

## DISCOVERY OF THE "SCOTTISH PRINCE" WRECK

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(Read at a meeting of the Society on August 22, 1957.)

*This paper was a graphic narrative of the exploring done by the Underwater Research Group in the location and identification of the wreck of the "Scottish Prince."*

A condensation of the narrative is given below:

On October 1, 1955, three members of the Underwater Research Group chartered an aircraft with the object of making an aerial survey of the wreck of the "Cambus Wallace," which had foundered off Stradbroke Island on September 3, 1894, near where Jumpinpin is to-day and of investigating, if time permitted, a reported wreckage off main beach, Southport. They had no difficulty in locating the "Cambus Wallace" and in deciding that, in reasonably calm weather, she would be easy of access. With flying time to spare, they decided to "Go for a run" down the coast, and off Southport they noticed a dark patch in the water that was the shape of a ship. They circled and viewed the object from various angles, and photographed it, then they took two intersecting bearings which they thought would locate the wreck. On their return to Brisbane, other members of the Underwater Research Group of Queensland were notified, and a decision was made to try to visit the wreck.

At the same time the Club was endeavouring to ascertain what vessels were wrecked in that vicinity, and to this end they requested and received the assistance of the Historical Society of Queensland. This "Out of Water Research" continued over a period of approximately five months, at the end of which everything had been inspected that could be found regarding wrecks in the vicinity. It was indeed pleasing to have received the ready co-operation of the Historical Society in finding all the references it could. H. Rignold and H. Cotton spent many hours at Newstead House

and at the Public Library, until they had all the information they could find.

Arrangements were made for Mr. H. Kenney, a Royal Queensland Aero Club instructor, to rendezvous with a diving team at the approximate location of the wreck as soon as possible, in order that he might see and point out the wreck from his superior altitude.

On November 5, 1955, D. Weston, H. Rignold, and H. Cotton met at Main Beach, Southport, at 4.30 a.m., rapidly loaded their surf-skis, set out, and at 7 a.m., the rendezvous hour, were in position. At this time, a speck appeared in the north, which rapidly became an Auster aeroplane. With the help of the aeroplane, and after continuous paddling, a dark patch was sighted. Finally, H. Rignold, without breathing apparatus, located a wreck.

H. Cotton then made an underwater inspection of the wreck, and surfacing, made a sketch of the distant mountains, with landmarks such as trees and buildings in the foreground. He then shot five compass bearings, and threw out a weighted line with a buoy.

On Saturday, November 13, 1955, eight members of the Group returned once more to where the buoy bobbed on the waves. They descended in parties, and on completion of the day's diving a picture was starting to form.

The wreck was about seventy yards long and ten yards wide. She lay partly embedded sand with a list to starboard, roughly at right-angles to the coastline. Her shape was largely preserved when viewed from above, but the tremendous inroads made by the force of the frequent submarine storms which she must have weathered in the course of almost seventy years of immersion had battered her upper works. From the side, her bow proved largely intact, then a yawning chasm opened. The forward hold was a mass of twisted deck beams lying over the remnants of her cargo. Amidships, her port skin of iron had pulled completely away from her ribs, and several feet of sand lay between. The aft hold was also battered, and again a cleft appeared before reaching her stern. Her stern was split asunder, the starboard side still almost erect

and the port side almost hidden from view beneath the encroaching sand.

The forward hold still held large quantities of roofing iron. This appeared as rectangular clumps of marine growth, which, when removed by the divers' tomahawks, revealed what were once bundles of corrugated roofing iron. The aft hold contained quantities of varying shapes and sizes of cast-iron piping which had never reached its destined position in the various water supplies throughout Queensland.

The weather from December to early April, 1956, prevented any further parties reaching the wreck, as the prevailing south-easterly winds made it virtually impossible for any diving parties to carry out satisfactory reconnaissance. On April 22, 1956, the weather became clement, and eight members again inspected the wreck.

