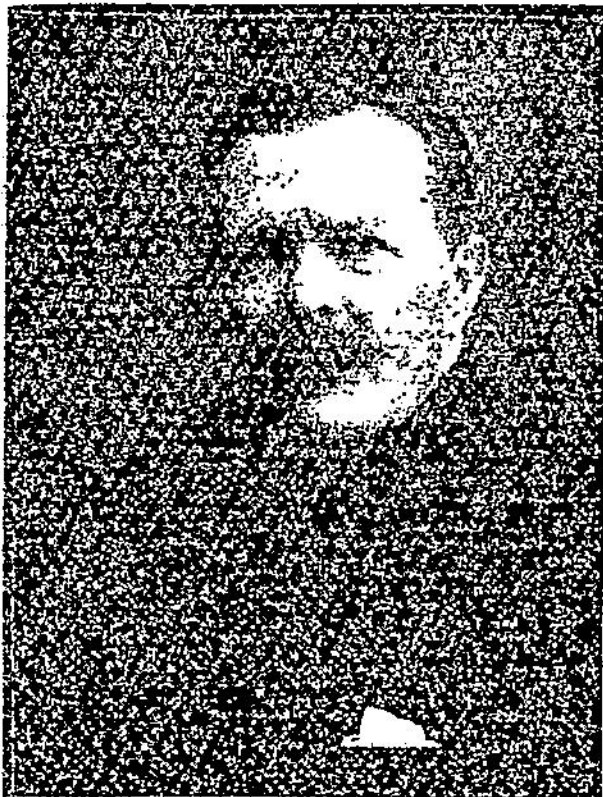


EARTHQUAKE MILNE



地震学の父

AND THE ISLE OF WIGHT

by

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EARTHQUAKE MILNE AND THE ISLE OF WIGHT

"Earthquake Milne" was the nickname given to Professor John Milne, the father of seismology, who, after his return from Japan in 1895, lived and worked for many years at Shide Hill House on the outskirts of Newport. The observatory he established there became the world centre for earthquake science. To it came every record of an earthquake, many seismologists of note, others interested in the earth's crust and distinguished men from all walks of life.

But Professor Milne was more than just a cold scientist. He was a man abounding with energy and his enthusiasm for his beloved earthquakes was matched by his many other interests. He was an explorer, a keen naturalist and both a first class geologist and mining engineer. Other interests included golf, music, literature and photography. Besides textbooks and many papers on seismology he wrote a number of science-based fiction stories as well as a best-selling humorous travel book.

This is a short account of the work he did at Shide and, we hope, discloses something of the fascinating personality of a great Victorian pioneer.

Some of the residents of the then small hamlet of Shide thought it a very strange group indeed who on the 30th July, 1895, moved into residence at the imposing and somewhat isolated Shide Hill House. For to this place had come John Milne, the "Father of Seismology", his tiny Japanese wife, and his Japanese assistant, Mr. Hirota. Few people on the Island knew much about the investigations Milne had made into the phenomena of earthquakes during the previous twenty years at the Imperial College of Engineering in Tokio, where he had been the Professor of Geology and Mining.

Stories of strange happenings at the house began almost at once. The locals noticed that visitors, many of whom were foreigners, would dismount from the train at Shide Halt and hurry to the house, stay for a while and then depart, deep in thought. They soon learned that letters addressed to the house had begun to arrive from all over the world. Rumours spread quickly and it was some time before the reasons for establishing the world's foremost earthquake observatory on the slopes of the chalk-down between St. George's Lane and Blackwater Road became known, and even then they were understood by relatively few. So it is not surprising that the well-known local ghost, "Spring-Heeled Jack" soon made his appearance in the vicinity! Materialising out of a beam of light, it was alleged he jumped over hedges and ran across fields, particularly when it was a very dark and misty night. Many a small group, after being suitably fortified at the "Barley Mow", and keeping together to give itself courage, would arm with sticks and go out into the night to search for the ghost, usually keeping well clear of the suspicious observatory on the hill where the Professor experimented. Some people said it was obvious that "them furriners" were up to no good and someone ought to do something about it - meaning someone else, of course, - while the lights needed for producing the photographic records of the seismographs, which were seen burning every night through the surrounding trees, did nothing to reassure them.

Yet even if at first a certain amount of distrust did greet the new arrivals, Professor Milne's wit, and sincere friendliness, together with the delicate charm of Tone, his wife, and the courtesy of "Snowy" Hirota, his assistant, gradually captured the love and respect of all with whom they came in contact.

