

# DEBUNKING A WIDELY HELD JAPANESE MYTH

I don't precisely remember when C. Denis George and I first crossed paths: it was probably at *Pearls '94* in Hawaii.

Denis was sort of an Australian Don Quixote: most others thought him a crackpot. He was constantly railing against "the powers that be" in Australian pearling, primarily for selling out what he considered his country's heritage by allowing the Japanese to come in to supervise and essentially take over the pearl business in the early days of Australian SSP cultivation.

It was difficult if not impossible to rein in his contempt for most of those pioneers in the industry, and his outspokenness caused him to be pretty well exiled into oblivion.

One of his pet peeves—perhaps his major one—was the adulation given over to Messrs. Mise and Nishikawa for supposedly inventing the practice of round pearl cultivation. Denis spent an immense amount of time and energy (as you shall see) in promulgating that it was, in fact, an expatriate British marine biologist who was working in Australia at the turn of the 20th century who led these Japanese to the art of successfully inserting a spherical fragment of shell and a fragment of mantle tissue into a pearl "oyster" in order to derive a round pearl.

I miss the hell out of Denis. He sickened, withered and died, stricken with cancer. And just before his end he sent me a painstakingly hand-typewritten tome written in 1978: *The Background and History of the Early and Present Day Developments of the Cultivation of Pearl Shell and Pearls in the Indo-Pacific Region* (along with other writings).

Grahame Brown of *The Australian Gemmologist* was kind enough to dig up the following paper from The Historical Society of Cairns which puts forth Denis George's conjecture that the Japanese really didn't invent round pearl cultivation, and that perpetuation of this myth is just plain, continuing deceit.

This was Denis' last *chef d'oeuvre*. Give it a good read.

## Historical Aspects on the Early Discovery of the Pearl Cultivating Technique

by C. Denis George

For millennia pearls found all over the world in various species of marine and freshwater shells have become the subject of admiration and adoration from kings, queens and satraps to Mrs. Smith next door. Fortunes were exchanged and crimes committed to possess one.

Naturally the mystery of its formation had intrigued the human imagination from Pliny onward, and all kinds of explanations were advanced - tears of the moon; droplets of mist falling in the gaping mouth of an oyster; intrusion of foreign matter or of lowly worms; maladies and many other imaginative causes.

Human endeavours to produce a pearl intentionally are lost in antiquity. Approximately seven hundred and fifty years ago the Chinese developed an ingenious technique inducing freshwater mussels to produce a pearly image of Buddha for religious adoration.

The eminent Swedish naturalist Linnaeus in 1761 developed a technique for spherical pearls in the freshwater mussels - technically the most difficult of all shells. Specimens of his pearls at the Royal Linnaeus Society in London that I had examined in 1971 indicated Linnaeus had produced a pearl that was very close to the true one, but he was still vague in relation to certain detail to achieve the perfect size.

Following in the steps of Linnaeus, European scientists, naturalists and experimenters contin-

ued to research and experiment, advancing the knowledge and understanding of the pearl but not yet achieving the final objective.

Then in 1904 and 1906 a commotion was created in the far away and backwards Japan when the names of Kokichi Mikimoto, Tatsuhei Mise and Tokichi Nishikawa became prominent for finally discovering the secret of the elusive oyster.

In 1949 when I started to play with oysters to find the secret, I also believed that the Japanese were the originators of the pearl technique. I had no reason to dispute this claim despite the fact the Japanese themselves were not quite sure which one of their pearl pioneers was the true discoverer. By 1907 or 1908, the claims of the discoverers had become controversial, subject to argument, litigation and dispute.

Finally, after the elimination of Mikimoto from the proceedings, and the unpredictable action of Nishikawa "backdating" his claim by nearly nine years, Mise and Nishikawa compromised with a convenient agreement of joint ownership of the claim on Sept. 2, 1908.

Thus the question of the origination of the pearl technique remained clouded due to the face-saving device which evidently satisfied the Japanese but was not true to the facts. From then on, Mise and Nishikawa became renowned for their discovery, the legend continuing undisputed to the present day.

For 10 years I researched and experimented with pearls by trial and error until this culminated in technical success at my private pearl experimental station at Packe Island near Thursday

Island.

