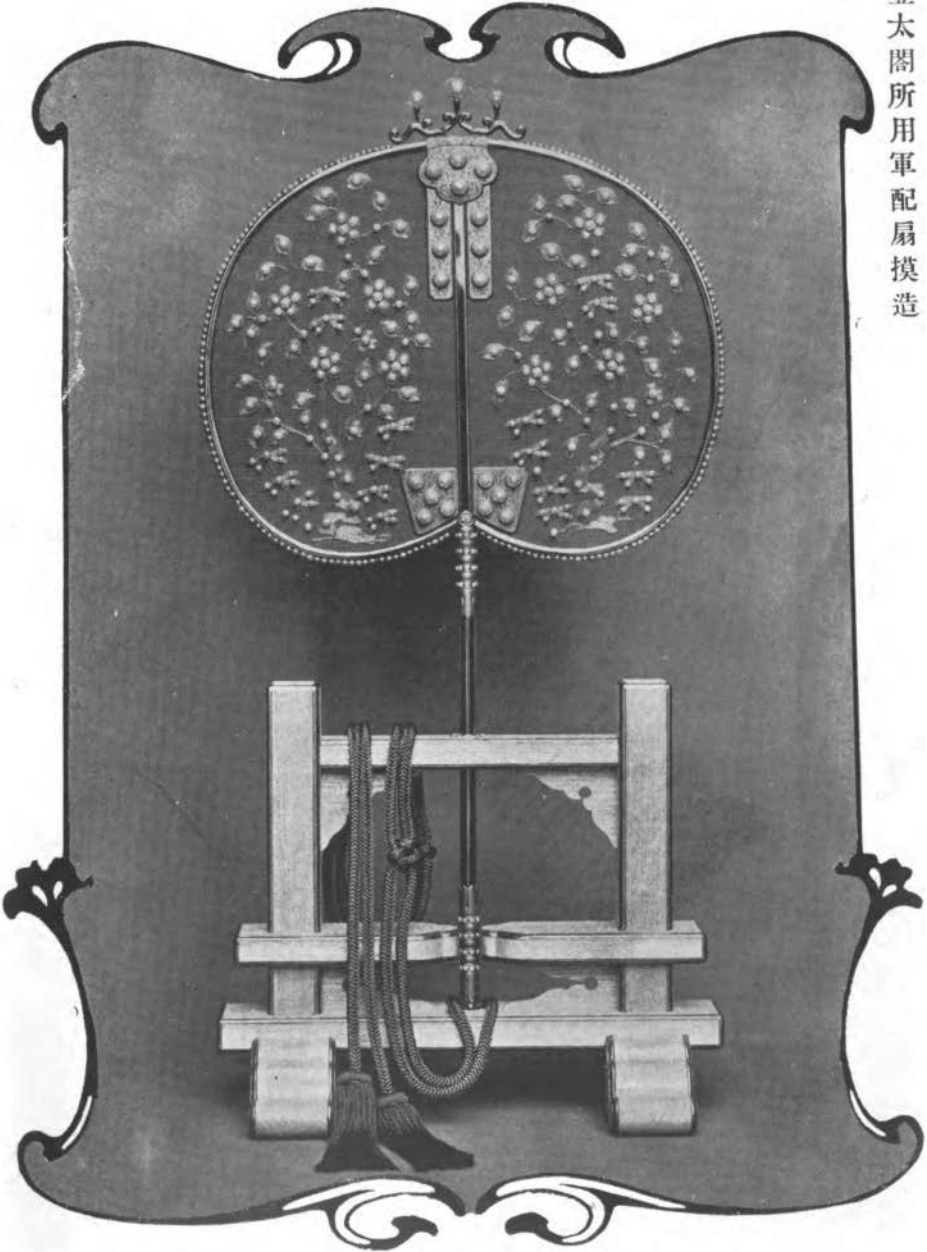
Toba-Machi, Shima-gun, Mie-Ken.

Having early paid attention to the Marine Industry of Japan, K. Mikimoto became a dealer in pearls, and soon discovered the regretful fact that the pearl harvest in the Bay of Ago, Shima province, was becoming scanty owing to the excessive demand which the superior quality of the gems created. This caused him great concern, so with a view to cultivating the pearl oyster, he established a propagation station in the Bay in accordance with scientific principles. For several years his first experiments were only a series of failures. Not discouraged, however, he at last went to Tatoku Island with his family, and there devoted himself with untiring zeal to the improvement of this industry. As the dimensions of the business enlarged, he tried, by a new method, to increase the production of these gems of the sea.

The pearls thus produced are now increasing in number year by year, and their quality and lustre are equal to any hitherto produced, thereby giving them a good reputation in the market, and creating a demand for them in foreign countries.

He has shown a good example to the public, by thus devoting himself to his business, and in recognition of his good work, K. Mikimoto is hereby granted a Green Ribbon Medal in accordance with the Imperial Order of the 7th day of the 12th month of the 14th year of Meiji.

The 28th day of the 6th month of the 39th year of Meiji.



"Gumbal Sen" (War Fan)

“Gumbai Sen” or War Fan.

The Original of this “Gumbai Sen” was brought from Korea about 300 years ago and was possessed by Toyotomi Hideyoshi, our most noted hero. “Gumbai Sen” was used by generals when giving military orders in former times.

After being kept in the Myohoin Temple, Kyoto, it was presented to H. I. M. the Emperor, on July 13th, 1880, and was exhibited in the Tokyo Imperial Museum in 1901.

Mr. Mikimoto having an opportunity of seeing the “Gumbai Sen,” desired to make a copy of it with Japanese Pearls. He then began collecting the pearls, taking much care in the selection as to shape and lustre, and at last he succeeded in copying it, through the kindness of Mr. Matano, President of the Imperial Museum, to whom he was introduced by Viscount Inaba, and had the honour of exhibiting it in the Tokyo Industrial Exposition 1907.

During the Exposition, T. I. M. the Emperor and the Empress, and other Members of the Imperial family examined it with great attention.

It is embroidered with gold threads on a ground of a “Tsuzureno Nishiki” Silk, of Purple-Antique (Kodai-Murasaki) on both sides, and there are 515 Natural Pearls and 290 Culture Pearls of splendid colour and lustre mounted on it, and the handle, rim etc. are of pure gold, the width of the whole being 11 inches and the length 20 inches.

It is now kept in Mikimoto’s store in Ginza, Tokyo, as his unequalled treasure and he is ready to show it to any visitors who desire to see it.

K. MIKIMOTO

No. 3, GINZA-SHICHOME,

TOKYO

CULTURE PEARLS

AND

NATURAL PEARLS

PEARL-MOUNTED JEWELS,

NECKLACES, BRACELETS, BROOCHES, PENDANTS,

EARRINGS, SCARF PINS, RINGS,

COMBS, SLEEVE LINKS

Etc. Etc.

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發行者

齋藤信吉

印刷者

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木村龜作

印刷所

東京市日本橋區兜町二番地

東京印刷株式會社

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