Before leaving Japan the Professor had invented the successful horizontal pendulum seismograph which bears his name. This had been a major step forward in the science of seismology, for with this instrument he was able to detect earthquakes wherever they occurred on the globe. However, to do this it was necessary for it to be placed on a base firmly anchored to the underlying rock. The extensive chalk layer which surfaces at Pan Down provided a suitable site, hence the choice of Shide for his observatory. Work at the house began at once. The day after they arrived he had a pit excavated in a dry stable, and some three and a half feet below the floor the upper surface of the chalk was located. On this a concrete bed was laid, a brick column built, and by the middle of August, only three weeks after taking up residence, all was ready for an instrument to be installed on the top of the column, and measurements could begin. But it was not until later that, with financial help from his British Association friends, particularly Matthew Gray, an observatory and laboratory wing was built on the south side of the house. In 1911, Mrs. Lou Henry Hoover, an American seismologist, who had visited Shide, wrote in the "Bulletin of the American Seismological Society" :-

"....Two seismographs that are in active service at Shide are installed in a little building of their own, with a wonderful old door, far out in the garden where there is no chance of their being disturbed. The experimental laboratory is separated from the house, but is approached from his study by a sheltered veranda. All is methodical within and as spotless as though a speck of

chalk from the overhanging down might disturb one of these glass-encased horizontal pendulums. The writing table stands in the center; by the door is a great black globe, with the earth's surface scantily outlined in white, all the stations having Milne seismographs marked, and cryptic characters scattered over it; near by are shelves full of files of station registers, all neatly jacketed; windows face north and south with shelves of books between them, and the walls are hung with prints of unusual seismograms and earthquake pictures... Off in one corner stands a relic of early days, one of the seismographs made at Shide. The pillar going down into the chalk is larger than used now; the mast is a lamp-post of the day, brought up from Newport town; the six-foot booms are made of bicycle tubing - a north-south and an east-west one. But the indicators are the modern grass-straw ones, grown in the pasture one sees from the south windows; and they register on a roll of smoked paper." (This seismograph was eventually presented to the Science Museum, South Kensington, by Miss C. Morey).

"All other seismographs record photographically... by the way, over six thousand seismograms are filed away in this one room. On the other side of the room is a later instrument, with a mast but a couple of feet high, and a correspondingly short boom. A push of one's thumb against the stone pedestal on which it stands causes the indicator to swing to the full amplitude of its case.... It is a quaint conceit that to the utter quiet of this pretty, tree-encircled old house, with its grassy stone-stepped terraces leading down towards the little valley, with the great peaceful downs rising at its back, should come the earthquakes of the world to be classified and studied. But come they do and a vast amount of work they make for Professor Milne and his clever Japanese assistant, Mr. Hirota. There are about sixty stations whose reports come, some monthly, some twice yearly, and some when a chance boat may bring them."

In Tokio Milne had been a member of the University. He had not only its co-operation but also that of the Japanese Ministry of Public Works, and so he was able to obtain the instruments and assistance needed. On his return to England, however, he was very much on his own, having to finance the greater part of the work himself. The only official position he held in this country was that of Honorary Secretary to the British Association's Seismological Committee. Indeed, the co-operation of some Government Departments was virtually non-existent. The attitude of the General Post Office was a case in point. Years before in Japan he and others had established that accurate knowledge of the time the shock waves arrived from an earthquake was vital to their investigations, and the Japanese Government had gone out of its way to make sure that observing stations simultaneously received time signals by telegraph. He did not have the same co-operation here.

Mr.W.H.Bullock, a Newport builder, a fine amateur photographer and a close friend of the Professor, used to relate the following story:

John applied to the local Post Office in Newport for permission to see the electric signal drop there so that he might have the true time to a second. For some reason or other this was refused and in Milne's own words, 'After the signal arrived I could hear the girl upstairs slowly walk across the room and shout down the tube, "It's eleven o'clock, sir." - many seconds late!'

This lack of co-operation irritated him considerably but he refused to be beaten by petty officialdom. Mrs.Hoover described one method by which he obtained accurate time for the laboratory:-

"High up on the south wall is a queer vertical slit in the thick wall, looking like an archer's window in an old castle. A question reveals a mark slanting across the floor and ascending the opposite wall. At noon the line of sunshine coincides with this mark and from it Professor Milne gets Greenwich time within one second." This method was not always successful, of course, especially on dull days, but it shows the length to which he was prepared to go to obtain the accuracy he felt he needed.

Early in 1900 the Eiffel Tower started transmitting time signals so Mr. J. J. Shaw, the man who in later years was to modify Milne's horizontal pendulum to produce the successful Milne - Shaw seismograph, made a crystal set receiver and helped erect a cumbersome aerial between two elm trees in the garden of Shide Hill House. This must have been one of the earliest uses of radio in the Island. Accurate laboratory time was assured at last.

Shide was the first earthquake observatory in Great Britain and the main tasks there were the routine operation and maintenance of the seismographs and the vital task of collection and analysis of the records that came from other observatories in many parts of the world. Milne's early training in geology, both at King's College and the Royal School of Mines, London, had fitted him adequately for this task and, typical of a Victorian scientist, everything was meticulously catalogued and a regular "Shide Circular" produced containing a breakdown of the information received. Dozens of seismological stations contributed material for his use, as well as sending him a continual stream of questions and requests for advice. During his long career he compiled many earthquake catalogues most of which were published in the "Transactions of the Seismological Society of Japan". The last of these mammoth lists was entitled "A Catalogue of Destructive Earthquakes" and issued by the British

Association at their Portsmouth meeting in 1911. Milne saw the value of detailed records for later use by others and contributed much in this field.

How he found time to write the hundreds of thousands of words for his numerous reports will never be known. Many of his papers run to well over a hundred pages of print and, while in Japan, he wrote over two-thirds of the twenty volumes of the "Transactions of the Seismological Society". Once settled in at Shide he revised his earlier textbook "Earthquakes and other Earth Movements" and finished his major work, "Seismology". Both of these books, together with those he had written earlier, "Crystallography" and "The Miner's Handbook" were standard texts for a number of years. Just before his death he appears to have started yet another treatise on seismology and from the fragments of the manuscript which survive it was to have had many a light-hearted passage inserted.