During this time, I had discovered pearl techniques while being ignorant of the Japanese method. On the basis of this work, I was invited to Japan in 1960 to promote a business enterprise in association with K. Mikimoto Company.

While in Japan investigating every aspect of their pearl industry, I was invited by Ise University to attend a pearl symposium organized by the pearl faculty in which all the leading pearl scientists, including the well-known Assist. Professor Dr. Seiji Wada of the Kakoshima University, would attend.

This is the only known occurrence when a non-Japanese was ever honored with a pearl symposium.

During the proceedings, my findings on the cause of the deterioration of the ecological environment, the drop of pearl quality and overall decline of their pearl industry was extensively discussed in comparison to the virgin conditions prevailing in the South Seas, and particularly in Australia, representing the future of the world's pearl.

My thesis was practically supported by pearls I had produced at my experimental station and these were subjected to minute examination.

During the course of the discussion, I had mentioned that pearls were initially produced in Australia by William Saville-Kent sometime around 1890, and that he had established the first South Sea pearl farm at Albany Island in 1906.

Immediately after this information, the friendly discussion suddenly stopped. A silence prevailed, followed by private murmuring between the Japanese scientists with Dr. Wada informing the dean of the university,

Prof. Dr. Okada, who was not a specialist on pearls. Soon after, discussion re-commenced and the symposium was terminated with appreciation, photographs and a small reception at the office of the dean.

Needless to say, during the silence and murmuring I had felt uneasy with the sudden change of attitude.

Perhaps I had unwittingly said something inappropriate. Retracing my statements and wording I found no fault except my forward historical statement that someone in Australia had made pearls as early as 1890.

Why did the Japanese react to this information? Suddenly, I became conscious that the Japanese must have known something more about Saville-Kent than I knew. His name was of significance to them. It appeared that there had been a conspiracy of silence and I made a resolution to find out all about it if that was at all possible.

On my return to Australia in September 1960, I found myself ostracized by the Japanese government and pearl companies. Ise University and others had reported to the Japanese Government on the extent of my experiences and ability with pearls, and that I represented a very serious danger to their pearl industry.

My basis of business association with them was on equal terms of management, control and share of profits.

Project after project I subsequently set up in Australia with national ownership and management either failed or were taken over by the Japanese, with the assistance of underhanded manipulation by their many Australian partners.

I was at a great loss and most frustrated. However, between the ups and downs I continued my

search of the mystery of the origination of pearl culturing technique. One curious aspect was becoming most obvious: that the two young Japanese discoverers, Mise and Nishikawa

- a. had never previously been involved with extensive background experimentation or research, nor presented evidence of such a continuation of work. They had not even tried the Chinese or Linnaeus experiments;
- b. the scientific principles of their respective pearl technique discovered were the same;
- c. both of them announced their success at the same time, after some small initial experimentation.

It appeared very peculiar that Nishikawa, an inexperienced youth freshly graduated from university and without any evidence of past extensive research, and Mise, a young ordinary village boy, carpenter by occupation without any past marine experience or scientific knowledge, suddenly achieved the discovery of an elusive biological function critical in the formation of the pearl when other highly experienced European researchers in possession of the scientific knowledge available at the time continuously failed.

Even K. Mikimoto of Japan, who by then had had 20 years of experience and bitter trials, had not yet solved the secret of the principle involved. Yet these two young Japanese had succeeded in their first short trial.

It was obvious that Mise and Nishikawa had either a sudden divine inspiration or somehow they became privy to intimate information from someone else who was familiar with the subject of

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pearls.

As the scientific knowledge of the principle of this nature was not available in Japan at the time, it was logical to assume that the information might have been acquired from someone else from overseas. Could the sudden reaction of the Japanese scientists at the pearl symposium to the name of “Saville-Kent” have been related?

Research from Japanese documentation indicated that T. Nishikawa, within a week of his graduation from Tokyo University in 1897 (Diploma of Science), was appointed as a technician for fisheries investigations with the Bureau of Fisheries.

The stepfather of T. Mise for many years was employed as senior inspector of the Japanese boats pearling in the Arafura Sea, the region west of Thursday Island enclosed between the Northern Territory and Indonesia, outside the three-mile territorial waters.