H. Rignold entered the water in company with Underwater cine photographer D. Weston, in the capacity of guard to keep a sharp look-out so that the latter would devote his complete attention to matters photographic. They swam from the bow towards the stern of the wreck. Their imagination was fired by the ship's manifest, which had been located by Cotton and Rignold in the course of their searches of the old records of the wreck. It listed a staggering amount of whisky in the cargo, so they kept a sharp look-out for bottles and like receptacles.

The photographic work being completed, both men decided to carry out general investigation. H. Rignold noticed an upturned bottle three-quarters buried in the sand, dug it out with his hands, and was dumbfounded to see that it was full of amber-coloured liquid and had the remnants of a lead seal still covering the stopper. The words "E. & J. Burke. Finest Scotch whisky, only genuine when bearing this signature" were still intelligible. A quick search of the area revealed several more bottles in the sand.

The other divers were notified of the discovery, and in all six bottles were found. The whisky recovered on this and other occasions was, for the most part, located by scratching on the surface of the sand, using a kneading motion with the hand and forcing it down below the surface of the sand, often as far as the

elbow. It was impossible to dig a hole in level sand under the surface, as anyone will know who has attempted to do so on the water's edge. If a bottle was encountered by the fingers, the other arm was then worked down through the sand and the sand was loosened above the bottle and it was very slowly extracted, endeavouring at all times not to disturb the seal on the top of the bottle. Thus, it could easily take fifteen to thirty minutes' hard work to bring one bottle up to the surface of the sand. Nevertheless, the team raised on that occasion no less than six full bottles of the whisky.

Immediately the party returned to Brisbane the Deputy Collector of Customs was notified of the recovery of the whisky and, as soon as offices opened for business in the morning, the bottles were taken to the Receiver of Wreck and a request lodged for permission for the Group to retain the whisky in order to dispose of it to interested bodies. The Receiver of Wreck granted this permission as did the Deputy Collector of Customs, and accordingly two bottles were taken to the Department of Health and Home Affairs for analysis by the Government Analyst. Bottles were set aside for later presentation to the Historical Society of Queensland, the Museum of the Deputy Collector of Customs, and a bottle was retained for the U.R.G.Q.'s museum.

On July 28, 1956, J. Muirhead and G. Goadby were diving together searching the stern of the wreck for further evidence of its identity. On this dive, Muirhead discovered a teaspoon firmly attached by its handle to a plate by an encrustation of marine organisms. He attempted to wrench it free, but was unable to do so. He inspected it closely and upon seeing no markings, moved on. However, Goadby being slightly more persistent, and having a suitable tool, succeeded in chipping away the encrustation and removing the teaspoon and then discovered that the chipping had revealed the inscription "Scottish Prince."

During 1956 approximately 140 dives were made to the wreck and discoveries made proved beyond all doubt that she was the "Scottish Prince," the manner of whose loss was as follows:

The barque "Scottish Prince" left Glasgow on

October 8, 1886, under charter to Thomas Law and Co. with 1,530 tons of merchandise valued at £19,000. She was a ship of some 950 tons gross and was launched at A. Hall's shipyards at Aberdeen in 1878.

The first news of the catastrophe came by means of the Southport-Brisbane telegraph line — a signal which read: "Southport advises a barque ashore in heads S.E. end of Stradbroke off Southport about three-quarters of a mile from telegraph (station). Vessel lying on bar. Seems settling down in sand. They are putting people in the boats."

The barque ran aground at about 1 a.m. on February 3, 1887, while on a northerly landward tack up the coast. Observers at first surmised that she had "missed stays" but this was later disproved, and it was found that the vessel had plain and simply run ashore under sail, and foundered in two fathoms of water. A 3 cwt. kedge anchor was run out by the ship's boat, and all able-bodied men toiled at the capstan, but unfortunately the line parted.

The mate went ashore in a boat through rough seas, and a wire was despatched to the Brisbane agents, D. L. Brown (later reformed after a fire to Thomas Brown and Son), to ask for assistance from the Government ship "Otter" which was at St. Helena, to help tow them off the bank. The application was forwarded to the Colonial Treasurer for official sanction. Permission was readily given and the ship left forthwith.