His humour, together with his ability to interest the expert and layman alike, made his lectures an experience not to be missed. Never able to resist an appeal to talk on one of the subjects he loved he generously gave up much of his valuable time to lecturing after his return to this country, often travelling long distances to do so. Many of his magic-lantern slides still exist and it is clear that he talked not only on seismology but about his travels, geology and natural history, and there are many of the now fading pictures which show his deep interest in Japan and its people.

He would always find time to talk about his work to anyone. A number of people, schoolboys at that time, now remember how, when they met Milne, he patiently told them what he was trying to measure. He would explain

his experiments on micro-seismic activity, how the ground experienced a diurnal movement, or how houses on the sides of the Medina valley bowed to each other every day just as they did on each side of the English Channel. The explanations were given in simple, precise language, often with an appropriate analogy to ensure he was understood by them. One of our Island residents, recently interviewed, remarked:-

"I can remember it as if it were yesterday and it was all of sixty years ago. I still have in my mind the squat figure of the old gentleman standing up there on the golf course behind his home, with that broad-brimmed hat of his, and his slight stoop, pointing out the houses on the other side of the valley, and making us laugh at the jokes he made as he explained their movement. He always spoke with a quiet Lancastrian accent which fascinated us lads, as did his nicotine-stained, bushy moustache with a gap burned in it by numerous cigarettes."

His enthusiasm for earthquakes was contagious and many a man took up the subject seriously, either as an amateur or professional seismologist, after being influenced by him. At Shide he soon gathered a team of enthusiasts about him. Mr. Bullock, for instance, was encouraged by Milne to build and operate his own seismograph and contribute to the international records. A British Association Report in 1915 states:-

"In recent bulletins it will be noticed that besides the Shide station, one at Newport is quoted. This is the station of Mr. W. H. Bullock, a builder, who did much work for Milne. Becoming keenly interested in seismology on his own account, he has devised an instrument of his own, with Milne suspension, smoked drum and high magnification.... Mr. Bullock is experimenting with electromagnetic damping, and if he is successful, it is proposed to order an instrument from him for use at Shide....."

Two other of Milne's friends, Mr. J.H. Burgess, a local printer and a frequent golfing partner, and Mr. S.W. Pring, who translated the Russian and other foreign language communications for him, became so interested that, with the help of Mr. Pring's daughter, now Lady Maybury, and others, they were able to run the observatory under the guidance of Professor H.H. Turner, of Oxford University, for some six years after John Milne's death. Mr. F.M. (Johnny) Walker, a teacher at the old Newport Secondary School in Upper St. James' Street, an intellectual, was drawn into this group around Milne to help with mathematics and other problems as they arose in the day to day running of the observatory.

Because of Milne's interest in the work and ideas of others, and the encouragement he gave to all, much time was spent in evaluating instruments that were brought to him for consideration and advice. At the same time he was continually experimenting to improve his own seismographs and to simplify the complicated procedures for analysing the high number of seismograms which now arrived at Shide almost daily. Seismology was his life and he was always happy to have other seismologists around him discussing their own theories, techniques, aims or problems.

While in Japan he had established seismic observations at a national level. At this stage of his career he knew that further progress could be made only if there was full international co-operation. Through the British Association, and with the help of the then Colonial Office, many stations had been set up throughout the British Empire, all reporting results of their observations to him, but much more was needed to be done. Other countries were becoming interested, especially after the disastrous earthquake at San Francisco in 1906 and Milne pressed hard for a concerted effort.

Unfortunately, when the international organisation was finally established, owing to lack of financial support from the British Government he was not at first able to play his full part, although many of the world's seismologists looked on Shide as the premier observatory and to Milne as their leader. Eventually, however, the difficulties were solved and he assumed his rightful place at the conferences.

The rules, regulations and codes of practice for building in earthquake countries which he had helped to establish while in Japan continued to interest him despite his heavy commitments at Shide. His expert knowledge in this field was often sought, particularly after the San Francisco earthquake, and many of the buildings re-erected in that city owed their improved safety to the advice he gave.

Not all of his work was carried out in his laboratory: certain experiments were conducted elsewhere. In the early days he found that he needed to site a second seismograph a few miles away to help resolve the effects of local conditions which caused unexpected variations in his Shide readings. With the permission of Princess Beatrice, then the Governor of the Island, he installed an instrument at Carisbrooke Castle. This was one of the horizontal type made by Messrs. R.W. Munro and Company of London, an engineering firm still in existence. It was placed in a shed close to the wall by the bowling green. This meant a walk of several miles either for him or 'Snowy' Hirota, at least twice a week to change the seismogram and sometimes twice a day to check the instrument. It had to be done in all weathers, often in the dark. Milne once remarked that he never found any of his other out-stations quite so spooky as Carisbrooke - perhaps the ghost of King Charles I did not approve the idea for, after all, the bowling green had been laid down for His Majesty's pleasure.