Both of them were specifically sent by the Bureau of Fisheries to Thursday Island and remained there from the fall of 1901 to the spring of 1902— a rather prolonged visit of five to six months for two such senior officers who actually had no official business to perform there.

At the time, approximately 2,000 Japanese people were in Thursday Island as divers, crews, boat builders, storekeepers, family members, geishas, priests and others.

The affairs of these migrants were the subject of the Australian Immigration Authorities, the Japanese Consulate in Townsville, the Foreign Department in Tokyo and of the Governors of the Prefectures from which these migrants had originated.

The Japanese Bureau of Fisheries had no jurisdiction or other business at all with them.

Their visit has never been mentioned in the records of the time, and it appears to have been of a private nature.

Now to examine the background qualifications and abilities of these visitors:

T. Nishikawa, as an investigator of fisheries, had the scientific background to understand the biology-anatomy functions of a living oyster, while the stepfather of T. Mise had vast practical experience in pearling operations, management of boats and knowledge of pearling grounds.

Between them, they had the essential qualifications and the ability to undertake a specialized fisheries investigation into the cultivation of pearl shells and propagation of pearls taking place at Thursday Island under the guidance of Saville-Kent.

These Australian pearling developments extensively published at the period were of importance for the future prosperity of the pearling industry. Gradually, they had been spread by Saville-Kent from Thursday Island to Broome, Exmouth Gulf and Sharks Bay in Western Australia, and a number of Australians were actually participating or interested. Naturally, they were also of immense importance to the Japanese.

The most eminent naturalist of the period, William Saville-Kent— F.L.S., F.Z.S., F.I. Inst., Past President of the Royal Linneaus Society, London, and of the Royal Society of Queensland; formerly Assistant, Natural History Dept. of the British Museum; author of original monumental publications on marine and land fauna: “A Manual of Infusoria” (over 900 pages of text, 51 plates containing 2,000 figures) 3 Vols.; “The Great Australian Barrier Reef”

(1893); “The Naturalist in Australia” (1897), etc.; Commissioner of Fisheries for the Governments of Western Australia and formerly of Tasmania and Queensland— had already presented much evidence of his pearl making.

On page 258 of “The Great Australian Barrier Reef” and on page 212 of “The Naturalist in Australia” were published photographs of his pearls. The related chapters of these two publications on pearling and pearls as well as his many other reports, scientific papers, investigations, Royal Commissions, etc., indicate a superior practical understanding of the subject, which he handled with extreme efficiency and foresight.

Meanwhile, by 1900 the easy picking of pearl shells in Northern Australia had finished. Resources were overfished and the pearling industry was declining.

Saville-Kent, the only consistent advocate of conserving these natural resources, advised on the means and measures for their conservation, which apply even to the present day. Unfortunately, his recommendations were never implemented constructively. They were objected to by the pearl-ers themselves— those he was aiming to help.

Let us also consider that by 1900 K. Mikimoto and other Japanese pearl developers were already progressing in the production and marketing of small-sized half-pearls and were most anxious to develop the technique for spherical ones.

Such developments in Australia would have been of paramount importance to them. Also the production of larger sized spherical and half-pearls in Australia would in time have been most detrimental to them.

The Japanese had every reason to be technically informed

on the Australian developments. There is no doubt that the Japanese Bureau of Fisheries, through the Japanese population on Thursday Island, the Consulate in Townsville and the Foreign Office in Tokyo, was informed of the Australian developments and instructed Nishikawa and the old pearling inspector to proceed to Thursday Island to investigate the situation.

T. Nishikawa had never admitted that he had carried out pearl investigations or had ever met with Saville-Kent while he was in Thursday Island. However, my conclusions are that he had done so despite the lack of evidence to this effect. What else could he have been doing there together with the pearling inspector? It would be hard to believe that they were the vanguard of our present-day Japanese tourists.

From Japanese documentation the following corroborating evidence is offered in support of this conjecture:

a. Following the death of Nishikawa in 1909, his younger brother Tokish, who was also involved with pearls, collected Tokichi's papers and pearl material and published them as a memorial to his brother - "The Pearl" (September, 1914). Two photographs in the text, the Southern Cross and the pearlized fish, were the exclusive material of Saville-Kent.