At this juncture the "Scottish Prince's" captain was of the opinion that the barque was in no danger, and would be refloated with reasonable ease. He recalled the passengers from the ship's boats which were tied to her side. He also refused an offer from the pilot ship "Tweed" to tranship the passengers. At this stage she was making no water.

Arrangements were made in Brisbane for the Q.S.S. Company steamer "Gunga," which had ample rope and hawsers, to leave at 8 p.m., but the crew struck for 2/- an hour. Captain Leggett, the ship's master, refused their request and the union stepped in. The mate was sent to pick up men from the streets and after considerable difficulty four were engaged. An altercation resulted on the wharf, but the men

boarded and she duly left—some four hours late. After an uneventful trip she arrived at the scene of the mishap at 2 p.m. on the 4th (the day after the “Scottish Prince” foundered). The “Otter” was already there and a message from Captain Page of that ship stated that, had he arrived two hours earlier, he would almost certainly have been able to refloat her at the peak of the unusually high tide that morning.

The report from these ships stated the barque’s position to be slightly to the north of the boat passage and about one and a half miles from Stradbroke Island and perhaps two miles from Hanlon’s Hotel, which seems rather contradictory to the first reported position. The pilot ship “Tweed” reported that, unaided, she had moved the “Prince” a few feet during the morning, but was unable to tow her further to deeper water. The “Prince” drew some sixteen feet and the lead showed there to be fourteen feet to fourteen feet nine inches of water around her hull.

On February 4 the thirty-five passengers were transhipped and brought to Brisbane in the ship “Natone.” A plan of action was then decided upon:

The “Gunga” and the “Otter” would each take a hawser from each quarter of the stranded ship, and the “Tweed” would take one from the middle. Should the attempt prove successful the “Gunga” would tow her to Brisbane. The ships tried valiantly to refloat her and even succeeded in towing her some five or six feet when spirits rose. However, after an hour’s toiling, the “Gunga’s” hawser broke. At this point the lead at the stern proved her to be in fifteen feet of water. She had only to move her own length to be freed, but simple as it seems, it could not be managed, and attempts were called off, hampered by seas which began to rise.

On February 5 the vessel was lifting in the waist, the mainmast had settled five inches, and the rigging was slackening when her master, Captain Little, left her. Her mainmast was working so much that it was expected to go over the side at any moment.

On February 7 the barque had made twenty-six inches of water in the holds and was virtually abandoned with little hope of saving the cargo. The captain was attacked generally for not jettisoning the cargo to aid in refloating her. To this he replied that the

jettisoning of the heavy cargo would do more harm than good, as, if thrown overboard, the ship would be bashed to pieces on the cargo of pig iron, by the rising and falling action of the waves.

Captain Little, as well as the ship's agents, wished to dispose of her at once, by auction on the 11th, but the owners and underwriters wished to seek the advice of a Lloyds Marine Surveyor, Mr. Andrews by name, to assess the possibilities of salvage of the cargo and possibly of refloating the ship—so the ship was withdrawn from sale. Mr. Andrews arrived from Sydney on the 11th and though some odd pieces of cargo were washed ashore he considered that, given reasonable weather, he could salvage the cargo and refloat her, as he estimated that by removing the cargo she would lift eight feet at water line.

Meanwhile, a Marine Board Court of Inquiry had been held, Captain Heath presiding, and had found discrepancies in the chart, log book and slate. Consequently on February 14 the findings of the Board were "Gross carelessness and most slovenly navigation caused the loss of the vessel." Captain Little had his Master's Certificate cancelled and the mate was suspended for six months.

By the day of the 12th the vessel was almost awash, her bows being the highest part of the deck above water. Heavy winds and seas sprung up on the 11th and 12th, and on the last-mentioned day the ship parted and all hope of refloating her was abandoned, but attempts would be made to salvage the cargo. But the seas continued and all manner of gear was washed ashore to be littered along the water's edge. What cargo was recovered by the Customs Officers and the legitimate salvage operators was brought to Brisbane and stored at Raff's Wharf. However, it is believed that much of the cargo which was washed ashore did not reach the proper authorities, the chief commodity for some unknown reason being—whisky.