Another series of local experiments worth mentioning was undertaken at Ryde. The increased load on the sea-bed caused by the high tide produces a tilting of the land and it was this he tried to measure. The place he chose for this was the Royal Victoria Yacht Club, now the Prince Consort. The seismograph was placed on an upright drain-pipe firmly embedded in the ground. Although he observed that tilting did take place it was not as great as he had expected and he decided that this was because at that point the water table in the land immediately behind also built up as the tide rose. Colonel F.J.T. Mew tells an amusing story about these experiments:-

"When the seismograph had been set up", he recalls, "Milne visited it often but nothing ever seemed to happen. Then, one day, the Professor was excited but puzzled to find a series of enormous swings on the trace for which he could not account." A week later and at the same time of the day they appeared again. Milne eventually deduced that the records were made when the butler and the housekeeper were both off duty together!"

Milne's enormous literary output has already been mentioned; how he found time to make all these investigations, play golf and lead a very active social life, as well as travelling around the British Isles and abroad is remarkable. It can be better understood when it is appreciated that throughout the whole of his life he abounded with energy. When others called a halt he could always continue cheerfully and was seemingly tireless. As a schoolboy this drive had taken him to France, to Ireland and along the South Coast by canoe accompanied only by his dog. Later, while still a youth and without prior parental knowledge, he had travelled to Iceland. Modern youngsters also have the opportunity to go abroad, for today it is easy. In Milne's time it was much more difficult. To travel far, alone or with a single companion, marked an adventurous spirit not often encountered.

The same character trait made him undertake a geological survey in Labrador and Newfoundland in his early twenties. The desire to explore outlandish places of the earth made him an ideal choice as the geologist and travelling companion for the religious explorer Dr. Charles-Beke when the latter went to Arabia in search of what he considered to be the true site of Mount Sinai, the place where Moses received the Ten Commandments. Soon afterwards Milne accepted the offer of a professorship at the Imperial College, Tokio. Always a victim of severe seasickness, he decided to travel overland through Russia, Siberia, Mongolia and China, to Japan; an extremely dangerous journey involving great hardship and, on occasions, near-starvation. Such a journey before the building of the Trans-Siberian railway was considered impossible by many, but eight months and more than four thousand miles later he arrived at Shanghai, tired but in good health and spirits. It was an epic feat.

From the stories John used to tell his friends at Shide, it is clear that from early childhood he had developed an inquisitive nature, and it was this facet of his character that drove him to investigate every aspect of seismic phenomena after his curiosity had been aroused by the earthquake which greeted him on his first night in Japan. It was never satisfied. Every unusual mark on his seismograms had to be explained. At his observatory he could distinguish the trace recorded by the trains as they arrived and left the station nearby; the explosions in the chalk quarry close to his house, and the gravel carts as they rumbled down the hill past his front door. He claimed that from his instruments he could tell how long these carts were stationary at the 'Barley Mow' while the drivers refreshed themselves within!

Professor Milne was always delighted to see visitors. In her article Mrs. Hoover wrote:-

"From the leaves of his visitors' book, turned over during his few minutes absence, one cannot but be interested in the dozens of names in the past few weeks, which appear but an average sample. From all parts of England these pilgrim questioners come; from Scotland and Ireland; all the great universities are represented - Edinburgh and Glasgow, Cambridge and Oxford, Sheffield University, University College of London, and Bristol University, Corfu in Greece, Bermuda, Milan, Japan, Paris, Pennsylvania and Greenwich Observatory; jostling one another are the names from all pages of one's geography, come to do homage to a man who is interested in all of them".

Royalty were frequent visitors, among them H.R.H. Edward, Prince of Wales, while a cadet at Osborne. Prince Galitzen was another who was always welcome. As a famous seismologist himself he was most interested in the work that Milne was doing at Shide, especially in the development of seismographs. The Prince had a very well equipped observatory in Russia and invented a useful electromagnetic seismograph, and many were the good-humoured arguments about their respective instruments that took place between the two friends.

Another distinguished visitor was the brother-in-law of the Emperor of Japan, Baron Y. Kujo. On one occasion, instead of signing the visitors' book, he scratched his name on a pane of glass in one of the windows of the drawing room. Unfortunately it seems that this piece of glass has now been broken or lost. Mrs. Milne's connection with Japanese high society and the Imperial court ensured a steady flow of visitors from that country, many of whom were students studying in Britain; all were accorded the generous hospitality for which the house had become known.

Before his ill-fated Antarctic Expedition, Captain Robert F. Scott spent some time with the Professor and his wife. Still in existence is a copy of a photograph they had taken with him on the veranda of Shide Hill House. Besides playing golf with Milne and generally relaxing before his voyage, Captain Scott learned about horizontal beam seismographs, one of which he took with him to the Antarctic.

A good lecturer himself, he was an equally good listener so John Milne had a particular interest in the University Extension Lectures given on the island. He was always pleased to entertain the visiting speaker with whom the subject of the lecture was often continued around the fire long into the night.

The only visitors who were not really welcome were certain members of the national press corps who virtually camped on his door step after news of any large earthquake had been received hoping for a sensational copy. Often they would arrive to find that he had deliberately "gone to the woods", his term for a round or two of golf on one of the Island courses. In this way he hoped to escape their attentions but was seldom successful for long and eventually he would relent and give them an interview.