Mention is made that some of the photographic plates were sent or given from a person in Thursday Island. In addition, it is stated that Saville-Kent had in his possession a pearl that looked like German Chancellor Bismarck. This is previously unpublished information.

How could Nishikawa ac-

count for these materials being in his possession? This indicated the probability of personal contact between Nishikawa and Saville-Kent and their discussion on pearl matters.

b. Following his retirement from the Bureau of Fisheries in 1905, Nishikawa was appointed to the zoology department of a prestigious university to undertake pearl research. Soon after, he communicated with Dr. George Frederick Kunz of the American Bureau of Fisheries as follows:

From 'The Book of Pearls', Kunz & Stevenson, 1908, p. 293: "It is a great pleasure for me to tell you that I am studying pearl formation and pearl-oyster culture in the university laboratory and recently I have got my pearl laboratory on the island of Awaji where I began pearl culture work this summer (1907). Fortunately, I found the cause of Japanese pearl formation, i.e. the reasons why and how the pearl is produced in the tissues of the oyster. I made practical application of this theory with great prospects for producing the natural and true pearl at will.

This informative letter to Kunz is a self-condemnation of Nishikawa. As per the statements he makes:

1. I am studying pearl formation and pearl-oyster culture: Such developments were already taking place in Australia by 1900.  
2. He specifically states: I began the pearl culture work and not 'I continued my pearl work' which would have implied continuation of past work.

3. I found the cause of Japanese pearl formation: Nishikawa as a scientist/zoologist, by now familiar and in possession of all other European literature of the history, theories, experiments of pearls, resources of pearl shells, etc., as is obvious from his book, should have known that the cause of pearl formation is the same as in all the other oysters of the world. Why had he localized it only to the Japanese formation?

4. I made practical application of this theory with great prospects: As a person who has just started his first pearl experimentation, he appears to be very confident of the success and of the prospects.

It seems to me that Nishikawa, while building his reputation with the American scientists, was at the same time suppressing or confusing some vital information.

c. Nishikawa applied for a patent on October 23, 1907, a short period after his claim of discovery. Meanwhile, T. Mise on May 13, 1907, had already applied for a patent claiming to have made the discovery sometime in 1904. The scientific principles of both claims were the same.

Now both of them became subjects of controversy, objections, accusations of infringement and of legal proceedings. Most peculiarly, Nishikawa, apparently to overcome some of the objections, 'backdated' his application by eight years, eight months and three days to February 20, 1899, prior to his travel to Australia.

By doing this, Nishikawa lim-

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ited the time period of his experimentations and discovery to nineteen months from his graduation from university while under employment as a fisheries officer.

This ‘backdating’ was disbelieved by contemporaries who pointed out to him that in one of his previous technical papers he had already stated his views on the impossibility of culturing spherical pearls. Nishikawa’s letter to Dr. Kunz contradicts the reasoning of his ‘backdating’.

- d. Peculiar as it may seem, Nishikawa’s original application for his discovery was lost from the government’s files.

It was positively known that during these 19 months Nishikawa had never experimented with pearls, yet he took such a risk of discrediting himself.

It seems to me that the overall behavior of Nishikawa was unbecoming of a responsible scientist, elusive and to a degree not honest in claiming a discovery which he could not support with positive evidence.

It would not be conjecture to state that Nishikawa and Mise (through his stepfather) had gained the secret knowledge of the principle of pearl technique from someone else. This could only have been Saville-Kent or perhaps some other Australian oysterman following his steps.

It is my conclusion that Nishikawa in ‘backdating’ his application to a period prior to his travel to Thursday Island was intentionally aiming to cover the fact of his visit during which he may perhaps have gained vital information.

By doing this, the dispute on the glory of the discovery was restricted to the two Japanese only,

otherwise it could have been a great loss of face for all Japanese.

Saville-Kent had never bothered with trivial matters of patent applications. The Japanese scientists at Ise University, as well as many others, know the facts but prefer the ‘conspiracy of silence’ instead of giving due credit to someone else.