Such goods as were recovered were auctioned by James Dickson and Co. on February 21 at their premises in Queen Street. Mr. Andrews then proposed to dynamite the hull of the ship open in order to gain access to the balance of the cargo that had not been washed ashore. Although no reports as to whether this

was done are available, but from the condition of the hull at this day, it is deemed not impossible that this was carried out.

From time to time stories of people finding bottles of whisky buried in the sand in this area have come to light, and in no few of these cases the brands tally with whisky carried on the "Scottish Prince."

Proof of the ship's identity, in the order of discovery, is:

1. Of four ships known to have been lost in that vicinity, the details are known of three. The measurements of this particular wreck coincide only with the measurements of the "Scottish Prince" and of no other wreck in the vicinity. The fourth wreck, of which no measurements are available, is known to be a Muntz Metal sheathed wooden hull, which immediately rules it out of consideration.

2. Items discovered on, or recovered from, the wreck are listed in the manifest of the "Scottish Prince" and are known not to be carried by the other vessels lost in the vicinity, namely: Roofing iron, cast-iron pipes, white lead, Irish whiskey, Scotch whisky English beer, ginger wine, and sewing machines.

3. During the dive on July 28, 1956, G. Goadby recovered a teaspoon, which, after being divested of its covering of marine growth, revealed an inscription on the handle, "Scottish Prince," and a fork similarly inscribed was salvaged by G. Johnston on August 15, 1956.

## APPENDIX 1

Certain metal samples were forwarded to Messrs. Knox Schlapp Pty. Ltd., who in turn received an analytical report on same from Messrs. Metal Manufactures Ltd. as follows:

"We have received a very interesting letter from Metal Manufactures Ltd. in regard to the metal samples from the 'Scottish Prince.' I think the best way to convey the details to you would be to set out the information contained in the letter as follows:

### "1½" Copper Tubing

The chemical composition is: Arsenic, 0.50 per cent.; phosphorous, 0.001; nickel, 0.048; iron, 0.001; antimony, 0.03; lead, 0.01; bismuth, 0.01 (approx.);



tin, 0.001; zinc, 0.005; aluminium, cadmium, silicon, not detected.

Microsections show that the copper contains about 0.05 per cent. oxygen as cuprous oxide inclusions, and that it is therefore what is called tough-pitch copper.

It is interesting to find 0.5 per cent. arsenic in a tube at least seventy years old. We did not know that tough-pitch arsenical copper was so early in use. The arsenic is present in too high a percentage to be an impurity and must be a deliberate addition.

Deoxidised copper came into use only after the turn of the century or after the first decade. Phosphorous-deoxidised copper is a fairly modern alloy. You will note that there is no phosphorous in this tube.

Another interesting point is that the tube is not seamless or solid-drawn; it has been made by bending-over a piece of copper strip and joining the seam with 60:40 Muntz metal brazing brass. The piercing process was not in use for making copper shells in 1886. It had just been invented by Mannesmann for use in making steel tubing. The tube extrusion process was, of course, largely a development of the nineteen twenties.

### Brass Strip

The short piece of brass strip, about  $\frac{7}{8}$  in. wide by  $\frac{1}{8}$  in. thick, has, like the tube, withstood the action of seawater very well. Its composition is: Copper, 67.7 per cent.; lead, 3.50; iron, 0.44; nickel, 0.08; arsenic, 0.06; tin, 0.05; phosphorous, trace; cadmium, 0.02; aluminium, 0.02; silicon, 0.01; manganese, 0.01; zinc remainder (about 28.15 per cent.).

A microscopic examination shows that the strip has not been produced by rolling but by casting. No doubt it was made from scrap. The lead content is high; it may have been a deliberate addition to confer easy cutting and machining properties on the brass.

## APPENDIX 2

On May 24, 1956, the Government Analyst forwarded to the Director-General of Health and Medical Services a report on a sample bottle of whisky recovered from the "Scottish Prince." A short extract of this report is as follows:

**Bottle:** A 26oz. water-white bottle without a label.

Markedly abraded by sand on the outside surface with the inside surface of the bottle in good condition.