All visitors were charmed by Mrs. Milne. Tone was the Englishman's stereotyped idea of a Japanese lady; small, almond-eyed, graceful. She was the daughter of the Abbot of Hakadote and had married John while he was in Japan. Lady Maybury remembers some of her social visits to Shide Hill House:-

"Mrs. Milne was a tiny lady, dressed in European costume, usually black, who presided over the tea parties with gaiety and charm, chattering all the

time in almost unintelligible English, and laughing at jokes which unfortunately we could not understand, but causing much hilarity. We would pool our impressions afterwards, and try to form an idea of what she had intended to convey. She was very fond of enlarging upon symptoms of the Professor's illnesses, to his great embarrassment, and on one occasion she was describing an attack of bronchitis when she said 'Cough, cough, like an oyster coming' and the Professor walked out of the room. He treated her with amused indulgence as one would a favourite child. She must have been altogether delightful in her prime. He spoke English when guests were present, but I think he must have spoken Japanese at other times because her English was so execrable. She was often ailing, and after the Professor's death was a pathetic little woman, very lonely, depending upon the ministrations of Jodo Horikawa, her nephew, who was a Buddhist priest".

"We understood that Mrs. Milne belonged to the Royal Family, and she had some wonderful sashes (obi) which she told me denoted rank, and would have to be returned to the Palace on her death....On one occasion she dressed in Japanese fashion for our pleasure."

Milne loved to talk of his own travels and hear about those of others. There were few parts of the world he had not seen: the list reads like an index to an atlas. To mention a few - besides extensive travel in the British Isles, he had been to France, Germany, Sweden, Italy, Egypt, Arabia, Labrador, Newfoundland, Iceland, Russia, Siberia, Mongolia and China. While in Japan he visited the Kuriles, Kamchatka, Korea, Australia, New Zealand, Tasmania and Manila, as well as many parts of the Americas. After his return to this country he went to conferences in South Africa and Europe; and all these journeys took place before the days of fast travel.

As often as possible he went overland and the variety of transport he was forced to use at times is amusing to we who live in a more sophisticated age of travel. Horse, camels and donkeys of all shapes and sizes were pressed into service, sleighs at times were employed and on occasion a tarantass. Often uncomfortable treks were made for days on end and when bored or saddle-sore he would walk. He detested sea-travel because of chronic seasickness and when it was inevitable would retire miserably to his bunk.

Although he would sometimes play croquet on the lawns of the house with his wife and guests, his chief recreation and outside interest was golf at which he was more enthusiastic than successful. He enjoyed the game and nowhere more than after his move to the Island. A short walk up the hill from his house brought him to the first tee of the Newport course. Occasionally, a horse and carriage would be ordered to take him and one or other of his golfing partners to another favourite course at Chale. Mr. A. Plucknett, now of Newport, recalls how Mr. Fred Mew, author of that interesting book "Back of the Wight" and then in charge of the Chale Links, would send for him to carry the Professor's clubs for which he was always rewarded with a silver sixpence - in those days a most generous tip!

In June, 1913, a new publication entitled "Fore! the Isle of Wight Golfers' Magazine" appeared for the first time. Edited by Mr. J. Howard Burgess, the Newport printer mentioned earlier, and Mr. C. W. Brannon, of the "Isle of Wight County Press", it fulfilled a long-felt need of the local golfing fraternity. In the first issue an article, entitled "Isle of Wight Golfers", gave a short but reasonably accurate biography of Milne written by Mr. F. M. Walker, and illustrated with a good photograph of the Professor by Mr. E. A. Kime. The author writes of

the prowess of Milne's beloved fox-terrier as a four-footed caddie, a story which many of our Island older residents have confirmed:-

"Billy was no ordinary dog; his power of retrieving lost golf balls from the hidden recesses of impossible hedgerows and furze bushes was little short of marvellous. On his untimely decease in 1904 his master contributed to "Golf Illustrated" a page of obituary matter, which included a clever little poem on the same topic by Dr. Cunningham Brown, another well-known member of the club.

"I take the liberty of quoting two verses from the poem:-

'But O, most excellent caddie ever born,
Endowed with smell so wondrous keen
That ne'er a ball was lost, we stand forlorn
And miss thee most upon the green.

Groping, where once thy black unerring snout
Revealed what's hid from purblind men.
Nay! often with four balls you've led us out
And gaily brought us back with ten! "

Milne, who for six or seven years was captain of the Newport Golf Club, and on his retirement from that post was made Vice-President, was seen regularly on the course and was always accompanied by Billy during the little dog's lifetime. Alderman W. Ramage, of Ryde, remembers how, as a young lad, he used to go with a friend to Shide Hill House, collect Billy, and then search among the gorse for lost balls. The professor, ever a practical man, used to coat his own golf balls with aniseed or some similar substance which Billy had been trained to recognise, and seldom had difficulty in finding them. He became so adept that he would recover others

which did not belong to the Professor who would pay the boys for every ball of his they returned, and Mrs. Milne also rewarded them with a small glass of milk and some biscuits for their effort. Those that were not his were put on one side and at the end of the year raffled for some local charity.