In stating this annotation, it is not my intention to maliciously discredit Mise and Nishikawa. I have re-examined the case in the interest of truth and on additional historical material that was never taken into consideration previously, either in ignorance or intent.

Dr. Alvin Cahn, a biologist with the Natural Resources Section of the Headquarters of the Supreme Commander for the Allied Forces in Japan, in the course of his duties soon after the occupation, had officially investigated the claim of the Japanese discovery. This is the only investigation ever made.

In his Report No. 122, “Pearl Culture in Japan,” October 31, 1949, he concluded that T. Mise was the originator on the basis of documentation made available to him and from historical files kept by Dr. Yoshiichi Matsui of the Kyoto University.

This report of Dr. Cahn became the standard authoritative textbook reference for all following researchers and authors on pearls. His findings are continually repeated to the letter by all, as it is the most common information source on cultured pearls.

However, at a later time I became uneasy and aware that Dr. Cahn was deliberately restricted to only the documentation that the Japanese wanted him to examine.

Against threatening pressure exerted on him to favor K. Mikimoto (by personal communication),

he had deliberated in favor of T. Mise on the basis of the definition of the histological term “connective tissue” or “tissue,” against T. Nishikawa who was already the holder of the official patent.

Dr. Cahn in deliberating in favour of T. Mise in his Report No 122 (Appendix A, page 75) states:

- Mise was explicit, Nishikawa evasive, in the information furnished in the applications;
- the Nishikawa records at Tokyo University show no evidence of his having engaged in pearl culture activities as an undergraduate;
- the judgment of history is not bound by these laws (of the Patent Office) and the reader can decide for himself who actually discovered the method. All he need do is answer this question: Is it likely that Nishikawa, knowing he had in his hands the key to a fabulous fortune would have delayed for 8 years, 8 months and 3 days in safeguarding his rights to his invention?

In his chapter “Pearl Culture in South Pacific Areas” (Report 122, p. 12), Dr. Cahn, while referring to Japanese developments in Indonesia (1921) and Palau (1920 & 1935), fails to mention Australian developments and Saville-Kent’s pearl farm at Albany Island (1906). In reference to the trip of Nishikawa to Australia, he has not given any particular significance to it.

In all the very extensive pearl literature published in Japan and the Western world, Mise and Nishikawa are always stated as the exclusive originators of the pearl technique. William Saville-Kent does not receive a single mention. For all we know, Saville-Kent may never have existed or had anything to do with pearls.

This is due to the fact that all authors will faithfully repeat the Japanese versions, thus creating additional avalanches of misconceptions, inaccuracies and misunderstanding.

I have yet to see an original publication based on the research and the work of the author himself, who has disputed the Japanese views.

However, surprising information of fundamental importance was published by Mrs. Joan Young Dickinson in *The Book of Pearls*, 1968, Brown Publishers, Inc., New York. The author repeats the usual version of the discovery of the pearl technique but in pages 157-158, makes the following revelation:

“...but in the records of their experiences (of T. Mise and Nishikawa), there is one curious coincidence that may or may not have some bearing on their sudden emergence in the pearl world. This was that they both had knowledge of Australian oystermen and their work with oysters: Mise through his stepfather, who as a government inspector of oysters, helped his son to make pearls just after he returned from a trip to Australian oyster beds; Nishikawa in connection with his work as a zoologist went to Australia to visit the oyster beds just before starting his pearl-making experiments. It seems possible that at the turn of the century an unsung Australian oysterman hit accidentally upon the method Mikimoto had sought for so many years and passed his secret along unwittingly to these two brilliant young Japanese.”

In the rest of her 248 pages, the author does not mention Saville-Kent or elaborate on the ‘unsung Australian oysterman.’ She was totally unaware of the Australian pearl developments but in a few lines accurately

points to the origination of the technique. My efforts to contact Dickinson for the origin of her information were not successful.

#### SAVILLE-KENT



In July 1986, after 28 years, I again visited Saville-Kent’s pearl farm at Albany Island just across from Somerset. Since 1961, a Japanese-owned and controlled pearl farm was established in this mecca of Australian heritage. Many of the remains of the early ruins were destroyed by new construction. However, I was able to locate some of the remains of the old establishment:

- a. A peculiarly shaped, concrete water tank strongly constructed, which apparently was utilized for experimentations or production. I was unable to re-construct the method of its utilization.
- b. A large concrete floor that the Japanese had utilized half as working floor, the remaining half as a storage shed.