**Cork:** An ordinary cork pressed in about one quarter of an inch from the top of the bottle and spread out on the bottom end like a champagne cork. It was intact when received and covered with a quarter inch seal of calcareous material, chiefly shell-grit of poor strength and difficult to remove from the bottle without disintegration. Coloured black with sulphide of iron on the outer surface and normal in colour and appearance in the centre portion of the cork.

**Lead Seal:** There was no metal seal on the sample bottle; however, there was one on a second bottle examined. It was in fairly good condition and composed of lead of 97.3 per cent. purity. It was clearly embossed with the following markings: "E. & J. Burke Pure Malt Garnkirk. Only genuine when bearing our signature Garnkirk Trade Mark."

Barnacles were present in quantity on the base of this second bottle, suggesting that the top part of the bottle had been buried in the sand for a long time and that the bottom part had been exposed to the action of sand and seawater for a lengthy period. It is a well known fact that lead is subject to erosion by seawater at high velocity, but is highly resistant to attack at low velocity.

**Summary:** The physical and chemical characteristics of the sample indicate long contact with seawater and sand at depth. The analytical and bacteriological results show that the liquid in the bottle is bacteriologically unsound whiskey, further contaminated with organic and inorganic sulphides, together with a small proportion (approximately 2 per cent.) of seawater. It was unfit for human consumption and had a highly objectionable odour of sulphuretted hydrogen and mercaptan, together with an unpalatable and objectionable taste. The liquid had a somewhat higher spirit strength than average whiskey, the prescribed minimum for whiskey being 68 per cent. proof spirit.

### APPENDIX 3

A letter was despatched to the builders of the "Scottish Prince," Messrs. Alexander Hall and Co., seeking information, drawings, and details of the ship.

The company regretted they were unable to help, as owing to a large fire in 1942 practically all old plans were destroyed.

#### APPENDIX 4

Mr. J. Lindsay, General Secretary of the Federated Wine and Spirits Merchants of Australia, received an enquiry from J. Scott, of David Montgomery and Son Ltd., Cork Merchants, Glasgow. Extracts from a letter sent by him to Mr. J. Scott are given below:

“This whisky has been submerged since 1887 and has, as can be best ascertained, been covered with sand for a good deal of the time. At present the action of the currents is removing the sand from the wreckage . . . .

“The lead seals which once covered the bottles have been gradually dissolved by limited action of the salt water. Had a continuous current of salt water been passing around these seals they would have undoubtedly completely deteriorated a considerable period of time ago. However, as the bottles were undoubtedly buried in the sand and even when exposed at various intervals by the action of the coastal currents, it is considered obvious that, due to their location within the wreckage, the surrounding water remains fairly stagnant thus protecting them from reaction with fresh salt water.

“The seals of all the bottles recovered have been holed where they cover the corks, and undoubtedly, according to the analysts, all the bottles would be akin to those whose contents have been analysed by the Research Group.

“The analysis of the whisky reveals contamination due to the presence of dead sulphur bacteria which had penetrated the corks. They have found that if the corks are permitted to dry out by leaving the bottles standing erect, they are inclined to deteriorate rapidly, crumble and fall into the bottle.

“The secretary of the Group told me that they had discovered what appears to them to be a paradox for a cork in one of the bottles recovered bore the marking imprinted on the side ‘Garnkirk Finest Scotch Whiskey’ and also bore on the bottom of the cork ‘E. & J. Burke, Sole Proprietors.’ The other bottles bore various mark-

ings indicating that they were bottled by E. & J. Burke, Dublin, and on a case found with this latter whisky was a trade mark consisting of three stars and a cat with a chain around its neck, and where the case was broken could be distinguished the words 'E. & J. Burke'."

#### APPENDIX 5

An enquiry from Miss C. M. Laurie, London, stated that her grandfather, the late Frank Higgins of Glasgow, exported whisky to Australia, that the name of the whisky was "Bannockburn," and that a cargo was lost at sea.

The Underwater Research Group sent a bottle of this whisky to the enquirer.