In 1905 the British Association held its annual meeting in South Africa and Milne attended. After the event he took the opportunity of visiting a number of places in that part of the world and while at Victoria Falls he could not resist the temptation to drive a golf ball across the river. This incident was noted by the press because it was the first time it had been done. Unfortunately, the telegraphed account was incorrectly received in London and it read "Milne drowned in Victoria falls" which caused some distress to his family and friends in the Island for a short while.

It has been suggested that, because there was a court at Shide Hill House, Milne played tennis. This is unlikely, as it is known that on at least one occasion a pit was dug there for a seismograph, and at other times tarpaulins were spread on it for long periods while experiments to test changes in the ground level due to precipitation or evaporation were in progress.

Mr. and Mrs. Milne were very fond of music as was Mr. Walker who naturally comments on this in "Fore!" -

"It is not generally known that the Professor is a keen musical critic, and is somewhat of an authority on Eastern, and more particularly, Japanese music, with its weird quarter-tone intervals, and its quaint Dorian-like cadences."

"Not the least interesting among Professor Milne's musical experiences is the occasion upon which he conducted the performance of a musical comedy at Tokio. Those must have been exciting times, especially for the orchestra, and one might feel safe in saying that there would be no ambiguity or uncertainty about the Professor's down beat."

"In this connection the following incident is not without its amusing side. A few years ago another distinguished Newportonian, Lieut. Mackenzie Rogan, the famous bandmaster of the Coldstream Guards, came to pay a visit to Shide, ostensibly to see how earthquakes are managed. The conversation by some odd chance turned upon music, and the Professor, unaware of his visitor's eminence in the musical world, ventured to regale him with specimens of the sailors' "shanties", which he had collected in his various travels by sea. Dr. Rogan also chanced to be an ardent admirer of the fast-decaying sailor-music, and promptly retaliated with other choice examples; so together they kept the ball rolling, and it was not until the visitor rose to depart that they both realised it was too late to think of inspecting seismographs and such like."

Of Milne's many friends perhaps his Japanese assistant, Shinobu Hirota, was closest to him. The Professor had a high regard for the skill that "Snowy" developed in maintaining the earthquake instruments and interpreting the seismograms obtained during the many years the two lived in daily contact at Shide. He was a dedicated man who liked to work long hours in the observatory. Yet he had an active social life and made many friends in the neighbourhood. He was an excellent photographer and a member of the Isle of Wight Photographic Society: it is known that he won at least one of their gold medals. When he became seriously ill several people remember how the Professor tried to cheer

him up by sitting on the end of his bed singing sea-shanties. Later "Snowy" returned to Japan for the last time and the two friends parted sadly, each knowing that they would not meet again. It was not long after his arrival in his own country that he died and Milne was moved to write an obituary notice for inclusion in the British Association's annual report. He gave Hirota much credit for the work they had done together at Shide. One passage reads:-

"...Directly it was shown that certain sub-oceanic disturbances had interrupted cables, Colonies desirous of knowing the cause of these sudden isolations from the rest of the world set up seismographs. This was the commencement of the Association's co-operation on seismological stations. To bring this into being Hirota played an active part.... In practical seismology he made many innovations some of which rendered instruments more sensitive.... I feel it my duty to give recognition to an assistant pioneer."

Like Hirota, Milne was keen on photography, not only for its value in his work, but as an art form in its own right, and was President of the local society. It was photography which had drawn him into closer friendship with Mr. Bullock, a gifted amateur whose skilful compositions of old Newport are still to be found and the two men learned much from one another. One of Milne's reports to the British Association outlined an easier method for processing film which illustrates his lifelong desire to simplify elaborate procedures.

When at home Milne always tried to attend the meetings of the Newport Literary Society of which he was an official for his interest in writing was not confined to his reports on earth quake phenomena. He wrote a long and interesting account of his trip to Iceland, and

while in Japan was the author of many newspaper and magazine articles, some of which can best be described as science - based fiction. Under a pen name, "Mark Kershaw" he wrote "Colonial Facts and Fictions", a book of humorous sketches which at the turn of the century was on sale on nearly every railway bookstall in this country. As the records of so many publishers were destroyed during the last war it now seems impossible to trace if he also wrote under other pseudonyms. Milne read widely and his own works are studied with little gems of fascinating information used to back up his arguments and theories. Many of his more technical descriptions, particularly those in his textbook "Seismology", are lucid and well written. He had a basic need to express himself; in print, lecture or conversation. Mr. C.W. Brannon confirmed the latter:-

"He was a keen member of the I.W. County Club in St. James' Square. If he entered the main club room and found the members immersed in newspapers he soon stopped them by saying that a club was a place for conversation and with him there none wanted to go on reading."

Despising some of the social taboos of the day Milne would talk and listen to anyone whatever their station in life, and the Victorian custom of introduction before communication he dismissed as stupid to the extreme. His particularly pleasant manner made its impact on everyone. This interest in people led the local Unionist party to invite his support and it is known that he did address meetings in at least one election.

Before he returned to this country many honours had been bestowed upon him. He was elected a Fellow of the Royal Society before his thirty-seventh birthday. The Telford Premium was given to him and Mr. J. McDonald of the Tokio Railways after they had invented a vibration recorder for use on locomotives and rolling stock.