- c. Two water wells still supplying drinking water, constructed with sand-lime mixture similar to the one across in Somerset Beach constructed by the Jardines.
- d. Two retaining walls, still in use, constructed with sand-lime.
- e. A flight of entrance steps to the farm, approximately 3 meters wide, constructed with sand-lime, still in use.
- f. A half-rusted, early period camp oven.

So far in Australia no kind of appreciation has ever been extended to William Saville-Kent from any quarters even for his remarkable detailed recording and presentation of the “Great Barrier Reef,” some 95 years ago at this writing.

Today, this barrier reef has become a means of prosperity for many Queenslanders, exploitation by entrepreneurs and enjoyment of its marvels by droves of tourists. His three scientific books are still textbooks for researchers.

In my own private efforts, I have expressed a small appreciation to Saville-Kent for some of the recognition he is long overdue:

- a. In my paper “The Cultured Pearl: Its History and Development”, Australian Gemologist, June 1966 - Jan. 1967; *Lapidary Journal of America*, July to Sept. 1967, I have reinstated Saville-Kent as the father of modern day pearl cultivating techniques.
- b. Two of my papers on the history and technique of cultivated pearls published by the South Pacific Bulletin (fourth quarters of 1968 and 1969),

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were dedicated to the memory of Saville-Kent.

- c. In my Report to the Government of Papua New Guinea and the FAO of the United Nations, “The Pearl”, January 1978 (169 pages), I have referred to the Mise- Nishikawa controversy, extending due appreciation to Saville-Kent.
- d. In 1982, my 112-foot pearl

mothership boat was named *TSMV WILLIAM SAVILLE-KENT*.

- e. Since 1983, it has been my intention to establish “The William Saville-Kent Memorial Pearl Museum,” an original comprehensive institution, making available to Australians the science and techniques of the pearl and its development.

In conclusion, I would like

to see due recognition extended to William Saville-Kent for the discovery of the pearl technique which became so important to Japan, Australia and other regions in the Indo-Pacific.

In addition, I would like to see the construction of a memorial cairn in Thursday Island, the past and present-day center of our pearling industry, in honor of William Saville-Kent and all other pearl pioneers. ❖

## WILLIAM SAVILLE-KENT

Saville-Kent, William (1845-1908), marine biologist and author, was born William Savill Kent on 10 July 1845 at Cliff Cottage, Sidmouth, the youngest of 10 children of Samuel Kent (1801-1872), sub-inspector of factories, and his first wife Mary Ann (1809-1852), daughter of Thomas Windus, coach builder and Fellow of the Royal Society of Antiquaries. Both his parents were from London but the family moved to Devon in 1833.

Saville-Kent was the most important pre-federation figure in Australian fisheries and one of the first professional fisheries scientists. His early career was in the British museums where he came under the notice of the leading biologists such as Owen, Huxley and Flower.

His first professional appointment was to assist William Flower in the Museum of the Royal College of Surgeons, where he first met Thomas Huxley. He then moved to the British Museum under Owen and John Gray and in 1870, with the support of lions of the London biological community, he received a grant from the Royal Society to survey for sponges and corals in the waters off Portugal in the yacht *Norna*.

This work initiated his commitment to living marine fauna and, around the same time, Frank Buckland introduced him to aquaculture. Frustrated by lack of promotion, he left the Museum in 1873 and struck out in a new direction.

He saw in the new public aquaria, then under construction in a number of British cities, great potential for experimental marine biology and accepted an appointment as resident naturalist at the Brighton Aquarium.



William Saville-Kent at work on Barrier Reef photographing live coral.

After Brighton, he held similar positions in Manchester and at the Westminster Aquarium in London. From his experience in these facilities grew an ambition to establish a national marine laboratory and in 1877 he floated a company, backed by prominent biologists such as Owen, to achieve this objective.

When this venture (and a second involving the Brighton Aquarium) failed, he accepted his first appointment in Australia in 1884.