Not only did this device enable the driving wheels of engines to be balanced but it was able also to present a visual display of the condition of the permanent way. There were many other honours and awards, but perhaps the most distinguished was the Order of the Rising Sun bestowed upon him by the Emperor of Japan in 1888 for his services to the Japanese people. This order, which very few foreigners have ever received, was the highest that could be given to an alien and accorded Milne with a titled position in Japanese society. It was a just reward for the twenty years of dedicated service he eventually completed in that country, which had begun even before the 1880 earthquake in Tokio when he established the Seismological Society of Japan, the first of its kind in the world. This led to a great study of the phenomena of earthquakes; to safer and stronger building construction of all kinds with the subsequent lessening of damage to property and loss of life: to seismic surveys of inestimable value: to the eventual establishment of a chair of seismology at the University of Tokio, and finally to the Japanese government itself taking an active interest after the disastrous earthquake of 1891.

After his return to England he received both the Royal and the Lydell Medals from the Royal Society and Oxford University conferred an honorary degree upon him. He also delivered the Bakerian Lecture to the Royal Society in 1906 and one year was asked to be the Halley lecturer at Oxford. Yet for all these honours and awards, in his own remarkably modest way, Milne asked for no more than that there should be a greater understanding of the value of seismology to mankind.

From his arrival at Shide in 1895 for many years life for Milne was even more hectic. It was much the case of a busy man being asked to find time to do even more, for his reputation and that of his observatory continued to grow.

Shide was always the number one station on any earthquake chart produced or in any list of seismic records published, and the "Shide Circular" was demanded by an ever growing number of observatories throughout the world. Mr. W.G. Sibbick, ex-editor of the "Isle of Wight County Press" and for many years its well known columnist "Vectensis" remembers how, as a cub reporter, he was sent to the Professor for information about an earthquake for a London daily newspaper and how charmingly he was received by Milne and his pretty little Japanese wife.

Then, on the 31st July, 1913, aged only 63, John Milne, master of seismology, died. For some time he had been suffering from the weakening effects of Bright's disease, but few knew of this and, as he had not been confined to bed through illness for well over a year, and to all he met was still the same pleasant, witty person, the suddenness of his death came as a great shock. He had often remarked to friends in later years that he suffered from an "attack of the feeblies" as he jokingly referred to his periodic illness. Twelve days before his death he went to bed with a high temperature, and as this had happened before, no one was really worried. Gradually he grew worse: a bronchial complication and an unusual depression began to cause concern. His condition quickly deteriorated from then on and he lapsed into unconsciousness a few hours before he died.

Tributes to his memory began to pour in from all over the world. It was then that many on the Island who had taken him for granted realised the tremendous scope of his work and the greatness of the man who had lived among them for nearly twenty years. Shide, Newport and the Isle of Wight found their names appearing in the national press of many countries and in the obituary notices that appeared in learned journals in every continent.

Prince Galitzen, the Russian seismologist and President of the International Seismological Association wrote:-

"Seismology, this new and promising branch of physical science, will deplore the death of one of its most distinguished and valiant pioneers who, through his remarkable activity and energy, had covered the earth's surface with a whole net of seismic observatories, and who, through his important investigations, set seismology on a firm scientific basis; founded upon instrumental observations. Nearly all the problems of modern seismology have been considered by Milne, and he can duly be considered as a real founder and promoter of this new and important branch of geophysics. I entertain the most sincere hope that the great work of Milne will be continued, taken up by others, and developed in accordance with the necessities of modern investigation. This would be the best monument to his memory."

Mrs. Milne received hundreds of letters and telegrams of sympathy and condolence. The Japanese Ambassador to Great Britain wrote:-

"Please accept my deepest sympathy on the great calamity which has befallen you. It is not only an irreparable loss to this country and to the scientific world; but also to Japan, where he rendered such great service, and where his name will never be forgotten."

The main part of the funeral service took place five days later in St. Thomas' Church, Newport. A lengthy report of the impressive and touching service appeared in the "Isle of Wight County Press". Copies of a tribute to Professor Milne were distributed in the

church: This was a reprint of the "Eminent Living Geologists" article from the "Geological Magazine" of the previous year. After the service the cortege left the church and made its way past shuttered windows and closed shops, past hatless, silent mourners paying their last respects and past flags flying at half mast, to St. Paul's churchyard, Barton, where the committal prayers were said and John Milne laid to rest at the side of his mother, Mrs. Arnott.

On the plain oak coffin with its heavy brass mounts was a plate with the inscription:-

JOHN MILNE

born

December 30, 1850

died

July 31, 1913

- the simplicity of statement he would have appreciated.

Some of the floral tributes were exquisitely worked from Japanese lillies and chrysanthemums, the prominent colours being the national red and white of Japan, both in the flowers and the ribbons. A bunch of white blooms from the gardens of Shide Hill House which the Professor loved so much came from Mrs. Milne, while a wreath in the form of an horizontal pendulum made from red and white flowers was sent by his assistant, Mr. Howard Burgess. One even came from a little girl addressed to "Dear Uncle John Earthquake".

The long list of mourners was impressive. Besides relatives and many of his ex-colleagues, the Emperor's Brother-in-Law, Baron Y Kujo, and the Deputy Governor; Lord Tennyson, hundreds of people from all walks of life attended the ceremony.

Professor John Perry, a great friend, best summed up the character of John Milne when for the "Royal Society" he wrote:-

"Milne's success was greatly due to his power to interest all sorts of people in his work. But it was something much deeper which gave him the help of scientific men. He took an interest in all scientific work, and perhaps he thought too highly of the work of other men. He was very modest as to the value of his own services to the world. He grudged no time or trouble spent in helping other people when his help, scientific, social, or pecuniary, could be of value. Both in Japan and at Shide he was very hospitable. (As) one who lived with him in great intimacy in Japan for nearly four years (I) put it on record that Milne never talked scandal nor detraction, and hated to listen to such things., and cannot remember one expressed thought or action of Milne which was ungenerous or mean. Many people gave him admiration, but his intimate friends gave him affection also."

After Milne's death the British Association Seismological Committee decided that work must continue along the lines of the established routine at the Observatory. An agreement was reached between themselves, Mrs. Milne and the trustees appointed by the Professor. The day to day operation was undertaken by Mr. J. Howard Burgess, Mr. S. W. Pring and for a while Mr. F. M. Walker and Miss K. Pring. Professor H. H. Turner of Oxford University took over the responsibility for the observatory and provided the necessary administrative and professional advice. The collection and classification of earthquake phenomena, the "Shide Circular" and "Bulletins" as well as other reports continued throughout the war years, Professor Turner spending much time travelling between Oxford and the Island.

After the war, in 1919, Mrs. Milne returned to Japan. She had been very lonely since the death of her husband six years earlier. She was ailing and very frail when she left the Island. Many were sorry to see her go, for they had come to enjoy her company. The continual stream of Japanese students and other visitors that found their way to Shide Hill House was missed also.

Having to maintain an observatory at Shide was not only an extra expense but very inconvenient for Professor Turner and his colleagues of the Seismological Committee. So when the house was sold the station was moved to Oxford. Later there was another move and the work transferred to Kew Observatory. Now the correlation of the earthquake phenomena, started by Milne, is carried out at the International Seismological Centre at Edinburgh.

The original part of Shide Hill House, designed by a pupil of the architect John Nash, sadly has come to the end of its life also. The rest has been divided into private dwellings. The Observatory block has a bedroom with an unusual feature in it. Guests of the owners find it rather amusing to sleep beneath a plaque which reads, "Earthquake Laboratory 1900". Milne with his sense of humour would have agreed with them. The old lodge to the main house still stands but the drive and unusual gardens have been built upon.

Seismologists and geophysicists still remember the work of Milne. Many of the techniques he pioneered to unravel the mysteries of the earthquake are still the only methods available to investigate certain aspects of the interior of our globe. When he was experimenting with the use of mercury-coated carbon rods as microphones buried in the ground to detect the passage of shock waves, little could he have imagined the sophistication of the

modern geophone, or that a mile or two from his home at Shide seismic surveys assisted the geologists to predict the possibility of oil and natural gas under Perreton Farm, Arreton.

It is rather unfortunate that many Islanders know little of the life and work of the great scientist who lived for so much of his working life here. There are many reasons for this. An earthquake is an experience very few inhabitants have had, and experience is a great stimulant to memory. The First World War years focused attention elsewhere; the Professor had no children; Mrs. Milne returned to Japan, and other members of their families lived far from the Isle of Wight. Although in later years the Walker family presented material to the archives there has been no permanent exhibition of his work or acquisition of his publications for the County Library collection. No longer having the observatory functioning on the Island must also contribute to Milne not being remembered.

Recently an interviewer asked the question, "Who was Milne?" to a number of people as they walked in Milne Way, a small cul-de-sac at Shide. No-one knew the correct answer, although the one the Professor would have liked best was, "Well, he played for Arsenal, didn't he?"

It would be unfair if it were not recorded here that there are some who still remember and respect the father of modern seismology. In answer to the question "Do you think Professor Milne should have been forgotten?", Lady Maybury replied:-

"I shouldn't have said so because he was one of the originators of seismology - he was the father of it. I would have thought that in his age and his generation he was one of the great men. And he certainly

was a great man in character. He dominated any assembly that he was in. He wasn't a man that could be overlooked at all. He was very natural and charming with everybody. He never asserted himself, but he had the character, he had that personality. He had one manner for everybody."

As one would expect, the name of John Milne is still remembered at the Newport Golf Club where they have a photograph of him with Harry Vardon, the well known golfer. They also have a trophy, but alas, at least one recent winner of it knew nothing of the man it commemorates!

Mr. E.W. Pollard, a founder partner of the Island chemists, Pollard & Ramage, was inspired by Milne's work. He set up an observatory at his home, The Quarry, Binstead, and in 1951 in a lecture to the Isle of Wight Natural History Society stressed the neglect of the man by the Island. Material was collected and there was a display in the Museum at Carisbrooke Castle for some time. The "Times" reported that a permanent exhibition had been set up as a memorial to Professor Milne. Unfortunately this was not so and once again Milne was forgotten.

During March, 1974, the Japanese Ambassador planted both at Shide and the I.W. Technical College some cherry trees which had been sent by the University of Tokio as a living memorial to Professor Milne.

Perhaps the memorial he would have most appreciated is to have been remembered as a simple and honest scientific pioneer, a friend of nature and of mankind. His modesty would not have allowed him to believe that he should be classed as one of the really great men who have lived on the Island - as indeed he was.

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